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Published By: Blue Eyes Intelligence Engineering & Sciences Publication

S. No  Authors: A. Arun, V. Sreevidya, T.P.A. Aravind

Paper Title: Experimental Research on Flexural Behaviour of Filler Slab with Activated Carbon

Abstract: Concrete is most frequently used composite material. Concrete is the combination of M-Sand, coarse aggregate and binding medium of concrete paste. Next to the water demand which is increased in concrete day by day, in this project we incorporate Activated carbon in Filler slabs. Filler slab is the sustainable concept which reduces unwanted concrete in the tension zone. The main perspective of this project is to study the characteristic behaviour of concrete with activated carbon. Also, to maximize the rate of Compressive strength of the concrete and to Filter air pollutants and to investigate the flexural behaviour of filler slab with activated carbon. Filler slab with Activated carbon in cement greatly increases the sustainability. Compression test and Flexural test were carried out by three different proportion of Activated carbon in cement from these mixes results are obtained. Further morphological arrangements are to be carried out.

Keywords: fine aggregate, coarse aggregate, filler slab, Activated carbon.

References:
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Authors: Gousiya Begum, A. Manisha

Paper Title: Alzheimer Disease Classification using Machine Learning

Abstract: Alzheimer’s disease is the most popular and persuading dementia that affects our memory power, reasoning and deportment. Symptoms rise up slowly and worsen with time, becoming an obstacle in doing our routine tasks. Alzheimer is not conventional wedge of aging. The substantial and known risk factor is up surging age. The prevalence of AD is depicted to be around 5% after an age of 65 years and took a leap of 30% for people of 85 years old in developed countries [1]. In this project we proposed a detection and classification technique using Random Forest(RF) and Support Vector Machine(SVM) algorithms on the oasis longitudinal data set and compare their respective accuracies to come to a conclusion that which algorithm best suits for this detection and classification.paper Setup must be in A4 size with Margin: Top 0.7”;

Keywords: Alzheimer, Random Forest, SVM.

References:
Abstract: The requirement of flexible allocation of available limited frequency resources led to rethink the possibilities to find an substitute to Orthogonal Frequency Division Multiplexing (OFDM) [1], which can also meet the necessities of future wireless communication. In this paper, we have compared one such alternative to OFDM, which is Filter Bank Multi Carrier (FBMC) [2] with Offset Quadrature Amplitude Modulator (OQAM). The BER performance of OQAM based MIMO FBMC compared with QAM based MIMO OFDM for various channels conditions and using different prototype filters [3] for FBMC and under the influence of Timing Offset errors with perfect CSI and imperfect CSI. Implementation of MIMO into OQAM-FBMC has a computational complexity compared to MIMO OFDM and we have used block coded MIMO OQAM-FBMC for simulation. Three prototype filters RRC, Hermite and PHYDYAS are used to analyze the performance of OQAM-FBMC in relations of Signal to Interference Ratio under time offset and found that performance of PHYDYAS prototype filter outperforms RRC and Hermite prototype filters.

Keywords: CP-OFDM, CSI, MIMO, OQAM-FBMC.

References:
Authors: V. Arulmangainayagi, M. Harini, M. Keerthiga, M. Deva Priya

**Paper Title:** Intelligent Chatbot for Medical Assistance in Rural Areas

**Abstract:** In today’s world, 918 million rural people are more easily connected to the internet than doctors. The rural part of India is still in crisis due to lack of doctors and gets only one-third of hospital facilities. 80% doctors are available only in urban areas. In this paper, an application is developed with a motive of connecting doctors and assisting medication primarily focusing on rural and urban areas. The main idea is to create a user-friendly virtual assistant which helps every citizen, mainly residing in the rural parts of India. There are few industrial bots for News, Weather, Trends and perhaps different day-after-day events that manifest themselves within the general class. The proposed application takes a prominent place in the medical field. The bot recommends the best medical practice to the patients in treating minor medical issues. In the future, this Medical Chatbot can be trained with doctors to treat some minor surgeries.

**Keywords:** Artificial Intelligence, Medical ChatBot, Dialogflow, Heroku, Firebase, Flask, Flutter.

**References:**

Abstract:  Educational organizations are unique and play the utmost significant role in the development of any country. In the Educational database, due to the enormous volume of data for predicting student's achievement becomes more complicated. To upgrade a student's performance and triumph is more efficient in a practical way using Educational Data Mining Techniques. Data Mining Techniques could deliver favor and brunt to educators and academic institutions. The student's data (i.e.) Name, 10th %, 12th cut off, CGPA, No of arrears, etc. are gathered. Then, the datasets are imported into the Anaconda Navigator. Then, analysis and classification based on attributes of the students and the schemes are performed. Then using the prediction algorithm Naïve Bayes what are all the features the particular student is eligible for are predicted as placed. The student's input that has disparate data about their past and present academics report and then apply the Naïve Bayes algorithm using Anaconda Navigator to search the student's achievement for placement. A proposed methodology based on a classification approach to finding an improved estimation method for predicting the placement for students. This project can find the association for academic achievement of each particular student and their placement achievement in campus selection.

Keywords:  Classification, Naïve Bayes. Placement. Prediction.

References:

15. Dr. Anjali B Raut, Ms. Ankita A Nichat, “Students Performance Prediction using Decision Tree Technique” International Journal of Computational Intelligence Research ISSN 0973-1873 Volume 13, Number 7 (2017), pp. 1735-1741

Authors:  B Dhanalakshmi, A Prakadeesh, R Roshan Kumar

Paper Title:  Bridge Safety Monitoring System using IOT

Abstract:  In this study, Bridge safety monitoring system using IOT is developed using the Wireless technology. With the help of Advancements in sensor technology have brought the automated real-time bridge health monitoring system. This system will help prevention in disaster management and recovery.IOT-based bridge safety monitoring system is developed using the Wireless Technology. By the use of wireless sensor nodes, various types of data can be collected like vibration, waterlevel and Bridge weight. These data would also be useful for monitoring and surveillance. The main motto of this paper is to develop a system that can prevent accidents or structural disasters of flyovers and bridges. This study gives the survey of various techniques used to monitor the conditions of the bridges and proposed a system for monitoring continuous structures and an ultrasonic sensor for monitoring the water level in the river to avoid traffic from a bridge in flood conditions using Kalman’s Filter algorithm. In case of emergency situations the gates of the Bridge will be automatically closed. The obtained data are transmitted to the server and database for admins to have real-time monitoring of the bridge conditions via mobile telecommunication devices.

Keywords:  Bridge safety Monitoring, Flood Conditions, Emergency Situations, IOT, Data Analysis.

References:

8. References:

The article discusses the importance of design generation methods in synthesis with additive technologies for creating innovative interior products of new visual forms from biodegradable plastic using an example of an interior panel.

Keywords: generative design; ecology; bioplastic.

References:

Authors: M Sreenivas Rao, Bandi Gopi, B Sunilkanth, P Avinash, B Dileep

Paper Title: Hybrid Energy Efficient Multi Source Energy System With Iot Base Load Control

Abstract: The demand for electricity increasing day by day there is a need for an alternative power generation from renewable energy sources. The usage of increasing these conventional energy sources and the irregular supply of the power generated by them create problems like stability, consistency, and quality of the power in the main electrical grid. The solution to this problem is the concept of hybrid energy-efficient multisource energy systems: “Hybrid energy efficient multisource energy system includes two or more energy conversion devices or two or more fuels for the same device, that when integrated, overcome limitations that may be inherent in either”. Remote areas should be equipped with hybrid energy-efficient multi-source systems. This Project gives suitable ways to generate power in rural and agency areas also. The proposed system includes three systems that are capable of renewables, mainly solar (with the auto-tracking system), wind and Piezo along with power storage devices. This system has designed to give quality un-interrupted power to the developed Hybrid energy efficient multi-source energy systems. Further, this system is applied to maintain a continuous power supply for different loads like cooling and heating.

Keywords: Hybrid energy system, solar, wind, piezo.

References:
Abstract: The purpose of this research study is to identify and optimize different vulnerable factors that are affecting smooth functioning of railway network throughout India. This study provides more efficient, efficacious, robust and systematic way to significantly to improving the operations and overall management of railway network. The purpose of this research study is to identify and optimize different vulnerable factors that are affecting smooth functioning of railway network through identification of hierarchical correlations among parameters and prioritizing performing a specific order for identification and improvement. Thus keeping in mind the perspective the research is based on an integrated approach of DEMATEL (Decision-making trial and evaluation method) and TISM (Total interpretative structural modeling). Based on extensive review of literature and expert opinion, 15 vulnerable parameters were identified and expert elicitation was applied to determine performing a specific order for identification and improvement. Thus keeping in mind the challenges is a cumbersome task as each factor is influencing each other. Studying these parameters is tedious making trial and evaluation for reliability of diesel locomotives of Indian Railways, Issue 3, Vol. I, 2013.

Keywords: agro-recreational eco-settlement, network, systemic approach, step-by-step service system, landscape ecological integrity index.

References:

Abstract: Historical documents contain valuable heritage information. These documents are preserved in manuscripts and archaeological centers. They are mostly degraded in nature and hence difficult to read and understand the contents. Therefore, there is a need for text segmentation and feature extraction to convert these manuscripts into a machine-readable format. In this work, we present an effective way to segment historical document images into characters. It is a challenging segmentation process due to complex background images. In this paper, horizontal histogram, vertical histogram, and connected component analysis are used to segment text document images. In this algorithm, the input image is converted to grayscale image, then grayscale image is converted into a binary image [Otsu’s method] and then all the objects containing fewer than desired pixels are removed. Line and word segmentation is implemented using horizontal and vertical histogram methods respectively. Then the connected components are labeled and properties are measured for the image regions. Connected component analysis is used to segment the characters, and the individual characters are extracted. The simulation result shows that the proposed segmentation method achieves an average accuracy of 93.37% for HDLAC 2011 DATASET. Moreover, this method is more efficient and more suitable for real-time tasks.

Keywords: Otsu method, horizontal histogram, vertical histogram, connected component analysis, Bounding box segmentation, HDLAC Dataset.

References:

Abstract: Present days speed of vehicle is concerned in both sub-sonic vehicle (like car, bus and truck etc) super-sonic vehicles (like rockets). Convergent divergent component is the main part which decide the speed of any vehicle. A attempt is made to find the optimal convergent angle (inlet taper angle [β]) and divergent...
angle (outlet taper angle $\alpha$) with the help of Numerical analysis through ANSYS 19.0 (R3). Deciding parameter for greater thrust is angles i.e.; $\beta$, and $\alpha$. So, Convergent divergent nozzles with combustion chamber is designed, modelled and analysed numerical for getting optimal values of convergent and divergent angles. The various angles $\{\beta, \alpha\}$ used are $[35,15] [35,20] [35,25] [40,15] [40,20] [40,25] [45,15] [45,20] [45,25]$. At these different angle the parameters such as velocity, temperature, pressure and Mach numbers are estimated with the help of steady state fluent with carbon dioxide as inlet to the combustion chamber.

**Keywords:** Sub-sonic, Super-sonic, Convergent- Divergent chamber, Inlet taper angle, outlet taper angle.

### References:

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ground and allow it to fly in the sky by creating 3 flaps per second to the wings which is fixed with the body of the bat. The two servo motors are used to control altitude and direction. All the electronics components present in flight board are controlled by the Arduino pro micro which is connected with RF receiver. RF transmitter will act as a remote controller and control the operation of bat. Here mobile phone will act as a display for the camera which we used. This bat will play a major role in military to save life. In future it will work on its own by implementing Artificial Intelligence and does not need manual control for this bat.

**Keywords:** flapping, flight, Ornithopter, dynamics, stability, experiments.

**References:**

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**Authors:** A. Balamurugan, M. Pranesh kumar, R. Muthu kumar

**Paper Title:** Intelligent Application of WSN for Forest Monitoring

**Abstract:** A Large destructive fire that spread over a forest or area of woodland is a forest fire and another major problem is entering of wild animals into the cities, farm lands, highway roads that causes loss of humungous amount of Property, Wildlife, Ecosystem and Economy. The project is focused on creating a permanent solution for this problems. It consists of an integrated IoT based WSN (Wireless Sensor Network) system to detect, monitor and solve the issue without any manual involvement. With the help of cloud computing, regular monitoring is achieved. The system uses the latest Microcontroller, Wi-Fi communication and precision sensors to monitor the forest. The system also provides a quick response system for the fire and escaping of animals into the farmlands can be controlled at the earliest stage.

**Keywords:** Fire Detection, WSN, Authentication, Notification, Response system, Recognition.

**References:**


**Authors:** C.Kuppusamy, S.Pradeep, M.Praveen Raj, G.Niveditha

**Paper Title:** Smart and Secured Transportation System using IoT

**Abstract:** Now a day’s numerous of the accident occur due to the improper driving of teenagers. The major reason for the accident is the alcohol consumption and driving the vehicle without the license approval. Most frequent checking of the license is very tedious and manual process. At most in every situation, the police officers can’t control the driving user without the driving license. Our proposed system is to reduce the manual effort of the police officers with Smart and secured Transportation system using IoT. The implementation system follows with the registration of the user with their finger print, 11 digit License number and the Date of Birth. The vehicle can be unlocked only after the verification of finger print scanning using R305 sensor and
detection of alcohol consumption using MQ3 Sensor. Thus our proposed system will benefit for the police officers by manual checking of the improper driving user and it also avoid the accidents. In future along with this technology the more safety requirements can be additional added.

**Keywords:** Vehicle Security, Internet of Things, Authorization.

**References:**


**Authors:** Dr Balamurugan A, Siamala Devi S, Rajakumar G, Sreegandh S, Vivek S

**Paper Title:** An Effective Classification of Brain Tumor using Deep Learning Technique

**Abstract:** Health experts have increased taking advantage of the benefits of most modern technologies, thus generating a scalable improvement in the health care area. Because of this, there is a paradigm shift from manual monitoring towards more accurate virtual monitoring with minimum percentage of error. Advances in artificial intelligence (AI) led to exciting solutions with high precision for medical imaging technology and is a key method for enhancing future applications. Detection task of brain tumor is difficult in the medical field. Detection of brain tumors manually is time consuming and requires large number of MRI images for cancer diagnosis. So, there is a need for automatic brain tumors detection from Brain MR Images. Deep learning methods can achieve this task. Different deep learning networks can be used for the detection of brain tumors. The proposed method comprises a classification network which classifies the input MR images into 2 classes: one with tumor and the second without tumor. In this work, detection of brain tumor is done via classification by retraining the classifier using the technique known as transfer learning. The obtained result shows that our method works better than the existing methods. The most purpose of this project was to create a deep learning model that will classify if a subject features a growth or not based on MRI scan. I used the VGG-16, Inception v3, and Resnet.

**Keywords:** Brain MR images, classification, deep learning, Detection.

**References:**


Authors: Arun Kumar Rajamanickam, Sarath Prasad M U, Sanjeevee P, Sanjai Kumar E, Yashwanth Vineth S

Paper Title: Production of Jatropha Methyl Ester

Abstract: In a past span of years there is a huge development in the automobile field it creates a demand for petroleum products leads to insufficient supply of fuels and also it causes more pollution. Due to this all the developed and developing countries are focusing in producing biodegradable fuels to reduce the cost and demand of fossil fuels and mineral oils. Many researchers are identify that vegetable oils and biogas are the beat alternate to the mineral oils. Since the vegetable oils are eco-friendly and biodegradable so it plays the major role in production of alternate fuels. In this paper the production of jatropha ester and the tribological properties were studied. Transesterification process was carried out to produce the ester from jatropha curcas oil. Jatropha curcas oil is a non-edible oil, ester prepared from jatropha curcas oil was added with nano copper oxide particles to improve the wear resisting property and reduce the pollution.

Keywords: Jatropha oil, transesterification, lubricant, nanoparticle.

References:


Authors: Benson mansingh, Indhu, Benisha, Bharathi

Paper Title: A Preliminary Diagnostic Technique from Iridology for Heart and Lung Disorders

Abstract: The major aim of any diagnosis method is early detection and prevention of disorders. This can be possible by several advanced methods and one such health disorder cure is using Iridology. This work can help a health practitioner to study the iris of the eye and to identify the presence of abnormalities say heart disorders, Lung disorders in a human body. This is achieved by developing image processing algorithms that includes pre processing, image segmentation, feature extraction and classification using hybrid algorithms. This work can be used as preliminary diagnosing tool to identify the abnormalities present in the body. Images are acquired using 12MP USB irscope iris analyser model iris camera to test the developed algorithm and validated from the real time data that will be collected from health centres and hospitals.

Keywords: Iridology; pre-processing; segmentation; feature extraction.

References:

### References


### Keywords

- CTT-2L
- encryption
- medical images
- steganography

### Abstract

The proposed system used ConTourlet Transform 2 Level (CTT-2L) Steganography and encryption algorithms for transmission of medical data. The encryption algorithms used are Advanced Encryption Standard (AES) and Rivest-Shamir-Adleman (RSA) algorithms. First, the text data is encrypted by using AES and RSA Algorithms and the data which is encrypted is embedded in a cover image using CTT-2L. The cover image is any medical image which can be either colour or grayscale image. Five statistical parameters: Peak-Signal-to-Noise-Ratio (PSNR), Mean Absolute Error (MAE), Mean Square Error (MSE), Structural Similarity (SSIM), Correlation are measured for evaluating the performance of the proposed system. The PSNR is 71.3402 and 64.7453 in colour and grayscale images respectively. The MAE is 0.0019 and 0.0045 in colour and grayscale images respectively. The MSE is 0.0026 and 0.0142 in colour and grayscale images respectively. The SSIM is 0.9999 in both colour and grayscale images. The Correlation is 1.0000 in both colour and grayscale images. The proposed system hides the data with high capacity, imperceptibility and less distortion in the received stego image as compared with the conventional methods.

### Keywords

- CTT-2L
- encryption
- medical images
- steganography

### Authors

**Ramya Rani Kalvakota, Uma Volety**

### Abstract

The proposed system is used for vehicle detection and tracking from the high-resolution video. It detects the object (vehicles) and recognizes the object comparing its features with the features of the objects stored in the database. If the features match, then object is tracked. There are two steps of implementation, online and offline process. In offline process the data in the form of images are given to feature extractor and then after to the trained YOLO v3 model and weight files is generated form the pre-trained YOLO v3 model. In online phase, real-time video is applied to feature extractor to extract the features and then applied to the pre-trained YOLO v3 model. The other reference to YOLO v3 model pre-trained is the output of weight file. The YOLO v3 model process on the video frame and weight file extracted features, the model output is classified image. In YOLO v3 Darknet-53 is used along with Keras, some libraries with OpenCV, Tensor Flow, and Numpy. The proposed system is implemented on PC Intel Pentium G500, 8GB and operating system Windows 7 is used for processing our system. The system is tested on PASCAL VOC dataset and the results obtained are accuracy 80%, precision 80%, recall 100%, F1-Score 88%, mAP 76.7%, and 0.018%. The system is implemented using python 3.6.0 software and also tested using real-time video having 1280x720 and 1920x1080 resolutions. The execution time for one frame of video having resolution of 1280x720 (HD) and 1920x1080 (FHD) and 1280x720 (HD) are 1.840 second and 4.414808 seconds respectively with accuracy 80%.

### Keywords

- About four key words or phrases in alphabetical order, separated by commas.

### References

Paper Title: A Robust Digital Speech Watermarking Based on Least Significant Bit

Abstract: Watermarking is a technique to ensure the original information and to validate the digital content. Watermarking is required because of the rise in the utilization of the internet in one's everyday life. As the usage of digital content is developing quickly, there are numerous occurrences where information is uncertain. Watermarking is a procedure to conceal information for authorization reasons. Watermarking is the ideal approach to make sure about the digital content. Watermarking should be possible through different strategies. Least Significant Bit Watermarking (LSBW) strategy is one of them. Right now, pixel estimations of the image approach to make sure about the digital content. Watermarking should be possible through different strategies.

References:

Abstract: to achieve - study the sorption of silver, copper, nickel ions, the method of changing the volume of solutions of a constant concentration of metal ions is used. The amount of zeolite and constant concentrated solution is taken in such an amount that the molar (molecular) parts of the exchanged ions are in a wider range. Some concentrated solutions are taken in flasks in an amount of 20 40 60 80 120 ml and 0.5 g of zeolite are added to them, mixed and a sample is taken periodically for analysis. After 2-2.5 hours, equilibrium occurs. By measuring the density of equilibrium, the amount of sorption of ions is determined.

Keywords: heavy metal ions, natural zeolite, ionites, adsorber, sorption, diffusion, Na-clinoptilolite, kinetic curve, Cu 2+,Ni 2+

References:
2. Ibrahimov Ch.Sh., Mahmudova N.G., Aliev G.S The mathematical model of the sorption process of the ions dissolved in the metal solids on zeolites.// Azerb. Chem., 1997. №94 s
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Alzheimer’s Patients’ Assistance Models

Abstract: Alzheimer’s is a neurodegenerative disease which primarily affects the neurons in the human brain. The severity gradually increases over time, considered as the main cause for cognitive impairment in elderly people. Alzheimer’s Disease has a long incubation period before clinical symptoms emerge. The available treatment can only delay the disease but not the progression. Hence the patients need assistance for their day to day activities. There are few neuropsychological tests like mini-mental state examination to determine the need and way of diagnosis and few systems have been proposed to help such patients. It is necessary to study the available systems for their efficiency, feasibility, speed and other factors necessary for comparison in order to understand the work done so far which will open ways for further research and improvisation of existing models and approaches. Therefore, in this paper we will review some of the devices, approaches and systems designed in order to help the Alzheimer’s Patients’ with their daily activities.

Keywords: Alzheimer, Cognitive, Personal Assistant, Alzheimer disease, Probability.

References:

Microbial Fuel Cell for Electrical Power Generation from Waste Water

Abstract: In the last decades, the microbial fuel cell (MFC) has increased great opportunity as an alternative energy source through electrochemical process for producing bio-energy. MFC has been involved in anode and cathode for electric energy generation from organic ingredients such as bacteria in waste water treatment. In this review, we discussed the different types of MFC (anode and cathode) materials with various integrations. In addition, it includes the gainful, biocompatible and exceedingly constant electrode materials with enhanced microbial fuel cell performance. Following this review, expansion in membrane materials such as hydrocarbon polymer, perfluorinated polymer, organic-organic hybrid polymer, ceramics, organic-inorganic hybrid composite, and biopolymer membranes are clarified in detail. In this paper, also highlighted the application of MFC technology and the methods used in the MFC in electricity production.
Keywords: Alternative energy, Microbial fuel cells, Wastewater treatment, Microorganisms, Electrodes, Membrane.

References:

6. Tetsuya Nishimoto, Kazuhiro Kubota, Giulio Ponte, "A pedestrian serious injury risk prediction method based on posted speed limit", Accident Analysis & Prevention, vol.129, pp.84-93, August 2019

Authors: Diiva R, Anju Rajan K, Deepa G
Paper Title: An Empirical Methodology to Examine the Effect of Meta Classifiers in J48 and Random Tree in Weather Data

Abstract: Weather data interpretation has become vitally important in most domains of human activity and this is because in recent years, major changes have begun to impact climate globally – peninsular India is among the regions seriously affected with this and prediction has become a particularly urgent concern. In this work to bring out a better methodology to examine the weather data using Meta classifiers, a method is postulated by formulating it with Tree classifiers – J48 and Random Tree. Implementation phase has shown distinct results for both the classifiers. Regardless, we could conclude from this work that the effect of Meta Classifiers in J48 and Random Tree algorithm shows that efficiency can be improved by applying the same.

Keywords: AdaBoost, Bagging, Data Mining J48, Random Tree.

References:

Authors: M.Vigneshwaran,Vishali S, Diiva A, Epaphra T, Dhananjayan T
Paper Title: Smart Clothes for Security Personnel

Abstract: In national security, details matter but waiting to get them right would lead to failure. Developing a centralised system to monitor the groups of security personnel would help in making vital decisions on time. Hence using IOT technology, we create a smart cloth which transmits live location and psycho-physiological data of security forces to a permissioned database where the data is analysed to understand the state of troops. These sensitive data are protected from tampering using blockchain.

Keywords: Centralised , IOT , Psycho-physiological data , Tamper , Blockchain.
References:

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10. IOT based heart rate monitoring system https://www.youtube.com/watch?v=Az9phu3yeRI
11. NodeMCU ESP8266 with Antares platform https://github.com/LintangWisesa/NodeMCU_ESP8266_Antares

Authors: H.N. Zaynidinov, I. Yusupov, M.G. Mannopova

Paper Title: Applying Haar Wavelets in Tasks of Digital Processing of Two-Dimensional Signals

Abstract: In this article, a system application of local basis functions discussed, defined on compact media. Applying formulas for estimating the accuracy of calculating the spectral energy by the method of two-dimensional Haar wavelets and main concepts of Haar fast transformation, spectral energy of Haar coefficients will be discussed in this article. Their effectiveness will be shown in order to solve problems of sampling of compact signals. Signals cannot only be functions of time, defined at finite intervals, but also functions of arguments of a different physical nature, for example, distances along surfaces.

Keywords: compact spectrum, finite function, signal energy, approximation, Haar wavelets, wavelet fast transform

References:


Authors: B. Gogoi, S. Saikia

Paper Title: A Panel Data Analysis Model to Assess the Impact of Institutional Factors on Crop Diversification of Assam, India

Abstract: The process of crop diversification is generally used in agriculture to mitigate both production and price risk. Crop diversification is a process through which farmers diversify their farm activities from one crop to different value-added crops so that he minimizes the existing risk in his farm operation. Most of the studies in literature in context to crop diversification have identified different factors that influence crop diversification in their study area. However, very few studies have attempted to examine the impact of institutional factors on crop diversification at macro level by using district level panel data in Assam. Therefore, this study makes an attempt to examine the impact of institutional factors on crop diversification through panel analysis. To fulfill the objective of this paper secondary data have been collected from different issues of Statistical Hand Book of Assam, assamstate.com, RBI, etc. The overall results of this paper show that institutional factors like farm size have positive impact on crop diversification except institutional credit. Institutional credit has negative impact

References:


on crop diversification. This paper will definitely help to bring some policy changes in the macro level to optimize crop diversification in the region.

**Keywords:** Institutional factors, crop diversification, climate change, risk mitigation.

**References:**


**Authors:** Hagos Berhane, Pramila Devi Maganti

**Paper Title:** Effects of Total Quality Management Practices on Operational Performance of Ethiopian Plastic Industry

**Abstract:** The purpose of this research work is to evaluate the degree of total quality management (TQM) implementation in the Ethiopian plastic industry in Addis Ababa, Ethiopia and its impact on operational performance. A quantitative approach has been used via a self-administrated questionnaire. A simple random sampling technique was used to collect primary data. Correlation and regression procedures were used to analyse the primary data. The result of investigation on the level of TQM practices indicated that case industry has an acceptable level of TQM implementation. In addition, based on the regression analysis, it is concluded that two out of five of the selected TQM practices (training and supplier quality management) are significantly correlated with operational performance. In this process supplier quality management was considered as the most important TQM factor in terms of impacting operational performance.

**Keywords:** Total quality management, Operational performance Ethiopian plastic industry.

**References:**

Authors: V. Sudheer Goud, P. Premchand

Paper Title: Credit Card Fraud Detection Performance Improvement using Advanced Super Gradient Boosting Algorithm

Abstract: Credit card fraud introduces to the physical loss of a credit card or the destruction of sensitive credit card data. Several text mining procedures can be used for disclosure. This investigation reveals several algorithms that can be used to analyze transactions as a fraud or as a real background. This paper represents the possibility of fraudulent transactions in the prevalence and meaning of credit card usage also. Credit card fraud data collection was used in the investigation. Since the dataset was largely unbalanced, SMOTE (Synthetic Minority oversampling Technique) is applying for an overdose. In addition, jobs selected, and the data set divided into two parts, training data and test data. In this paper, The Advanced Super Gradient Boosting-based Text mining Algorithm (ASGB) suggested to detect the fraud transaction in Credit card transactions. ASGB is a Decision-Tree-Based Ensemble Text mining algorithm that utilizes a gradient boosting framework. In forecast difficulties, including unstructured data (Images, Text, etc.), artificial neural networks tend to exceed all other algorithms or structures. The proposed algorithms used in the experiment were the Hidden Markov Model, Random Forest, Gradient Boosting, and Enhanced Hidden Markov Model. The Experimental Results show that proposed algorithms, a well-tuned ASGB classifier outperforms all of them. And it presents better Precision is 99.1%, and Recall is 99.8%. F-measure is 99.5%.

Keywords: Credit card fraud detection, Text mining, SMOTE, HMM, GB, Random Forest, and ASGB

References:
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11. Panigrahi Suvasini, A. Majumdar K., “Credit card fraud detection: A fusion approach using Dempster-Shafer theory and Bayesian learning”.

Authors: Jasmeet Kaur, Anil kumar

Paper Title: Databases, Features and Classification Techniques for Speech Emotion Recognition

Abstract: Emotion recognition is a rapidly growing research field. Emotions can be effectively expressed through speech and can provide insight about speaker’s intentions. Although, humans can easily interpret emotions through speech, physical gestures, and eye movement but to train a machine to do the same with similar preciseness is quite a challenging task. SER systems can improve human-machine interaction when used with automatic speech recognition, as emotions have the tendency to change the semantics of a sentence. Many researchers have contributed their extremely impressive work in this research area, leading to development of numerous classification, feature selection, feature extraction and emotional speech databases. This paper reviews recent accomplishments in the area of speech emotion recognition. It also present a detailed review of various types of emotional speech databases, and different classification techniques which can be used individually or in combination and a brief description of various speech features for emotion recognition.

Keywords: Emotion recognition, Classification models, Emotional speech databases, Prosodic features, excitation source features, spectral feature.

References:
research the dynamics of plant disease and estimate the number of cases of outbreaks. In this research, we developed the compartmental mathematical model of the dynamical spread of transmission of plant disease with reference to basal stem rot (BSR) disease in oil palm plantation. The dynamics of the BSR disease were studied by a prone-contagious-sustained (PCS) compartmental mathematical model involving ordinary differential equations for three classes of hosts; prone, contagious and sustained. The equilibrium points and epidemic threshold conditions were analytically determined and numerical simulations were analyzed to support analytical results. From the numerical results, the solutions converge to each equilibrium state and PCS model simulation indicated that BSR disease has not become endemic. In particular, the threshold parameters that summarize the dynamics of the system will help to choose strategies for crop protection.

**Keywords:** Compartamental mathematical model, basal stem rot disease, prone-contagious-sustained, disease transmission and threshold parameters.

**References:**

1. H.J. Chang, "Estimation of basic reproduction number of the Middle East respiratory syndrome coronavirus (MERS-CoV) during the outbreak in South Korea." Biomedical Engineering, 2017; 16(1), 79.

**Authors:** R. Rajesh, K.Elango, S. Rajanbabu

**Paper Title:** Optimum Location and Sizing of DG with Network Reconfiguration in Distribution System

**Abstract:** A new technique for energy loss reduction for distribution networks is obtainable. It is based on network reconconfiguration algorithms for radial network study. A method for the reconfiguration of distribution systems with Distributed Generation (DG) since consistency and power loss is suggested. in this paper below ordinary working situations. Primarily a BPSO algorithm based tie-switches location is conceded out at end nodes taking physical limitations and then preceded by fixing and sizing of DG at the tie-switches location using FBS optimization method. Before reconfiguration, tie-switch will be in open situation. Reliability at load points is calculated using load flow analysis. Energetic coding is used for discovery the minimal shortcut path from resource to the load. A discover algorithm has been formulate for the network reconfiguration difficulty, since tie-switch and DGs for loss minimization and reliability to improve the load necessity, power stability equations and voltage parameters. The planned approach has been tested on IEEE 33-node radial distribution Networks systems.
Employee turnover has always been the real issue in the fields of organisational behaviour, human resource management and labour economics. The issue of why people leave their workplace is always a key concern for human resource managers in various industries and their organisations because of the costly effect that comes from it. Although the vast study on employee turnover, the information regarding this issue is very scarce in the scope of construction industry in Malaysia. The purpose of this research is therefore to determine the factors influencing employees’ turnover in construction companies and the strategies taken by the companies to retain employees. A total of 45 sets of questionnaires were collected. The questionnaires collected were then analysed by frequency distribution. For the first objective, the findings revealed that the studied factors influenced employee turnover from a neutral to fair extent. For the second objective, all the strategies mentioned above could be taken and used as retention strategies by the company from a neutral or fair extent and hence its practicality and effectiveness to retain employees.

Keywords: Employee Turnover, Factors, Strategy, Construction.

Authors: S. Prakashini, D. Vijayakumar

Paper Title: Sentimental Classification of News Headlines using Recurrent Neural Network

Abstract: Sentiment analysis combines the natural language processing task and analysis of the text that attempts to predict the sentiment of the text in terms of positive and negative comments. Nowadays, the tremendous volume of news originated via different webpages, and it is feasible to determine the opinion of particular news. This work tries to judge completely various machine learning techniques to classify the view of the news headlines. In this project, propose the appliance of Recurrent Neural Network with Long Short Term Memory Unit(LSTM), focus on seeking out similar news headlines, and predict the opinion of news headlines from numerous sources. The main objective is to classify the sentiment of news headlines from various sources using a recurrent neural network. Interestingly, the proposed attention mechanism performs better than the more complex attention mechanism on a held-out set of articles.

Keywords: Classification, Clustering, News headlines, Recurrent Network.

References:
Authors: P. Kalpana, A. Arumaran, S. Hanif, T. Deebak

Paper Title: Student Performance Analysis using Machine Learning

Abstract: Predicting student data to improve instructor and learner more efficiently in teaching and learning. It also strengthens contact between administrators, teachers and learners and helps monitor the behavior of students at multiple levels, such as class assignments, workshops, internal assessments and final exams. This program was built across three fields. We are Learning, Psychology and Computer Science. Educational institutes are increasingly using educational systems in recent years to assess their performance in order to construct plans for further growth and future actions. Such activities concentrate on discovering and improving approaches that can improve student academic performance, indirectly helping institutes attract more new students and maintain older students, the algorithms used in these systems are known as Educational Data Mining or EDMs. The prediction of student performance is an important aspect of EDM, which is the main area of this research work. Predicting student performance is a process that focuses on inferring information from the learning student performance data. It can provide accurate collection of data on learning activities, such as time-on-task and evaluation scores, allowing for useful progress estimates for both the student and the trainer. In order to improve their performance, early warning of "at risk students" can be obtained which can help trainers to increase their focus on them. This provides a better way of predicting student performance to improve their skills at an earlier stage. Thus, student performance prediction helps to easily adapt, personalize and interfere.

Keywords: Student data, Performance, Prediction, future actions.

References: 211-215

1. Farhana Sarker, Thanassi Tiropanis and Hugh C Davis, Students’ Performance Prediction by Using Institutional data sources like internal and external.

Authors: N. Noor Allema, S. Vishnu Chaitanya, Suman Jadam, G. Tejaswi

Paper Title: Spam Detection Framework for Twitter using ML

Abstract: Spam has become one of the growing issues in social media websites. Some of the users in these websites create spam news. Coming to twitter, Users inject tweets in trending topics and replies with promotional messages providing links. A large amount of spam has been noticed in twitter. It is necessary to identify these spams tweets in a twitter stream. Now a days ,a big part of people rely on content available in social media in their decisions, so detecting and deleting these spam details is very important. A basic framework is suggested to detect malicious account holders in twitter. At present to detect these spam users or accounts there are methods which are based on content based features, Graph based features. The system which is going to be created works on machine learning based algorithms. These algorithms help to give accurate results. In this system algorithm named Naïve Bayes classifier algorithm is going to be used. This algorithm is said to be combination of many other principles relying upon “Bayes theorem” wherein the methods share a common mode of working.

Keywords: Machine Learning, Spam detection, Twitter Spam.
Counterfeit Currency Detection using Resource Efficient Neural Networks

Abstract: One of the leading causes of economic instability is the large-scale counterfeiting of the paper currency notes. Several media reports bring to light the alarming cases and the humongous scales of currency counterfeiting and how this issue has become very serious now. A report on how the Government is coping with these threats with new and stricter rules however counterfeiters adapt to the new rules in an alarming fast pace. Criminals continue to find a loophole in the system despite such strict security features. There have been impressive discoveries in the field of counterfeit currency, and this coupled with new age digital technology, counterfeiting is being fought well. However, it is impossible to track all counterfeit notes and impossible to have them checked at a short amount of time. Existing systems involve filing a case with the police, sending the documents for verification and waiting for the results to come. This method is based on Deep Learning, which has seen tremendous success in image classification tasks in recent times. This technique can help both people and machine in identifying a fake currency note in real time through an image of the same. Traditional Deep Learning algorithms require tremendous amount of compute power and storage and hence it is an expensive and elaborate process. The main goal is to make a faster and simpler mechanism to alleviate sparsity, International Journal of Electrical and Computer Engineering (IJECE), Volume 10, February 2020, Page No. 447-454

References:
Abstract: Cancer is one of the deadly diseases across many countries. However, cancer can be cured, if detected at an early stage. Researchers are working on healthcare for early detection and prevention of cancer. Medical data has reached its utmost potential by providing researchers with huge data sets collected from all over the globe. In the present scenario, Machine Learning has been widely used in the area of cancer diagnosis and prognosis. Survival analysis may help in the prediction of the early onset of disease, relapse, re-occurrence of diseases and biomarker identification. Applications of machine learning and data mining methods in medical field are currently the most widespread in cancer detection and survival analysis. In this survey, different ways to detect and predict lung cancer using latest Machine learning algorithms combined with data

References:
1. M. Arwinde Dhillon, Amrita Kaur, Ashima Singh

Abstract: Power Quality analysis is the starting point of the energy management. This power quality analysis is carried out in the Electrical and Electronics Department of an Academic Institution. The Power Quality analysis is aimed at, Conducting Power Quality analysis in all the different panels of the Electrical and Electronics department. To identify and measure the power quality instability similar to voltage, current, harmonics, quality of power factor and reactive power flow of the various panels in the EEE department. Performance of various panels will be analyzed. It also helps to decrease the heavy economic losses to customer and major break of the loads. We provide the implementation strategy with readings and the recommendations for each problem. This project also provides the improvements in the energy conservation and reducing harmonics in all the loads in the EEE department.

Keywords: Harmonics, Power Quality Analyser, Power Factor. RMS.
mining has been analyzed. Comparative study of various machine learning techniques and technologies has been done over different types of data such as clinical data, omics data, image data etc.

**Keywords:** Lung Cancer, Omics Data, Images data, Machine Learning, Survival Analysis, Supervised Learning.

**References:**


Abstract: Today, the major advantage of mobile network utilization is energy in the range of gigawatt hours per year. Nowadays, in European markets energy prices increased around 18% of mobile network operational cost. The design methodology is provisioned with tradeoff between maintenance cost, energy consumption, QOS assurance and deployment. In the existing work, an optimization function for the network design and management has been formulated and its validity has been verified using results of simulation. The overall objective of this work is to evolve a strategy to operate a cellular network in an energy efficient manner, thereby reducing energy consumption and electromagnetic pollution. Range of each sector corresponding to a particular cell differs from each other. This allows the sectors to be treated as individual cells and hence, sector zooming can be done.

Keywords: Cellular networks, Green communication, Cell zoning, Base station, Mobile stations.

References:
Efficient FPGA Implementation of Human Detection from Video Sequences

Abstract: Detection of Human is a vital and difficult task in computer vision applications like a police investigation, vehicle tracking, and human following. Human detection in video stream is very important in public security management. In such security related cases detecting an object in the video, sequences are very important to understand the behavior of moving objects which normally used in the background subtraction technique. The input data is preprocessed using a modified median filter and Haar transform. The region of interest is extracted using a background subtraction algorithm with remaining spikes removed using threshold technique. The proposed architecture is coded using standard VHDL language and performance is checked in the Spartan-6 FPGA board. The comparison result shows that the proposed architecture is better than the existing method in both hardware and image quality.

Keywords: Adaptive Threshold, Background Subtraction, FPGA Implementation, Human Detection, Modified Median Filter.

References:


### 48. Detection of Spam Bots on Twitter using Machine Learning

**Authors:** Anirudh Sankaranarayanan, Kanshiram U., Gokuladharshan T.P., Suganya T.

**Abstract:** Twitter is a popularly used microblogging website that is used to share views, opinions, and updates. However, in recent times, an epidemic of spammer accounts have spread across the website causing disorder and chaos among the normal users. These spammers either aim to promote some commercial agenda or disturb the peace in the online environment. Our project aims to analyze the tweets made by users and predict if they might be spammers so that appropriate action can be taken on them. This is done using machine learning. The random forest algorithm has been modified by giving weighted importance to certain variables assigned using domain knowledge that has been obtained from exploratory analysis of various twitter data sets and knowledge from scientific research papers. A bag of words has also been added to the algorithm, in order to quickly identify the key phrases used by spam bots. By identifying the spammers we can systematically report them and create a more peaceful online environment.

**Keywords:** twitter; spam; machine learning; classification; random forest; bots; features; social network.

**References:**

11. The Twitter Rules, https://support.twitter.com/articles/18311

### 49. Real Time Traffic Signs and Obstacle Detection in Self-Driving Car

**Authors:** Konda Nandini, V. Naveen kumar, Y. Padma Sai

**Abstract:** The motivation behind this research work is to improve car safety and efficiency. The concept of self driving cars is heard from years, it has not come into usage in many countries because of the lack of complete intelligence in the vehicle. Some of the modern vehicles provide partially automated specifications such as keeping the car within its lane, speed controls or emergency braking. According to statistics most of the accidents occur due to lack of instant response to traffic signs and obstacles ahead. In case of self driving car this problem can be addressed by detecting the traffic signals using high end camera. Real time traffic sign detection model accomplishes its objective by identifying the traffic signals and obstacles. A high end camera is used to capture the image, raspberry pi 3 is used as hardware and open computer vision library is used to process the image and identify the patterns in the image to properly detect the signals. Ultra sonic distance sensor is used to identify the obstacles.

**Keywords:** Raspberry Pi, median filter, Hough circles, k means clustering, Edge detection.

**References:**

Abstract: Inverse spinel structured cobalt ferrite is one of the capable nominees for information storage and also in nanoelectronics devices. The present paper reports the rietveld refined structural, elastic, electrical and dielectric behaviour of titanium doped CoFe2O4 NP’s. The synthesis of Co1+xTiFe2-2xO4 (where, 0.0 ≤ x ≤ 0.5) nanoparticles was performed using self generated combustion technique. The prepared NP’s were characterized by X-ray diffraction technique (XRD) and Fourier transform infrared spectroscopy (FT-IR) technique to analyze the structural and elastic properties. The analysis of XRD patterns confirms the formation of single phase spinel cubic structure of all the prepared samples. The diffractograms obtained at room temperature were used for Rietveld refinement to determine the lattice constant, oxygen position, average crystallite size etc. parameters. The elastic modules were investigated through vibrational bands in FTIR spectra. The band positions in FT-IR spectra confirmed the octahedral [B] and tetrahedral (A) stretching which evident the ferrite skeleton. The plot of DC electrical resistivity with respect to temperature shows the semiconducting behaviour of the nanoparticles. The activation energy determined through resistivity plots, show decreasing nature with incrementing Ti4+ doping in cobalt ferrite. The dielectric parameters decreased exponentially with increasing frequency and with Ti doping.

Keywords: Co-Ti Ferrite, Rietveld Refinement, Elastic properties; DC Resistivity and Dielectric properties.

References:
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Abstract: The present day life styles are changing the food habits of the human beings by force and these food styles are leading towards problems related to health care in particular. Because of the dynamic impact of the health is being deteriorated and many diseases are therefore getting triggered to the mankind. Among the various diseases, gastroenterology related diseases are being growing exponentially because of the food styles are leading towards problems related to health care in particular. Because of the further complications. The complications include liver canc...


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Authors: Hemavathi P

Paper Title: An Unconventional Routing Method using Particle Swarm Optimization for the Internet of Things

Abstract: The study introduces novel analytical modeling of a multipath fault-tolerant routing approach where the design principle is formulated based on a bio-inspired optimization modeling of swarm optimization principles. The prime objective of this novel approach is to deal with network failures of Internet-of-Things (IoT) in a faster manner and recover the network operations as early as possible without compromising much energy. This way, the network becomes more reliable and sustainable even if any events occur that make the sensor node functionally disabled and even if any types of path failures take place, regardless of energy consumption factors in IoT routing scenarios. However, the approach also capable of handling energy problems during the IoT routing scenario to a significant extent. Further, the outcome of the study shows that the fault-tolerance routing approach based on unconventional particle swarm optimization (FT-PSO) attains better results as compared to the existing baselines.

Keywords: Multipath-routing, Particle swarm optimization, Fault-tolerance routing, Internet of Things.

References:


Authors: Anil Kumar, Neeraj Kumar, M. S. Niranjan

Paper Title: Synthesis and Characterization of Magnetorheological Fluids

Abstract: Magnetorheological fluids (MRF) are mixture of ferromagnetic micron sized particles in silicon or hydraulic oil carrier fluid. By application of external varying strength magnetic field various physical properties of these fluids can be controlled and they becomes semi-solids depending on magnetic field strength application. MRF fluids fulfill the desired performance requirements i.e. on application of magnetic field exhibits high shear and low initial viscosity, quick response, low hysteresis, low power consumption and temperature stability. These special properties of MR fluids made them suitable for many type of industrial applications including machining. Hence fluids can be very effectively used in magnetorheological finishing process (MRF) which has unique feature of finishing truncated and complicated geometrical shapes and surfaces and capable of producing surface in nanometers. As surface finish is an important parameter in precision fits, product quality, and high-strength applications. The three dimensional surfaces finishing works such as different angled deep pockets or projections. Many industries have this type of i.e. mould & dies manufacturing, automobiles manufacturing, aerospace industry, semiconductor machining and optics machining etc. Such application leads to enhanced demand of nano-finishing of 3D surfaces without damaging surfaces/sub-surfaces. As due to change in properties because of change in composition the MR effect is also influenced. Therefore the composition of MR fluids is very important to achieve desired MR effect. The composition of magnetorheological fluids can be evaluated with the help of characterizations and desire MR fluid can be synthesized according to requirements of the process. This paper will explain in detail how we can synthesize and characterize the Magnetorheological fluids using state of the art equipments and can optimize their performance.

Keywords: Magnetorheological, Nano-Particles, M R fluids, Carbonyl Iron Powder, Rheological Properties, SEM, VSM, Rheometer etc.

References:

Authors: Sadhana P. Bangarashetti, Pavan N. Kunchur

Paper Title: Image Registration with Conditional Adversarial Networks

Abstract: In image process, as an example, once combining the data content of image, we tend to have an interest within the relationship between 2 or a lot of pictures. Registration may be an elementary task in image process wont to match 2 or a lot of photos taken, as an example. CAN are investigated as a general-purpose answer for image version problems. Such systems were not just taking in the mapping from input picture to yield picture, yet additionally, gain proficiency with a misfortune capacity to mentor this mapping. Such things make it possible to use a similar kind of generic approach to traditional types of problems which requires very less or different loss formulations. We also show that the approach used here is very effective for image synthesizing from the label maps, and also we reconstruct the objects from edge maps, and colorizing pictures, among different errands. To be sure. Further showing its wide materialness and simple selection without the
requirement for parameter tweaking. As a network, it’s never again a hand engine for our mapping capacities and with the assistance of this we can accomplish powerful result without hand-designing our misfortune work.

Keywords: Image Registration, Conditional Adversarial Networks.

References:

Authors: R. N. Patil, Pravin Sahebrao Patil

Paper Title: A Robust Framework for Person Identification using Multimodal Biometrics for Future Technology

Abstract: Now a day’s security is very major aspect in every industry and personal life too. Various techniques of biometric are available with extraction of different features. Human body consist of many parts but in which few are very unique. The unique features can help in advanced biometric system development, but in future technologies needs robust and reliable techniques based on multimodal biometric. Hence this paper explains about multimodal robust framework personal identification using facial identity. More number of samples needs more accuracy and fast processing therefore deep learning with optical character recognition may use for this. The proposed system includes raspberry pi with python libraries and advanced packages. After execution of this personal identification using advanced tools a unique method with effective and efficient results appears. This paper helps to find the work done in this area and proposed system with hardware configuration setup details.

Keywords: Personal. identification, Multi. modal biometrics, face. recognition, finger. print recognition, matching.

References:


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10. web.stanford.edu

Authors: Haider Feroze Rangrez, Sandeep Singla, Er. Mudasir Hussain Dar

Paper Title: Strength Properties of Steel Slag Concrete Prepared with Partial Replacement of Cement with Silica Fume

Abstract: Concrete is a very versatile material. The rapid growth of the industry produces a large amount of by-products and waste, which can be used as SCM machines for ash, silica fume, slag, melting of granular soil, iron slag, etc. This waste is used to improve concrete structures with a new blending framework. Cement, sand and aggregate were mixed in a certain ratio. The proportion began to maximize the strength of the concrete mixture. In real time, the mixture could be easily nourished on construction projects, so it took a certain amount of time to achieve sustainable benefits. It is usually 28 days to get a full booster for the production of the mixture. Aggregates and silica fume were mixed at specific levels of 0%, 5%, 10%, 15% and 20%. This inclusion was tested and produced the strongest distribution at any given time. Analyzes of compressive strength, insulation tension, flexural strength, and shear strength tests were performed on concrete mixtures from M-0 to M-20. This paper examines the aforementioned tests on various compositions of the material.

Keywords: Compressive Strength, Splitting Tensile, Flexural Strength and Shear Strength test, Silica Fume, Steel Slag Content.

References:


Authors: Sujit Kumar, Neel Kamal, Pankaj Kumar, Aditya Gaur, Vikash Tiwari

Paper Title: Accuracy of Detection and Classification of DC Faults using Levenberg Marquardt Based Back Propagation Algorithm

Abstract: Vitality is seen as a prime administrator in the time of wealth and a vital figure budgetary headway. Obliged fossil resources and natural issues associated with them have underscored the necessity for new reasonable vitality supply choices that use sustainable power sources. Among open developments for essentialness age from solar dependent sources, the photovoltaic system might give a gigantic pledge to develop a progressively feasible imperativeness structure. This paper presents accuracy of detecting DC faults in a photovoltaic (PV) framework based on Levenberg - Marquardt (LM) neural network. The result showed that this model based on LM neural network is effectual to grip doubts and nonlinearities of DC side faults in PV module without using mathematical model. All probable faults in DC side of PV system are obtained over 100 kW plant. It is discovered that the proposed framework has demonstrated its integrity for the pragmatic applications.

Keywords: Levenberg - Marquardt (LM) neural network, 100 kW PV array, 11 kV grid, DC side Faults, Grid connected PV system.

References:


Cloud storage provides the enormous benefits to the cloud user. Especially the data accessibility feature that allows the user to access their data anywhere any time. But cloud computing maintain the distributed environment for storing the data which increase the risk of data leakages. A suitable solution to reduce the security risk is to deploy encryption mechanism. Ensuring security on cloud storage is still a challenging issue. In this paper a hybrid encryption techniques is proposed with three powerful algorithms such as Advanced Encryption Standard, Rivest–Shamir–Adleman (RSA) and MD5. The Encryption scheme executes between the fragmentation and replication process. The proposed hybrid framework strength the security of cloud data. If any successful attacks occurs the attackers does not able to discover the plaintext. The implementation was carried out with the help of Cloosim framework. The performance of this study is compared with prior encryption techniques.

Keywords: Cloud Storage, Security, Hybrid Encryption, AES, RSA, MD5.

References:


Authors: Mohd Talha Khan
Paper Title: Variables of Service Quality Facilitating Client Contentment in Indian Bike Industries

Abstract: Clients of automotive service industries are always anxious for after sales service. The objective of this research is to determine the association of variables of service quality and client contentment in bike industries. The information was gathered using convenience sampling technique from 150 users of bike industries in the form of questionnaire developed using SERVQUAL model. The important variables were extracted utilizing exploratory factor analysis. Hypothesis of the research was analyzed using multiple regression analysis and ANOVA. The results of the research revealed that the variables reliability, empathy, responsiveness, assurance, accessibility and convenience are found statistically significant to determine customer contentment whereas tangibility is not found significant to determine customer contentment and findings indicate that management have to focus on attributes like interest in solving clients’ problem, clients’ question to be answered timely by staff, trust in you to be inculcated by staff, individual consideration by staff and stopping region

Keywords: Bike Industries, Client Contentment, Factor Analysis, Regression Analysis, Service Quality.

References:

Authors: N. R. P. Nivetha, C. P.Moulya, A.RumanaParveen, R.Narmatha Shree, S.Ragupathy
Paper Title: Blood Content Prediction using Deep Learning Techniques

Abstract: Cells in the human circulatory system and identifying the types and its functionalities cannot be done through naked eye. This asks for greater accurate methods of visualizing it and hence is vital in understanding blood disease causes, symptoms and the solution for them. But this field lacked clearance for the imaging system. Image Recognition was innovated using Deep Learning Technique. Human body cells assume an astounding job in the human resistant framework. To know more about blood-related infections and its effects, pathologists need to think about the attributes of cells. To diagnose a blood related disease, we need to identify and characterize blood samples of patients. In the medical field, automation for detecting and classifying blood cells and its subtypes have gained more importance nowadays. Recognition of an object is a basic piece for the vision of a computer that distinguishes an article in the given picture regardless of foundations, impediment, lighting or the edge of the view. Problems that are too difficult to solve can be handled using architectures that run deep using algorithms that dive deeper into the features extracted from the input and this can be possible using Deep Learning.
Keywords: Blood samples, Deep Learning, Image recognition, medical applications.

References:

Authors: Satya Sesh Rao Gopi, Bhavani Dhavala, Bharath Chinthakula

Paper Title: Human Made Path-Ways in Google Maps

Abstract: This paper proposes information regarding Human Made Path-Ways (HMPW) feature in Google maps, which will present more accurate output of traffic [1], road blocks, fastest reaching path-ways, reaching emergency location in an error free path-way for emergency services to the users.

Keywords: HMPW, Google maps, reaching emergency location.

References:
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3. Bigduckgames.com, free flow game developed by big duck games 7 June 2012

Authors: Si-Huy Ngo, Trong-Phuoc Huynh

Paper Title: Recycling of Waste Bottom Ash as a Fine Aggregate for the Production of Normal Strength Concrete

Abstract: Two current concerns of Vietnamese Government are related to overexploitation of natural river sand, and the dumping of bottom ash (BA) in landfills and ponds. These activities have a negative influence on the environment. In this study, BA is utilized to partially or fully substitute river sand for the production of normal strength concrete. Three river sand concrete mixtures with water/binder (w/b) ratios of 0.36, 0.39, and 0.42 were used to study the effect of w/b on concrete properties. On the other hand, to investigate the influence of BA content on concrete properties, another four concrete mixtures were designed with a fixed w/b ratio of 0.36 and the river sand in these mixtures was replaced by BA at different levels of 30%, 50%, 70%, and 100%. Test results indicate that higher values of the slump, water absorption (WA), and porosity were associated with a higher w/b ratio. Whereas, increasing w/b ratio resulted in reducing unit weight (UW), compressive strength (CS), and ultrasonic pulse velocity (UPV) of concrete. Additionally, the inclusion of more BA in the concrete mixtures led to the reduction of the slump, UW, CS, and UPV and the increment of WA, porosity, and electrical resistance (ER) of concrete.

Keywords: Bottom ash, River sand, Fine aggregate, Industrial waste, Normal concrete.

References:
Abstract: As the current vitality situation deals with one serious issue is Power quality. Power quality has been progressively applicable, centered, with the expansion of reasonable hardware, where its conduct is especially critical to the quality of power input supply. Issue due to power quality is a wonder pointed as an uncommon standard common current, voltage recurrence that brings about a disappointment of advanced gadgets. The primary matter centers at the voltage enlargement & dips. Here, creators introduce a specific system for the avaricious of the voltage enlargement & dips. To amend the matter pointed out above, modified power types of gear are embraced. One of them, Dynamic Voltage Restorer (DVR), the foremost just as exact progressed redid control hardware utilized in power dispersion systems. The favorable circumstances incorporate scaled down value, small scale, with great dynamic reaction with regard to obstructions. Customary type controller like Proportional-Integral one and Neural Network (NN) based DVR Controller are utilized here for examination. In the proposed technique, NN based DVR controllers actualized are supplanted by the regular PI controller to build up the exhibition of the system. The point of the controller is built quicker than customary procedure found controller. By MATLAB reproduction apparatus, the presentation shall be considered.

Keywords: Dynamic Voltage Restorer, Genetic Algorithm (GA), Neural Network (NN), Solid State Equipments, Power Quality.

References:

### Abstract:
In this paper, we introduce an encryption and decryption procedure with high security by mathematical model, using Laplace transformation and Inverse Laplace Transformation for the given transforming data from one end to other end. We also give an example. Here we convert plain text to ASCII code. We take two primes as a primary key for encryption and decrypt in of the original data.

### Keywords:
Encryption, Decryption, Cipher text, Laplace transformation, Inverse Laplace transformation, ASCII code.

### References:

number of samples that are costly to analyze. The objective of this study found out the correlation between Munsell soil colour with the content of organic matter of the different orchard soils to predict the content of organic carbon from 52 orchard soil samples of the different ages of construction as soil degraded. A case study in Hau Giang province, Vietnam. The results showed that there was a complicated relation to soil properties. Soil colour has the same Munsell Hue, but there is different between Munsell Value and Chroma when the soil has at the same humidity. Organic Carbon content ranged from 1.32 to 5.6%. There was negative significant correlation between organic C content and Munsell soil color properties, such as with Munsell Value (r = -0.75** air-dry, r = -0.74** moist); Munsell Chroma (r = -0.55** air-dry, r = -0.66** moist). Since, Visual soil colour assessment is useful predictors of organic C content, especially for topsoil layers to predict the degradation of orchard soils.

This study indicates that soil organic content can be predicted by using Munsell soil colours for visual field measurements on the old raised bed at the moist condition, which can be used for field soil fertility degradation recommendation. However, more study of pedotransfer function on other soils condition must be correlated for further recommendation.

**Keywords:** Prediction, Soil colour, Organic carbon, Correlation, Munsell.

**References:**


**Authors:** Alpana Jijja, Dinesh Rai

**Paper Title:** Segmentation of Brain Tumor using Glcm and Discrete Wavelet Transform

**Abstract:** To identify brain tumors at an early stage is a challenging task. The brain tumor is usually diagnosed with Magnetic Resonance Imaging (MRI). When MRI spectacles a tumor in the brain, the most common way to determining the type of brain tumor after a biopsy or surgery is to look at the results of a tissue sample. In this research to detect brain tumors faster and accurately the feature extraction techniques are used to segment the tumor affected area. One of such very effective technique of feature extraction measure is the Grayscale Co-occurrence Matrix (GLCM). This research focuses on the GLCM and Discrete Wavelet Transformation (DWT) technique to detect and label the tumor from an image based on the textures and categorizing it according to a tumor or non-tumor category. The convolutional neural network (CNN) uses these features to improve the accuracy to 91%.

**Keywords:** Convolutional Neural Network; Discrete Wavelet Transform; Feature Extraction; Grayscale Co-occurrence Method.

**Reference:**


344-348
This paper presents the implementation of Remote Monitoring Laboratory system that is used to perform experiment remotely by using Internet of Things. This paper discusses required hardware equipment and software developments for Remote Laboratory. To verify the proposed framework, a room temperature control experiment made available remotely to control the parameters and hardware. The experiment which is made online accessible for students is named Temperature Control System (TCS). The basic idea presented in this paper is to acquire and present data in Lab View and control it by sitting on remote computer. As the experiments take long time to take place in laboratory and during that time a person needs to be present in laboratory to supervise the running experiment. But by making remotely accessible it become easy to supervise by sitting own office and during that time the person can do other tasks meanwhile experiment is running. Live video is also published with remote panel for hardware observation which is setup in laboratory. The results presented in this paper are very satisfactory and reliable.

Keywords: Remote Control, Internet of Things, Laboratory, Lab View.

References:
The information on “users” and/or item is limited. For example, you can imagine the hotel booking website that provides recommendation to the website visitor, even though the user has never visited the website before (first time user). In such a situation as the information about user is limited the website algorithms are still able to utilize collaborative filtering methodology to provide recommendations.

**Abstract:** Collaborative filtering (CF) is one of the most important techniques of recommendation system and has been utilized by many e-commerce businesses to provide recommendation to its users. This paper sheds light on CF and its methods. This paper demonstrates a practical algorithm by leveraging data on user ratings for mobile phone devices and then provides recommendations to the target user based on the ratings given by similar users. It also elaborates an algorithm of CF that overcomes some of the common limitations by other algorithms. To explain the methodology of collaborative filtering this paper research looks at mobile phone data, especially the mapping of users (buyers) and the rating they provide for mobile phones they purchase. The model first evaluate multiple collaborative filtering techniques (variations of user based and item based filtering) by use of ROC curve and then provide recommendation to the user based on the best identified technique. Collaborative filtering is best utilized where the user faced by other algorithms. To explain the methodology of collaborative filtering this research paper looks at mobile phone devices and then provides recommendations to the target user based on the ratings given by similar users.

**Keywords:** Recommendation System, Collaborative filtering

**References:**


**Authors:** Shefali Gupta, Meenu Dave

**Paper Title:** Improvised Collaborative Filtering for Recommendation System

70. 361-364


Authors: Pallavi Pahadiya, Ritu Vijay, Kumod Kumar Gupta, Shivi Barna, Ritu Tandon

Paper Title: “A Novel Method to Get Proper Tongue Image Acquisition and Thresholding for Getting Area of Interest”

Abstract: A need of reliable Automated tongue analysis system which may help the user to get an idea about his/her health. As per Ayurveda, Chinese medicine and homeopathy tongue appearance gives lot of information about one’s health. As tongue analysis come under non-invasive method one can easily go for it without any fear for expensive invasive methods. In non-invasive method like tongue analysis Experts opinion play very important role which also, hinders proper analysis. A reliable automated tongue analysis system may overcome this problem. This paper focuses on two major problem faced while using automated tongue analysis system i.e. proper position of area thresholding for maximum area coverage and better thresholding method to get area of interest.

Keywords: TDS, GLCM, Thresholding, Energy, Entropy, Area, Perimeter.

Reference:

Authors: Marym Mohmad Razip, KS Savita, Khairul Shafee Kalid, Manoranjitham Muniandy

Paper Title: Developing a Household IoT E-waste Management Guideline: Analyzing Data with Atlas.ti 8
Abstract: The Internet of Things (IoT) plays a huge part in the current Fourth Industrial Revolution which turned out to be one of the fastest contributors towards technological development around the world including Malaysia. As good as it sounds, an emergence of new technology means increases in the number of digital devices which later contribute towards the rise of E-Waste or the possibility of “IoT E-waste” generation if they are not managed properly. Hence, this paper aims to investigate the stakeholders involved in managing a sustainable household IoT E-waste collection processes as well as the elements involved in developing a sustainable system to manage those wastes. The research adopts case study research method where three cases were studied and a total of six participants were interviewed, with two participants per case. Outcomes from the interview were transcribed and analyzed using an Atlas.ti software. The identified stakeholders involved and the elements for a sustainable waste system will contribute towards the development of a Sustainable IoT E-waste Management Guideline which particularly enables the policymakers to strategize on the planning, development, and implementation of IoT initiatives for the future of Malaysia household IoT E-waste management.

Keywords: Atlas.ti 8, E-waste, IoT E-waste, stakeholders, waste system elements.

References:

Abstract: Through the exploitation of scientific knowledge and technology, man has made wonderful strides in the field of automation, the focus of which lies in 'Robotics and Machine Learning'. All around us we see machines taking over work with accuracy and ease. Seen as a subset of artificial intelligence, machine learning relies on data, patterns in data and inference to aid technology in thinking for itself. This paper aims to apply the science of machine learning in the field of agriculture, by carrying soil fertility analysis using most accurate algorithms. The fertility of soil plays a principal role in determining the suitability of cultivating a particular crop on a given soil type. Analysis is carried out by the examination of various properties of the soil like the pH value, Electrical Conductivity, Moisture content. Temperature and (N)Nitrogen (P)Phosphorous (K) Potassium levels, followed up by soil type classification. Finally, a recommendation for the most suitable crop is provided in real time.

Keywords: Ensemble, k-nn, Machine Learning, Prediction, Random forest, SV,

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9. Rakesh Kumar, M.P.Singh, Prabhat Kumar, J.P.Singh “Crop Selection Method to Maximize Crop Yield Rate using Machine Learning Technique”
17. Nidhi H Kulkarni, Dr. G N Srinivasan, Dr. B M Sagar, Dr. N K Cauvery “ Improving Crop Productivity Through A Crop Recommendation System Using Ensembling Technique”

Authors: Muneshwara M.S, Abigail Angela Gracias, C G Neha, Preethi, Akarsh S

Paper Title: Soil Fertility Analysis and Crop Prediction using Machine Learning

Abstract: Wireless networks enable wireless-nodes to develop and broadcast messages in an attempt to reinforce congestion protection and performance. Meanwhile, due to distrust environments, it’s mile tough for the wireless-nodes to assess in reliability of the acquired messages. In this work, we advise the decentralized control machine in Wireless networks situated on the blockchain techniques. During this machine, wireless-nodes must be verifying obtained messages from the neighboring Wi-Fi nodes by using Bayesian Inference Model. On the idea of this validation outcome, Wi-Fi node is going to be generated the rating for every message source of wireless-node. With this ranking uploaded from Wi-Fi nodes, Roadside Units are often calculated the trust cost offsets of worried wireless nodes, p.C. This statistic right into the block. Then, to every of the Roadside Unit are going to be attempt for adding their “blocks” to be consider block chain that's maintain with aid of all Roadside Units. Make the utilization of the joint Proof-of-Work and Proof-of-Stake consensus the system, extra overall fee of the offset (stake) is within a block, more easy the Roadside Unit are often located the nonce for their hash feature (evidence-of-paintings).During this manner, all the Roadside Unit collaboratively preserve an up to the date, dependable, and steady believe blockchain. Clone results can display that the proposed gadget be powerful also a possible in accumulating, computing, and storing agrees with values in Wireless networks

Keywords: Blockchain, Decentralized, trust and wireless.

References:

Authors: Eliaganti Ramalakshmi, Hemanth Reddy Kakarla, Kranthi Jella

Paper Title: An Efficient Text Image Elimination App for Android

Abstract: Smartphone sales are at an all-time high with the ever increasing use of smartphones, we have access to data like never before. But with information that vast, we often get suffocated by the images that clutter our devices, making it that much harder to get to the pictures that matter to us. With the power of Machine Learning and image processing, this Text Image Elimination App will free your device from all the clutter and make your life easier. The application removes the images they may not want on their phone. Images containing text will be processed and the text extracted from the images will be compared to a list of texts given by the user and if there is any instance of the text in the image it will automatically be deleted. This paper proposes an efficient android application where the user can optimize the storage space by eliminating the images of his interest based on text matching without directly going in to the directory.

Keywords: Android, text image.

References:
Abstract: Foam concrete is a kind of air inflated lightweight concrete, which doesn’t contain coarse aggregate and can be regarded as an air inflated mortar. Foam concrete is made by adding foam into the cement slurry, the main use of foam in the cement mortar is to create air voids which act as a ball bearings inside the concrete mix. Foam is prepared by using foam generator or it can be made by sonication process of hydrogen peroxide. In this research work foam is formed by the sonication process of hydrogen peroxide separately then the foaming agent is diluted with water and air inflated to create the foam. Bottom ash from thermal power plant is collected and added in different proportions in the concrete mix to study the mechanical behaviour of the foam concrete. Mechanical properties such as compressive strength, split-tensile strength, flexural strength and thermal conductivity tests are carried out under controlled environment. The targeted design densities of all the specimens were expected to be 1600 kg/m3. The binder to filler ratio used in this study is 1:1, with the sand being completely replaced with bottom ash and Fly ash.

Keywords: Foam concrete, consistency, thermal conductivity, sound absorption.

References:


Paper Title: Assessment of Physical and Mechanical Behaviour of Foam Concrete using Bottom Ash and Fly Ash

76.

Abstract: There are hundreds of human-affected skin diseases. The most severe skin disorders may have identical symptoms, so recognizing the distinctions between them is crucial. People should work closely with a dermatologist to identify and manage every skin disorder and insure it does not impact their lifestyle. Actinic keratosis (AK), that is also classified as solar or senile keratosis; is a pre-malignant crusty, thick skin area. It is a disorder of epidermal keratinocytes, induced by UV radiation upon the skin. While pre-cancerous in nature, they can develop into a form of skin cancer called carcinoma if left unaddressed. The other type of keratosis dealt within this paper is seborrheic keratosis, which are brown or black, thick, wart-like, waxy oval-shaped, slightly raised skin surfaces. The growths aren't damaging. Nevertheless, in some instances it can be impossible to differentiate a seborrheic keratosis from melanoma, which is a very dangerous form of skin cancer. Nevus (or moles) skin lesions are ones which are benign, where it may very rarely turn into melanoma skin cancer. In this article, along with techniques for extracting features (LDP [Local Directional Patterns], LBP [Local Binary Patterns] and HOG [Histogram of Oriented Gradients]), we have used an SVM classifier for the classification of Keratosis and also nevus skin photos. The LBP, LDP and HOG are means to extract features; these images are subsequently used for identification of derived features from these methods or algorithms and classified by the SVM (Support Vector Machine) classifier. For many of the classifications of keratosis and nevus skin images using these algorithms, we have obtained accuracy nearly above 80 %, whereby the LBP system together with the SVM classifier was the most powerful attribute extraction tool of the three with their

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Authors: Manjunath Rao, Calvin Joshua Fernandez, Sreekumar K.

Paper Title: Accuracy Assessment & Classification of Keratosis Skin Lesion Images using Feature Extraction & Classification Algorithms-LBP, LDP& HOG

77.
polymerase chain reaction (PCR) is a molecular technique that amplifies specific sequences of DNA. This technique involves several steps: denaturation, annealing, and extension. In the denaturation step, the DNA is heated to separate the strands. In the annealing step, primers are added to hybridize with specific regions of the DNA strands. In the extension step, the DNA polymerase enzyme synthesizes new DNA strands complementary to the primers. This process is repeated multiple times to increase the amount of DNA exponentially.

Keywords: PCR, DNA, amplification, molecular biology.

References:

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**Keywords:** Keratinosis, squamous cell carcinoma, actinic keratosis, seborrheic keratosis, benign nevus, malignant nevus, feature extraction, SVM, LBP, LDP, classification.

**References:**
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Authors:
K. Gangadaran, R. Dhinesh, S. Sam Peter

Paper Title: Post Disaster Rescue Assist using Machine Learning

Abstract: During any disaster, the first step is to formulate a disaster rescue team to help those in distress. When the team goes into action, it is important to analyse the survivors withstand on the rooftops. It is hard to search for rooftop survivors by entering and searching every house. So, there are many Machine Learning techniques and algorithms such as image recognition and classification and these can be quite helpful in assessing the survivors as the algorithms can analyse and observe images from the sources. They can also identify the rooftop survivors and make a mark over them. Machine Learning can quite effectively identify humans apart from environmental objects, flooding, blocked roads from the disaster occurred locations.

Keywords: Drone Assist, Flood Rescue, Machine Learning, SIFT.

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Authors: Haridas, S., Rama Prasath, A.

Paper Title: An Exploration into Energy Efficient Algorithms Based on the Techniques of Particle Swarm Optimization in MANET

Abstract: This paper throws understanding into nature inspired meta-heuristic algorithm; Particle Swarm Optimization based technique in designing various energy efficient MANET routing algorithms. Mobile ad hoc network (MANET) is a framework-less system of self-directed mobile nodes. Owing to the dynamic topological property of MANET, it’s very rigid task to calculate the performance of routing protocol under unpredictable network conditions and the performance of the network will degrade. The performance of Mobile Ad-hoc network is measured by metrics such as packet delivery ratio, battery power and total delay in delivery. Regular variation in topology affect route selection and lifespan of network, hence it is essential to optimize these metrics parameters. There are various protocols developed for routing. These routing paths are established to send data packets through the shortest path without a satisfying multi-objective approach. The purpose of the research is to discuss different approaches of swarm based intelligence routing algorithms used in MANET under dynamic conditions by comparing the measured metrics and to design a novel effective PSO based routing procedure for MANET.

Keywords: MANET, Network lifetime, Particle swarm optimization, Resource optimization.

References:
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capacity to support higher cellular networks along with consuming less energy needs to be focused upon. Due to the scarcity of spectral sources, a wide consensus can only be achieved by increasing significantly the number of antennas operating per unit area. Here a heterogeneous network named HetNet is analysed, comprising a macro base station (BS) along with several antennas and an overlaid dense tier possessing SCAs (small cell access points) through a wireless backhaul to get data traffic. The SCAs mostly associate with static as well as low mobility user equipment whereas macro BS serve the medium-to-high mobility. This work analyses the methods of the ultra-dense wireless 5G heterogeneous networks considering the interference management along the mm-Wave backhaul links to utilize the spectrum and network densification to operate mm-Wave 5G HetNet. The study reviews several literature works, their drawbacks and developing a joint model by combining base station switch-off technique with interface mitigation. This study further throws light on the scope of managing the backhaul-aware interference which in turn enhances potential capacity of the system and depending on the suitable backhaul the capacity is improved. Millimetre wave(mm-Wave) has proved to be a remarkable candidate to overcome the issue of ensuring a broad bandwidth having secure link transmission. The ultra-dense heterogeneous networks are discussed along with discussing the role interference management algorithms to minimize energy consumption. The importance of interference management is discussed along with discussing issues related. The research problem is formulated following a comparative analysis.

**Keywords:** UMH, backhauling, mm-Wave, interference management, RAT

**References:**

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Authors: V. Kesava Raju, K. Srinivasa Rao

Paper Title: Tensile Behaviour of Concrete with Steel Fibers Subjected To High Temperatures

Abstract: The present study aims at comparing the split tensile and flexural strengths of plain concrete and steel fibre reinforced concrete subjected to high temperatures. The grade of concrete designed for investigation is M30. The fibres used for investigations are hook end steel fibres with aspect ratio 50. The dosage of fibres added was 3% by weight of cement. The specimens of size 150 mm diameter and 300 mm length cylinders is M30. The fibres used for investigations are studied and its output characteristics are analyzed from co...
propositions. The dependences parameters such as maximal BER, minimal SNR values among all the channels with signal power detection for each pump power results are obtained and compared to the same. Evaluations of Quality factor and BER for each pump power with all three configurations were done for different lengths of EDFA. The DWDM system with suggested optimum EDFA parameters gives good results in terms of Q-factor, eye opening and BER.

Keywords: BER, DWDM, Eye Height, EDFA.

References:

13. https://doi.org/10.1016/j.jileo.2019.05.056

Authors: Rajesh

Paper Title: Performance Analysis of Optical Frequency Multiplication Based Bi-Directional Rof using FPI

Abstract: A cost-effective novel method, Optical Frequency Multiplication using a Fabry Parot Interferometer (FPI), is demonstrated with Optisystem for generating micro/ millimeter signals optically and distributed to several remote located base stations. The simulation results show that the relative strength and frequency of the harmonics is strongly dependent on sweep frequency, FSR, Frequency Deviation and FM index. It is observed that optical uplifting of 150 Mbps AM radio signals to 11.8, 17.8 and 23.8 GHz frequencies corresponding to 4th, 6th and 8th harmonic after transmission in optical downlink with the power of 10 dbm, -10 dbm and -20 dbm respectively. Similarly, ASK data is recovered from the 4th harmonic of 12 GHz. To down-convert the uplink AM-RF signal of 5.8 GHz to a low IF of 200 MHz, 6 GHz high-frequency carrier generated by OFM is used, which is then sent back to the Central Station. QAM data at 550 MHz subcarrier is also recovered at CS successfully from 4th harmonic. Hence, the OFM system is used successfully for multiple functions concurrently, such as high-frequency-carrier-generation, optical signal transportation, frequency up-conversion, and bi-directional data transmission through generated harmonics.

Keywords: ASK, FPI, FSR, MZM, QAM.

Reference:


Authors: Shivakumar K. Honawad, Santosh S.Chinchalli
Paper Title: Classification of Soil and Prediction of Crop

Abstract: Agriculture is a major backbone for most families. As we move from one location to other the soil is different. The yield from crop is not as much as accepted. The soil classification and crop prediction is done manually, so research in this field is at most importance. The Digitization technique has employed in this paper to overcome the manual task. Hence SCP algorithm has been implemented. The algorithm classifies images and provide suitable crop for classified soil. So this work can be used in agriculture field.

Keywords: Crops, Digital technique, Soil types, Soil images.

References:

Authors: Sumit Kumar Sar, Ramesh Kumar
Paper Title: Performance Analysis of Classification Algorithms for Fault Diagnosis in Rotating Machines

Abstract: Classification of any given vibration signal as healthy or faulty can be done by employing classification algorithms available to us. Identification of a fitting classification algorithm is a task that should be done at the time of identification of the problem statement itself, such that required changes can be done in it if the need be. Hilbert Huang Transform (HHT) empowered Adaptive Neuro-Fuzzy Inference System (ANFIS) was used to obtain the most significant features of the vibration signals of both healthy and faulty rotating machines in the time and frequency domain, namely RMS velocity, Kurtosis, and Crest Factor (RKC). They were then fed to classification algorithms to classify the machines as healthy or faulty. Five machine learning techniques such as Probabilistic Neural Network (PNN), decision tree (DT), k- nearest neighbour (KNN), and Radial Basis Network (RBN) are utilized as classification algorithms. Decision Tree algorithm was found to be the optimal classification technique; overfitting was found to be a notable issue. To improve prediction, the decision tree algorithm was parallelly ensembled into Random Forest using the Bootstrap Aggregation method.

Keywords: PNN, DT, KNN, RBN, HHT, ANFIS, Random Forest, Bootstrap Aggregation.

References:
Abstract: Cross section of different evaporation residue have been calculated in 112Sn+16O (Neuron/Proton (N/Z) of the 112Sn target is 1.24) and 124Sn+16O reaction (N/Z of the 124Sn is 1.48) with beam energy of 80 MeV using statistical model calculation code PACE4. These calculations predicts that the proton emission channels are predicted to be dominant when the N/Z ratio is small (i.e in the first reaction) whereas the neutron emission outgoing channels dominant in the second reaction when N/Z is large. Experimental phenomenon also revealed the fact that in order to populate the proton or neutron reach nucleus we have to choose the target material accordingly.

Keywords: Angular Distribution, Cross-section, Heavy ion fusion reaction, PACE4.

References:
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Authors: Pankaj H. Chandankhede

Paper Title: Pan sharpening of Multispectral and Panchromatic Images for Color Distortion using MATLAB

Abstract: This paper deals with new pan sharpening techniques/methods for multispectral pan sharpening. These techniques are functional to number of datasets and their usefulness, strength and health are (figured out the worth, amount, or quality of) with widely used performance indicators. Also, all the ways of doing things of pan sharpening thought about/believed in this paper were put into use in a MATLAB with toolbox. GUI was designed using regression method which reduces color distortion.

Keywords: PAN-Panchromatic image; MS-Multispectral image; Pansharpening, Intensity Hue Saturation IHS-fusion, vibrational fusion.

References:


Authors: Vicky Malik, S.Prasad Babu Vagolu, Sunil Chandolu

Paper Title: Restaurants Rating Prediction using Machine Learning Algorithms

Abstract: Restaurant Rating has become the most commonly used parameter for judging a restaurant for any individual. A lot of research has been done on different restaurants and the quality of food it serves. Rating of a restaurant depends on factors like reviews, area situated, average cost for two people, votes, cuisines and the type of restaurant. The project aim is to find out the relationship between the dependent and independent variable. Proposed project is a Machine Learning Regression problem which uses Restaurant Rating, Random Forest Algorithm, Linear Regression, Machine Learning Algorithm.

Keywords: Restaurant Rating, Random Forest Algorithm, Linear Regression, Machine Learning Algorithm.

References:

1. Chirath Kumarasiri, Cassim Farooq,"User Centric Mobile Based Decision-Making System Using Natural Language Processing (NLP) and Aspect Based Opinion Mining (ABOM) Techniques for Restaurant Selection", Springer 2018. DOI:10.1007/978-3-030-01174-4_4 Computational Intelligence and Applications (ICCIA), Beijing, 2017, pp. 542-546. doi: 10.1109/CIAPP.2017.8167726
Abstract: The immense progress of new technology we have been created an enormous number of digital images by using such devices as a digital camera, scanner, and mobile phones so on. All the images which are taken by the devices to keep in Image Database. For retrieving the desire images which were given in an input image has compared with the large database according to the visual content used by the technique as referred to as the Content Based Image Retrieval (CBIR) system. There are two phases for retrieving images in the CBIR system, as the first one is feature extraction and the second one is similarity size. Thus, the feature extraction consists of every image has produced symbolic content in the form of the function. The visual contents of an image in the CBIR system contain the features which have represented as shape, texture, spatial region and color of the images. In our paper tries to design the images’ color features as in the steps to focus color representation in the k-d tree, CIELAB color space of color signature compression along with categories of Human’s color for Content-based image retrieval and also acquire the results using MATLAB.

Keywords: CBIR, CIELAB, Digital Images, Feature Extraction, k-d tree.

References:


Authors: Nisha Varghese, M Punithavalli

Paper Title: Semantic Similarity Analysis on Knowledge Based and Prediction Based Models

Abstract: The similarity between two synsets or concepts is a numeral measure of the degree to which the two objects are alike or not and the similarity measures say the degree of closeness between two synsets or concepts. The similarity or dissimilarity represented by the term proximity. Proximity measures are defined to have values in the interval [0, 1]. Term Similarity, Sentence similarity and Document similarity are the areas of text similarity. Term similarity measures used to measure the similarity between individual tokens and words, Sentence similarity is the similarity between two or more sentences and Document similarity used to measure the similarity between two or more corpora. This paper is the study between Knowledge based, Distribution based and prediction based semantic models and shows how knowledge based methods capturing information and prediction based methods preserving semantic information.

Keywords: Path similarity, LIN, LCH, JCN, WUP, RES, PPMI, LSA, Word2vec.

References:

Authors: V Sangeetha, P.N. Sudha

Paper Title: Analysis of Bit Error Rate on M-ary QAM over Gaussian and Rayleigh Fading Channel

Abstract: Transmission of signal over long distance through the channel will result in poor signal quality reception at the receiver. The Signal quality is affected by means of fading and it can be minimized by using effective modulation techniques. M-ary QAM is one of the effective modulation techniques as it has higher efficiency and effective form of modulation for data. M-QAM is a modulation where data bit selects M combinations of amplitude and phase shifts that are applied to carrier. The analysis carried out based on Bit Error Rate on various M-Quadrature Amplitude Modulation schemes like 16-QAM, 64-QAM and 256-QAM over Gaussian and Rayleigh Fading channel. The input data entered into QAM modulator then transmits over Gaussian channel and the QAM demodulator is performed at the receiver. The same process repeated over Rayleigh fading channel for M-QAM. Rayleigh fading is multipath fading channel which will vary randomly according to the Rayleigh distribution. The MATLAB simulation is carried out to get experimental results on M-QAM and compared. The analysis shows that improved Bit Error Rate in 16-QAM over Gaussian and Rayleigh fading channel.

Keywords: Bit Error Rate, Fading, Gaussian, M-QAM.

References:

Authors: Amit Rehalia, Samar Wazir, Tabrez Nafis

Paper Title: Data Mining Association Rules using Probabilistic Functions without Predefined Weights

Abstract: Data mining is the procedure of identifying the important and relevant data from large heterogeneous databases. Data mining plays an important role because of its usage in various domains. The transaction in the data mining defines the profit of the items associated with it. Earlier algorithms were proposed to measure the w-support without assigning predefined weights to determine the important transactions using the HITS model. Significant items are extracted from the databases using the quality of the transactions. However, there is considerable overhead in computing the w-support, as it requires four to five iterations. In this paper, two algorithms are proposed which uses the Poisson distribution and Normal distribution while computing the w-support without using the pre-assigned weights. The Poisson distribution uses the probability mass functions whereas the Normal distribution uses the probability density function to compute the w-support. The experiments were executed on various standard datasets. The results of our proposed algorithms show a considerable decrease in normalization time to compute the w-support as
Abstract: Visual perception, while an important means to navigate the world, can be replaced, as proven and demonstrated by studies on perception in animals, including humans. The system uses the tools and techniques of machine learning to create an application that would help the visually impaired to see thus giving them newfound hope for enjoying the richness and complexity of the world, all the while successfully navigating in it. The android application presented in this paper aims to enable people with visual impairment to live more independently. It uses a smartphone to capture real-time input data, with this approach the user could easily read menu cards in restaurants, hotel room number or even find their belongings. The system can recognize

Keywords: Association Rule Mining, Data mining, Poisson distribution, Normal distribution, Weighted-Support.

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Authors: Abhijeet Mohanta, Shah Yash Jitendra, Khandelwal Nikita Dinesh, Wable Saurabh Suhas, Aruna K. Gupta

Paper Title: Application for the Visually Impaired People With Voice Assistant

Abstract: Visual perception, while an important means to navigate the world, can be replaced, as proven and demonstrated by studies on perception in animals, including humans. The system uses the tools and techniques of machine learning to create an application that would help the visually impaired to see thus giving them newfound hope for enjoying the richness and complexity of the world, all the while successfully navigating in it. The android application presented in this paper aims to enable people with visual impairment to live more independently. It uses a smartphone to capture real-time input data, with this approach the user could easily read menu cards in restaurants, hotel room number or even find their belongings. The system can recognize
various objects at which the user is looking in its surrounding. The app uses a voice control feedback mechanism through which the user can perform various tasks with the help of his voice.

**Keywords:** Machine Learning, Object Detection, Text Reader, Visually Impaired.

**References:**


**Authors:** Gopinath A R, Sushan Sharma, Sushmitha Prathap, Priya Jha, Megha Singh

**Paper Title:** Low-Cost Interactive Humanoid Robot

**Abstract:** Humanoid robots have been on the frontier of robotic science for several decades, where human alike capabilities have been replicated into electromechanical units. Humanoid robots hold promises in the field of rescue, quarantine, hazardous conditions, radiation leakage, medical trials, etc. Building a humanoid robot is very complicated as it has to deal with locomotion, power, drive train, sensors and computing at the real time. With the development of Single board computers (SBC), the cost of computers has drastically fallen in last 2 decades. At the same time the computation power (GF/Sec) has also increased exponentially. Similarly, MEMS and sensors have also become industrially available with micro sized, robust and reliable. The power source used by robots has also advanced from dry cell to Li-Ion batteries with 5 to 8 times more energy density, resulting in higher operation time. The objective of this paper is to propose a low-cost Humanoid platform comprising a computational platform, sensors, power unit and drive train to deliver basic human alike functions like speech, visual signs, and navigation. The proposed humanoid robot uses a single board computer (SBC) capable of executing python-based AI frameworks combined with Ultrasonic sensors, Li-ion battery and DC motor drives. A top mounted touch screen is used for human machine interface (HMI). This human robotics used in a mid-size campus to guide people to their respective destination, display brief information to new users and navigate to different locations. The humanoid robot adds an aesthetical value to the campus.

**Keywords:** AI Frameworks, Convolutional Neural Network, SLAM, Natural Language Processing, Raspberry Pi.

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**Authors:** Sourav Chetia, Kasturi Borkotoky, Sujata Medhi, Pranab Dutta, Manjil Basumatary

**Paper Title:** Land use Land Cover Monitoring and Change Detection of Tinsukia, India
Abstract: This study is driven towards land use land cover (LULC) mapping and LULC change detection in Tinsukia district, India. LULC mapping and change detection provides land planner and environmental scientists a better understanding of the land surface processes occurring in a given landscape so that they can come up with a strategy for sustainable development keeping degradation of natural environment from anthropogenic activities at bay. This study utilized remote sensing data products and software’s for LULC mapping and LULC change. Landsat data has been utilized in ENVI for the classification of LULC and LULC change detection during the period 1991-2020. The LULC classification was achieved through Maximum Likelihood Classification (MLC) which is a widely preferred classificatory method. Image change detection was achieved through ENVI thematic change workflow. On top of that ArcGIS version 10.2 was used for preparing all map layouts. Results reveal that the study area has undergone significant changes in its LULC pattern. Substantial increases were recorded in agricultural area (862.4 sq. km to 1186 sq. km), built up area (473.4 sq. km to 699.5 sq. km) and waterbodies (81 sq. km to 146.7 sq. km). A declining trend was evident in degraded vegetation (772.2 sq. km to 274.3 sq. km) and barren land (798.8 sq. km to 641 sq. km). In the short study period, the study area already seems to be changing in its LULC pattern due to anthropogenic activities. The steady increases to the agricultural land and built up area (BUA) is a potential threat to the LULC balance and it may have manifold impacts to LULC dynamics in the future if proper land utilization policy is not adopted.

Keywords: LULC, Change detection, Landsat, ENVI, MLC, Thematic change, BUA.

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Authors: ArunimaS, KiruthikaS, M.AswinRaj, K.KavinKumar, S.SuryaPrakash

Paper Title: An Effective Integration of Domain Knowledge into Deep Neural Networks
Abstract: Machine learning in recent years has become an integral part of our day to day life and the ease of use has improved a lot in the past decade. There are various ways to make the model to work in smaller devices. A modest method to advance any machine learning algorithm to work in smaller devices is to provide the output of large complex models as input to smaller models which can be easily deployed into mobile phones. We provided a framework where the large models can even learn the domain knowledge which is integrated as first-order logic rules and explicitly includes that knowledge into the smaller model by simultaneously training of both the models. This can be achieved by transfer learning where the knowledge learned by one model can be used to teach the other model. Domain knowledge integration is the most critical part here and it can be done by using some of the constraint principles where the scope of the data is reduced based upon the constraints mentioned. One of the best representation of domain knowledge is logic rules where the knowledge is encoded as predicates. This framework provides a way to integrate human knowledge into deep neural networks that can be easily deployed into any devices.

Keywords: Algorithms, Ensemble models, First-Order Logic Rules, Deep Neural Networks.

References:

Authors: Sachin Kumar, Amal Ghosh T A, Sreekumar K

Paper Title: Classification of Rice Leaf Spot Disease using Local Binary Patterns

Abstract: The fundamental objective of this work is to develop an image processing framework that can perceive a proper methodology for ContentBasedImageRetrieval (CBIR) in Leaf Inadequacy. The salient point selection concept is utilized by selecting the Salient points from the edgy image and the concept of inter-plane relationship method is imposed, LocalBinaryPatterns (LBPs) are computed with respect to the center pixel of the salient point. The research work consists primarily of three sections, namely representation of the leaf image, extraction of features and classifying. During the extraction process of the application the most important and special features of the image are retrieved. The image is contrasted with the data base images in the classification phase. The surface of the plant leaf is divided into smaller regions using which the LBP is obtained and the combination of them produces a single feature vector. An accurate model is constructed by this feature vector which is used to measure differences between flawed and healthy plant images.

Keywords: Edgy Salient points Local Binary Patterns (LBPs), Content-based image retrieval (CBIR); Leaf Deficiency (LD);

References:
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Authors: Upma Yadav, Ashok Kumar, Anamika Tiwari, Saurabh Mukherjee

Paper Title: Machine Learning in Medical Imaging for Early Detection of Skin Diseases.

Abstract: Dermatology is a medical field that treats skin health and diseases. These skin diseases are perilous and often transmittable but can be cured or reversed with higher degree if detected at an early stage. Early detection and treatment can correct most skin disorders. Diagnosis of these diseases requires a sophisticated of proficiency due to the variety of their illustration aspects. As manual conclusion are often skewed and hardly reproducible, to achieve a more intent and undependable diagnosis, a computer aided diagnostic system should be considered. This work is to provide a comparative view of advancements the works as a robust literature of with techniques, methodology, experimented results and dataset done in medical science using medical images to predict diseases with early detection and higher accuracy.

Keywords: Dermatoscopic, Imaging modality, feature map, superficial learning, shallow learning, deep learning, transfer learning.

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Clustered by Hybrid K-Harmonic Means and Biogeography Based Optimization Algorithm for Medical Data

Abstract: In today trend world hybrid based optimized data clustering is unique and imperative clustering tool in the area of data mining, which is dynamic research of actual creation problems. The oldest and furthermore commonly used popular clustering technique is the K-means(KM) algorithm, which is very complex and for the initialization of the cluster centroid and it will easily go for premature converge. This initialization problem of K-means can be evaded by built in boost function of K-Harmonic Means, which is centroid based clustering algorithm and also unresponsive for collection of initial partition clustering , but it can easily go for pre-matured conjunction in local optima. To avoid this convergence problem, this proposed algorithm uses Boosting K-harmonic means(KHM) algorithm with BBO to produce more precise, robust, better clustering solution in few number of iterations, evade conning in local optima and simply convergence to relate with Harmonic Means, BBO algorithms. Biogeography based algorithm works with the concept of emigration and immigration of inhabitants from one location to another location, Which has high computation cost. For avoiding this high computation cost in this hybrid optimization technique Biogeography-Based Optimization (BBO) is integrated with K-Harmonic means algorithm to produce optimum and effective clustering solution with faster convergence. BBO is universal optimization methods to solve utmost of the optimization problem, which is a production based generation of evolutionary algorithm (EA) that augments a function by stochastically and repeatedly improving the clustering solution of quality, or fitness function. The experimental results of this paper shown as the projected method is very resourceful and faster to afford better clustering solution in less number of repetitions for medical data.

Keywords: BBO, Clustering, Data mining, K-means, Optimized intelligent tool.

References:
8. Jiawei Han Michaline Kamber, Jian Pei, “Data Mining Concepts and techniques”,3/e, Elsevier Inc,2012.
Human-Computer Interaction with Special Emphasis on Converting Brain Signals to Speech

Abstract: Huge hurdle neuro engineers face on the road to effective brain-computer interfaces is attempting to translate the big selection of signals made by our brain into words pictures which may be simply communicable. The science-fiction plan of having the ability to manage devices or communicate with others simply by thinking is slowly but surely, obtaining nearer to reality. Translating brainwaves into words has been another large challenge for researchers, but again with the help of machine learning algorithms, superb advances are seen in recent years. The exploitation of deep learning and acceptable machine learning algorithms, the management signals from the brain will regenerate to some actions or some speech or text. For this, a neural network is created for the brain and conjointly a mapping is completed to catch all the brain signals in which neural network will be additionally used for changing these signals into actions. From the past literature, it is being concluded that the Deep Neural Networks are one of the main algorithms that are being placed into use for this research. This review article majorly focuses on studying the behavioral patterns generated by the brain signals and how they can be converted into actions effectively so that people suffering from semi or full paralysis can use this technology to live a normal life if not completely but to a certain extent. Also, it focuses on analyzing and drawing a comparison between linear and non-linear models and to conclude the best-suited model for the same currently available to the researchers.

Keywords: Brain, Human-Computer Interaction, Deep Neural Networks, Brain-Computer Interaction, Linear Auditory, Linear Vocoder, DNN Auditory, DNN Vocoder.

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Authors: Venkatesh Sharma, Kumar Sambhav Jain, Amrita Kaur, Ashima Singh

Paper Title: Effect of Social Media Botnets and their Detection Techniques

Abstract: The Online Social Network (ONS) or Social Media have become most popular platform for millions of users for their activities and at the same time it has become favorite place for cyber criminals for their illegal activities, generally known as social botnets, which uses different techniques to spread their information on social media like facebook, twitter, renren, linkedin etc. Several researchers have tried to detect several social botnets with different detection techniques. To avoid the detection, social botnets are now using advanced command & control (C&C) communication channels like hash tags, fraud click, friend requests, images, videos
etc. Image Steganography techniques are now widely being used to carry out attacks. In this paper, the primary discussion is related to effects of social media botnets along with the different techniques for botnet detection. It also, explores the use of machine learning mechanism, thereby detecting the intrusions in stegano images. Thus, an effort has been made to localize the factors that have a major role in social intervention as a whole.

**Keywords:** Botnets, Social Media, Steganography.

**References:**


**Authors:** Namrata D Rupani, R. Roseline Mary

**Paper Title:** Emotion Detection Analysis using EEG and Physiological Signals for Hybrid Systems

**Abstract:** Emotions are an inevitable and integral part of human existence. They form the basis of decisions taken by individuals and the way they perceive their surroundings. Method of articulation of emotions have changed with the increment in dependency between people and innovation. Now the need to recognize emotions has increased with the increasing role of human-Computer Interface (HCI) technology. There are many ways to record and identify human’s emotion using different neurophysiological measurements/technologies like GSR(Galvanic Skin Response), Electromyography (EMG), Electrocardiogram (ECG) and Electroencephalography (EEG). In this paper, the focus is on emotion detection using EEG signals and other physiological signals and further analyzing them. There exist various machine learning techniques that have been used to pre-process and classify EEG data, have been reviewed in the paper. The analysis involves major aspects of the emotion recognition process like feature extraction, classification and comparison of the approaches. Different supervised machine learning algorithms have been applied to classify the EEG data. This paper focuses on comprehensive analysis of existing systems and based on the result propose the techniques which when applied will reap high-quality results.
Keywords: Emotions, Emotion Recognition, Human Computer Interface (HCI), Electroencephalogram (EEG), EEG Analysis, Physiological Signals, Valence – Arousal Model.

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Authors: Sudhakar P, K. S. Ranganath
Paper Title: Machine Learning-Based Technique for Image Classification and Identification of Similarity for Commonness of Source

Abstract: In India every year RBI (Reserve Bank of India) faces the issue of fake currency. Fake Currency has consistently been an issue that has made a lot of chaos in the market. The expanding mechanical progressions have made the opportunities for making progressively fake currency which is circled in the market which decreases the general economy of the nation. There are machines present at banks and other business regions to check the validness of the monetary forms. Be that as it may, a typical man doesn’t approach such frameworks and henceforth a requirement for a product to distinguish counterfeit cash emissions, which can be utilized by average folks. This proposed framework utilizes Image Processing to identify whether the currency is real or fake. The framework is structured utilizing Python programming language and OpenCV. It comprises of the means, for example, grayscale detection, edge detection, Highlight Extraction, and so forth which are performed utilizing reasonable strategies. And which will be further implemented in the Framework for Classification and Identification of Similarity for Commonness of Source.

Keywords: OpenCV, Edge detection, Highlight Extraction, Image processing, and Fake Currency.

References:

Authors: T.Raghunathan, N.Abimanyu, N.Arun Kumar, J.Jegadheesan
Paper Title: Healthcare Monitoring System using Cloud and Machine Learning

Abstract: The prototype is a working model, incorporating sensors for measuring human parameters like body temperature, heart beat rate. A Raspberry pi microcontroller board is used to analyze the patient’s Temperature, heartbeat inputs. This project offers a system that will track the crucial parameters a patient’s condition to track continuously. If a patient experiences some critical situation, the unit also triggers an alarm in a patient’s close relative and to the doctor in various methodology. This is very useful for future analyzes and review of the health condition of patients. This project can be adapted for more flexible medical applications, by integrating dental sensors and announcement systems. As a very effective and devoted patient care network, it thus makes it useful in hospitals. The world is facing a widespread problem in recent years, which is increasing the number of elderly people. The home-care dilemma for the elderly is something that is very important. In this, Wireless section is becoming a major platform for many services & applications, Web
page tracking is also used here, but also a controller. Paper introduces a standardized health monitoring framework as a step towards the progress that has been made in this department to date.

**Keywords:** cloud, health care, patient data.

**References:**


**Authors:** Geetha , S. Suganya

**Paper Title:** Enhancing the Classification of Pap Smear Images using ENN – TLBO classification Method

**Abstract:** The most common cancer among the women younger than 35 in developing countries is cervical cancer. It is a human papilloma virus disease. It should be identified earlier by Pap smear test and treated earlier to avoid the consequences. Pap test a colonoscopy is widely used to check the vagina and the cervix. The Pap smear test is the most effective medical test, but it causes difficulty under the microscope at the point of analysis. Automatic cancer detection is designed to unravel the downside. This identification process involves some image processing methods, such as segmentation, and an improved SVM classification method. In this paper, an efficient Elman Neural Network (ENN) collaborating with Teaching Learning Based Optimization (TLBO) algorithm is proposed to classify cancer using Pap Smear Test images. At first, an input image of Pap smear is converted into grey level from the RGB. The grey level image is preprocessed to eliminate unwanted noise produced and smoothened with Kuan Filter (KF). Active Contour Method (ACM) has been used to segment the identified cells from the Pap smear image. Features such as GLCM, haralick, solidity, shape, and other mathematical features are extracted for improving the accuracy. Classification has done using ENN-TLBO. TLBO is utilized for getting optimal weights during the training phase. Performance evaluation has done through the experimental outcomes where, ENN-TLBO yields good accuracy of 86.6%, than the prevailing algorithms such as Support Vector Machine, Radial Basis Function Neural Network classifiers.

**Keywords:** Cervical cancer, Pap Smear test, ENN-TLBO, RBNN, SVM.

**References:**

Abstract: This paper represents the development strategies of Internet of Things based flood monitoring and alerting system with weather forecasting through open weather API. This project is based on the open source electronic platform i.e. Arduino. The Arduino Uno R3 is to be set up multiple different devices such as ultrasonic sensor for the water level detection by capturing the time between transmitting and receiving sound waves, temperature and humidity sensor DHT11/AM2302 for analyzing the moisture content and water flow sensor for evaluating the speed of water flow. Further, these values received by different sensors are to be transferred to the Android Application which is developed with the technologies such as Java, XML, Android studio. The final system will be deployed in the flood prone areas for early detection and prevention of flood.

Keywords: Arduino, API, Ultrasonic sensors.

References:

17. https://images.app.goo.gl/nN3sPxFwjiMWjVJ7Hk6

Authors: Garima Singh, Nishita Bisht, Pravesh Bisht, Prajwal Singh

Paper Title: Iot Based Flood Monitoring and Alerting System with Weather Forecasting

Abstract: Iot Based Flood Monitoring and Alerting System with Weather Forecasting

Keywords: Flood alert management system using iota and microcontroller, Internet of things: A survey on enabling technologies, protocols, and applications, IEEE Communications surveys tutorials, vol. 17, no. 4, April 2015.

References:

17. https://images.app.goo.gl/nN3sPxFwjiMWjVJ7Hk6

Authors: K. Sandhya, Y.Sunanda

Paper Title: Exploration of Location based Services using AI for Mobile Cloud Services

Abstract: Mobile devices have several sensors, including GPS that can capture information about the location of a mobile user. The use of certain devices will, therefore, simplify services and make it simpler for operators to respond to the demands of mobile users. The main aim of this analysis is to incorporate middleware to pick suitable cloud services that leverage from mobile device position and cost preferences. If the number of small activities within a meta feature exceeds the number of major work, the Max min algorithm device operations are conducted in addition to big tasks, where the design of the process is dependent on how many functions it does. The model is wide since tasks cannot be conducted simultaneously. A new amendment to the computation system is used to overcome the drawbacks of the Max-Min algorithm. It encompasses the positives of Max-
Abstract: Different computational procedures and gadgets are open for data examination. At the present time, took the advantages of those open developments to improve the adequacy of the estimate model for the desire for a Type-2 Diabetic Patient. We intend to inquire about how diabetes scenes are impacted by patients' characteristics and estimations. The capable gauge model is required for clinical researchers. Until generally, Type II diabetes was evaluated uncommon in children. The contamination is, nonetheless, creating among youths in peoples with high paces of Type II diabetes in adults. This work presents the adequacy of Gradient Boosted Classifier which is obscure in past current works. It is related to two AI figuring's, for instance, Neural Networks, Random Forest. These estimations are applied to the Pima Indians Diabetes Database (PIDD) which is sourced from the UCI AI storage facility. The models made are surveyed by standard techniques, for instance, AUC, Recall, and Accuracy. As obvious, Gradient helped classifier clobbers other two classifiers in all introduction qualities.

Keywords: Catchphrases: Diabetic Patients, Neural Networks, Random Forest, Accuracy.

References:
10. Authors: Sruthi M.S, Sushmitha Magudeswaren, Soniya Tamilarasu, Sushmitha Muralitharen

Paper Title: Diabetes Prediction and Analysis using Machine Learning Methods

Keywords: Such as Scalability, Performance, Reliability, and Others can be taken into account.

References:

Authors: Soundari D.V M.E., Kuralarasi R, Kalieshwari S, Kanimozhi M

Paper Title: A Design of Intrusion Detection using Modified Bat Algorithm and Deep Autoencoder Network

Abstract: In this world, Intrusion Detection is more popular for preparing the network security systems. In current trend of increasing security system, there is a demand for Intrusion Detection. With these clarifications need to find a huge Data measurement, high speed traffic’s and frequent forms of threats. In this work, Intrusion Detection is done by Deep Auto-Encoder network (DAEN) and Modified Bat algorithm (MBA). Our approach improves the Deep Auto Encoder (DAE) classifier by manipulating the benefits of an additional
Keywords: Network Security, Modified BAT Algorithm, Deep Auto Encoder Network, Intrusion Detection, NSL-KDD.

References:


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Authors: V. P. Sriniwasan, S. Balamurugan, Abhilash Arulvalan, B. Devaraj, P. Mowayanivesh, S. Mukesh, C. Raghunandan

Paper Title: Microstructure and Mechanical Properties of Welded Joints of AA6061-T6 Alloy by Cold Metal Transfer Method

Abstract: CMT bonding process were done on the 2 plates of 5 mm thick AA6061-T6 alloy by means of ER 4043 wire-electrode of Φ1.2 mm as the filler metal. This study concentrates the impact of a PWHT on the microstructural and mechanical characteristics of an AA6061-T6 alloy specimen bonded by means of GMAW and by CMT. The welded samples here separated as as-welded and PWHT samples. The ASTM standard E8M-04 was used for cutting all samples in order to get the tensile strength and to measure the bonded joint elongation. The hardness across the bonded joints was measured by using Vickers micro-hardness testing setup. Scanned electron microscopy (SEM) is employed to analyse failure pattern of tensile test performed specimens.

Keywords: Microstructure, CMT welding, PWHT.

References:


Abstract: Requirements Analysis (RA) remains one of the most central processes in requirements engineering. It is a process of evaluating and discovering possible structures to create a contracted set of broad and reliable requirements. The major aim of requirements analysis is to produce a requirements specification document with great quality. The analysis of study exposes that experts have arranged major supports by developing various methods/tools/framework/techniques of requirement analysis process. Though, one of the major problems faced by developers is poor communication and frequently changes in requirements. These issues lead to an incompetent outcome and termination of the system development. The previous investigation exposes that Artificial Intelligence (AI) methods may support in this by restricting alterations in requirements and to propose effective communication between designers and users. The purpose of this work is to categorize the challenges in every stage of the requirements analysis and incorporation of AI techniques to solve these known challenges. Moreover, the research also determines the association between such challenges and their potential AI answer/s through Venn-Diagram. Prior studies expose that more than one AI technique available for some of the challenges, and some of the challenges are still open for further research, no AI techniques have been reported yet. Keeping in observation the significance of the area, foremost analysis methods and their related issues have already been recognized in one of our prior papers. This study is an addition of our prior effort and here, an attempt is made to incorporate and describe AI techniques in various requirements analysis techniques.

Keywords: Requirements Analysis, Artificial Intelligence, Challenges in Requirements Analysis, AI Techniques.

References:
Power Transfer Capacity Achievement using Thyristor Controlled Series Capacitor

Abstract: Power system is the assembly of electrical networks, generating stations and different load centers. Load demand on the power system varies with respect to time parameter. Therefore more and more power requirements occur due to the power consumption. This can be achieved either by increasing the power carrying capability or by the re-evaluation of the electrical networks. It is observed that re-evaluation of the power system network is costlier than that of increasing the power transfer capacity. In this research work a review of the salient features of power flow with thyristor controlled series capacitors are elegantly discussed. PSCAD-4.0 / MATLAB Program are used to observe how active and reactive power flow varied with different variable parameters and set of data. For each set of data, output result is obtained. Load flow solution of a 6-bus network by using Newton-Raphson method for control of power flow with TCSC (thyristor controlled series capacitor), in which the original 6-bus network is modified to 7-bus network to accommodate one TCSC / two TCSC. The load flow solution is found for the modified 6-bus / 7-bus network. The result of load flow solution shows that active power flow is controlled by TCSC. The salient feature of the research work is the fact that MATLAB and PSCAD-4.0 has been thoroughly used to investigate the different aspects of power flow control.

Keywords: Active and reactive power flow, Bus networks, FACTS controller, Power flow controller-TCSC (Thyristor Controlled Series Capacitor).

References:
### Abstract:
Target edge detection is one of the crucial and indispensable process used to detect the size of the fracture by using multi resolution discrete wavelet transforms in image processing field. It is a foremost step of image enhancement and is prior to segmentation procedure. Computerised imaging techniques such as X-ray, CT, Ultrasound and MRI are used by the radiologist helps in diagnosing diseases. Digital x-rays are economically agile helps in detecting microscopic bone fracture which are not detectable by human eye. The paper involve the use of daubechies wavelet transform (db1) undergoes multi resolution three level wavelet decomposition that isolate into higher and lower frequencies readily, results in finding edges in horizontal and vertical function which is the necessary aspect of edge detection for x ray images. Matlab code have been implemented for testing the boundaries of the image objects in authentic digital x ray images as well as for the standard dataset images. Computer-aided diagnosis system (CADD) is becoming a popular research area in diagnosing x-ray bone fractures, bone cancers/diseases.

### Keywords:
Daubechies, edge detection, wavelet transform, X-ray.

### References:
3. Anil K. Bharodiya a,*, Atul M. Gonsai b,*, ‘An improved edge detection algorithm for X-Ray images based on the statistical range Helyion 5 (2019) e02743Published by Elsevier Ltd.

### Authors:
Tabassum Nahid Sultana, Asma Praveen

### Paper Title:

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### Abstract:
Risk Analysis is being done to identify and manage the major / potential problems in the industry. Risk Analysis some times may be more complicated. For doing the risk assessment, risk analysis has to be done. Risk assessment is the technique to analyse the actual level of risk and its consequences associated with a particular activity. In this method one activity is to be taken and that to be discussed with competent risk assessment team and historical data of same is to be analysed to find out the actual consequences of a particular hazardous activity. All the findings should be recorded separately for different activities. Risk Analysis & Risk assessment of a particular unit of the aluminium refinery will be taken in to consideration for the implementation of this technique. By using this technique many hazards can be controlled and the risk of accidents can be reduced in the industries by the proper implementation of Risk Analysis and risk theories. It will be helpful for the Safety professionals to identify the hazards and risks associated with those hazards and successful implementation of the hazard’s or the reduction of the risks by proper implementation of Risk Analysis and Risk Theories.

### Keywords:
Risk Analysis, Risk Theories, Risk Assessment, Aluminium Industry Risk Assessment, Qualitative Risk assessment, Quantitative Risk Assessment.

### References:

Authors: Mageswary .G , Kartihkeyan .M

Paper Title: Modified Firefly Algorithm based Optimum Feature Selection and Ensemble Tree based Model for Network Intrusion Detection using Data Mining Technique

Abstract: Intrusion Detection is the practice of recognizing items or events that do not follow an expected behavior or do not coordinate with other normal items in the dataset. Network traffic is increasing identifiable event to growing use of the web services and smart devices. The NSL-KDD is widely utilized dataset in the analysis of Intrusion Detection over computer networks. The dataset contains high dimensional data and also the imbalanced class. Due to this kind of dataset the imbalanced classification problem arrives. To overcome the deficit of data instances in one particular class, create extra data samples on that minority class. Detection of network anomalies from high dimensional dataset is critical and taking too much of time to process, so it is carry out using bio inspired feature selection technique. In the proposed system, the synthetic minority over-sampling Technique is used, which is one kind of effective method to rectify the class imbalance problem. Then the bio-inspired based features selecting process is carried out using Modified FireFly Algorithm (MFFA) and the resultant optimized dataset is taken for further process. After the features selection, the obtained dataset is fed into tree based J48 algorithm for build the Intrusion Detection System and detect the normal and anomalies in the network. Then, the ensemble bagged J48 classification is performed to improve the prediction accuracy.

Keywords: Intrusion Detection System (IDS), J48, ensemble Bagged J48, Modified FireFly Algorithm (MFFA) NSL-KDD, SOMTE.

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Authors: Deepak D M, Kayavashree G M, Asha G, Venugopal D, Rekha K B

Paper Title: The Extensive Interpretation of Ethical Hacking

Abstract: Dangerous development of the Internet has introduced diverse beneficial matters: digital enterprise, fundamental get admission to tremendous shops of reference fabric, community organized figuring, email, and new streets for advancing and information scattering, to provide some fashions. Moreover with maximum imaginative advances, there may be also a blurred aspect: crook builders. An moral software program engineer is a PC and framework ace who ambushes a safety structure to support its proprietors, search for vulnerabilities that a threatening developer could abuse. Governments, associations, and private occupants round the world are irritating to be a some segment of this ingendant, anyway they're on side about the likelihood that that some software engineer will destroy into their Web server and override their logo with sex diversion, read their email, take their charge card variety from an on line shopping internet site, or installation programming in an effort to stealthily transmit their affiliation's special bits of information to the open Internet. There are
n numerous techniques used to hack the records. This paper researches the ethics at the back of systems of appropriate hacking and whether there are issues that lie with this new area of labour.

Keywords: Computer Ethics, Ethical Hacking, Pornography.

References:
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Authors: Huong-Giang Doan

Paper Title: Real-time License Plate Recognition in Overweight Vehicle Balance System

Abstract: Recently, license plate recognition has been become an attractive field in computer vision. Which consists some main steps such as: data collection, plate detection, character separation, character segmentation, characters recognition and character series connection. Many state-of-the-art methods have been proposed while almost these approaches utilize complex algorithm. That spends a large time cost to obtain competitive accuracy; and/or high equipment performance such as CPU, GPU, cameras and so on. In addition, almost recent methods have been not deployed and evaluated for an end-to-end real application. Such system stills has to face with many challenges due to the time cost, accuracy of system, complex background, light condition, motion blur and so on. In this paper, we propose a new framework for deeply evaluate efficient of license plate recognition system. Then a real application is deployed in the overweight balance system. In this application, the license plate recognition system is integrated as a middle step in order to reduce not only labor but also automatic for an industrial balance system.

Keywords: License Plate Recognition, Deep Learning, Character Recognition, License Plate Detection, Number Plate Detection, Optimize Tree.

References:
### Authors: Fitria Hidayanti, Ajat Sudrajat, Gamal Fiqih Handono Warih

**Paper Title:** Frequency Control System Design of Turbine Gas using Electro-Hydraulic Converter

**Abstract:** In controlling the electric power system, it requires Load Control Frequency (LFC) to control load in MW and frequency (Hz) in the nominal range of 50Hz. The nominal parameter for the controller is the opening of the fuel valve, which is driven by the Electro-Hydraulic Converter (EHC). The control variable contained in the gas turbine system itself is the deviation between the setpoint and the feedback does not exceed 5% if the value exceeds the set value, it will produce a deviation, that means playing the error control. If the backup control system is active at startup, this system will result in not being able to synchronize because variable input from the network can only be controlled by frequency and active power control. It can also result in travel due to synchronous failure. If an error occurs during the operation of the backup controller load will be on, it will cause more speed or a maximum of 147 MW and of course, it will be dangerous for the gas turbine generator system. This paper will analyze the protection system from main control errors due to deviations between feedback and the setpoint set at 5% to 10% and see the system's response when there is a system change in the turbine gas. The control system design produces the largest error value at 7.2% valve opening with the control parameter $K_p = 12$, $T_i = 1.9$, $T_d = 2$. With simulations and data were taken through POS Simponi S+ and logic data analysis on PDDS (Programming Diagnostic Display System). The speed droop response value affects how much speed regulation is set, the smaller speed droop response value the faster the response to frequency changes and the greater speed droop response value the slower the response received by the system. In this study, the rise time value was 0.26 s and the settling time was 17.9 s.

**Keywords:** frequency, turbine gas, PID, control system, electro-hydraulic converter.

**References:**


### Authors: Chandandeep Singh Raina, Peerzada Danish, Anita Jessie, J. S. Ganesh

**Paper Title:** Effect of Iron Slag and Robodust on the Mechanical Properties of Concrete

**Abstract:** Concrete is the composite material which contains cement, coarse and fine aggregate. The real fact is that the concrete production was observed to be 10 billion tons per year, which is double the utilization of other building materials such as timber, steel, etc. Due to the efficient properties of concrete, it is broadly used in the construction of the buildings. To increase the mechanical properties of concrete and to make it more efficient, researcher have been conducting many experiments using various other materials as the substitute of cement, fine aggregate and coarse aggregate. Manufacturing of cement produces more carbon dioxide and thus in turn creates air pollution. In order to decrease carbon dioxide production, minimize the waste materials and to make the concrete eco-friendly and economical, robodust and iron slag has been adopted in this study. In this research, 30% robodust has been replaced with fine aggregate and 10%, 20%, 30%, 40% and 50% iron slag has been replaced with cement. The combination of robodust and iron slag replacement with fine aggregate and cement respectively has shown good increase in mechanical properties of concrete in contrast to conventional concrete.

**Keywords:** Concrete, cement, robodust, iron slag.

**References:**

Abstract: Data and Information is the base for making investment choices. Stock market is typically a place where shares of certain companies trying to raise their capital, are traded. With the availability of large amount of data and refinement methods, investors nowadays, are able to make rational investment decisions. Advancement in computational intelligence, use of AI in the form of Neural Networks has created a new basis for predicting stock prices. In this work, we have employed Recurrent Neural Networks to implement time series prediction. The Long Term Short Memory Architecture has been used as the network architecture to perform prediction on Apple Stock Prices. The implementation is done on Keras platform.

Keywords: Activation, Neural Networks prices, prediction, stocks regressor, testing, performance.

References:


Authors: Aiswarya Johney, Namitha S J, Leena Vishnu Namboothiri

Paper Title: Foresight of Health Risk Based on Air Pollutants’ Air Quality Index Values

Abstract: This proposed work is mainly focused on the drastic air pollution data in various metropolitan cities. Rapidly growing industrialization both in automobiles and other public sectors massively increases the intensity of air pollution which drastically affects the nature and human rights for decades. The most destructive part of air pollution is that it may badly cause severe immunity problems for both the flora and fauna as well the human life. It might be life-threatening if the air pollutants cross its limit. Different software/tools are used for the prediction of air contamination and it is a formidable one. In this paper, we aim to find an accurate algorithm for implementing a system by utilizing Weka Tool for the prediction of health risks. Algorithms used are Decision tree J48 and Multiclass Classifier. Prediction of health risks is done based on different AQI values of air pollutants such as NO2, O3, CO and SO2.

Keywords: Air Quality Index; Data Mining; J48; Multiclass Classifier, Weka Tool.

References:

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6. Jiawei Han and Micheline Kamber,Jan Pei, ‘Data Mining: Concepts and Techniques 3rd edition’, 2011.

Authors: R. Thiyagarajan, P. Srinivasan, T. Aneesh, S. Mayilvakanan

Paper Title: Design and Fabrication of Semi Automatic Coconut Copra Electric Dryer

Abstract: In India Coconut is the major plantation crop in the states of Tamilnadu, kerala, Karnataka, Kongan region of Maharshtra and Andaman and Nicobar Islands for entire seasons. Copra is the major product from the coconut cultivation earning higher income of small and medium livelihoods. The approval of copra quality is mainly based on how well the copra got dried. Open drying or other conventional methods is the major process...
of making copra. In adverse weather condition, rainy season the drying process will be very challenging. Many dryers are made and used currently was affordable to medium and large scale copra producers. Those dryers also having limitations in size, high initial cost and nature dependency. There is very few attempt made for Small and individual household copra producers. This paper mainly focuses on how to dry-up the copra in all climate conditions. An electric handy dryer is designed to dry up the coconut copra and other grains. It mainly helps the small scale farmers as a handy dryer unit to dry-up the copra, those who are using coconut as a way of income. Based on the experiments conducted the electric dryer removed high moisture content than forced convection and direct sun dryers.

Keywords: Coconut copra, adverse weather, rainy season, electric dryer.

References:

Authors: M. A. Murtaza

Paper Title: Aerodynamic Performance of Road Vehicles

Abstract: Aerodynamic drag has been experimentally estimated for scale models of a passenger car and a commercial truck in a wind tunnel. Polished surface has resulted up to 15 % reduction in drag force and add-on has resulted in 57% increase in drag force of a car model whereas 2.6 % reduction in drag force has resulted by using deflector in a commercial truck model. Anova analysis shows variation in mean of group data.

Keywords: Scale Model, Passenger Car, freight truck, Wind Tunnel, Aerodynamic Drag, Drag coefficient, Anova.

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5. Ashfaq Ansari, Rana Munoj Mouya,’ Drag force analysis of car by using low speed wind tunnel’, IJERR vol.2 issue 4, pp: (144-149), Month- October to December, 2014.

Authors: Malini M, Kripa Menon, M.Soumya Krishnan

Paper Title: An Empirical Prediction Methodology for the Emotional Behaviors with the Impact of Musical Features

Abstract: Music is the combination of melody, linguistic information and singer’s mental realm. As popularity of music increases, the choice of songs also varies according to their mental conditions. The mental conditions reach the supreme bliss to melancholy strain based on the musical notes. Majority mostly prefer songs, which satisfy their current state of mind. Pragmatic analysis in music by computer is a difficult task, as emotion is very complex and it camouflage the real situation. Hence, In this paper , trying to classify the songs based on the features of music which helps to classify the emotion more easily. Music feature extraction is done using Music Information Retrieval (MIR) toolbox. The dataset consists of 100 of Hindi songs of 30 seconds clip and later classify the emotion based on Naïve Bayes classification method using Weka API.

Keywords: Data Mining; Naïve Bayes; MIR Toolbox; Weka Tool.

References:

Authors: Sreelakshmi S Pai, AnnMary Simon, G S Anisha

Paper Title: Prognosis on Stratification of Breast Cancer using Data Mining Models

Abstract: Breast cancer classification can be useful for discovering the genetic behavior of tumors and envision the outcome of some diseases. Through this paper we are predicting the noxious behavior of a tumor. The prediction models used are Random Forest, Naïve Bayes, IBK (Instance Based Learner), SMO (Sequential minimal optimization), and Multi Class Classifier. This prediction model which can potentially be used as a biomarker of breast cancer is based on physical attributes of a breast mass and which is gathered from digitized image of Fine Needle Aspirate (FNA). These can be helpful in prediction and reduction of invasive tumors

Keywords: Breast Cancer, Benign, Data Mining, Malignant.

References:

Authors: Mary Tannia Padua, Amittha Joy, G Deepa

Paper Title: Performance Gauging of Discrete Classifiers by Prognostication of a Reported Bug

Abstract: Bugs are the frequently transpiring drawback in software’s, to prevent these problems; an in-depth study of bugs is required. Bug repositories are a significant supply of information. The bug repository helps the software team to have a better study about bugs and its related parameters. Often arising bugs helps the developers to get rid of them in upcoming releases. There is a huge variety of algorithms that facilitate in finding bugs. This paper intends to measure the performance of mining algorithms in predicting the bug severity by scrutinizing their capabilities. We propose a study of assorted algorithms in Lazy (IBK and KStar) and Tree (Random Forest) Classifiers with regard to different parameters. The case inspected here is Mozilla_Thunderbird, which is implemented in WEKA.

Keywords: IBK, KStar, Random Forest, Resampling.

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11. C. Arjunchandran, C.J. Sandhya and G. Deepa “A Method for Improving the Accuracy of Bug Mining by Replacing Stemming with Lemmatization” IPAM, Vol. 119, 2018
13. Smita Mishra, Somesh Kumar “Survey on Types of Bug Reports and General Classification Techniques in Data Mining” IJCST, Vol. 6, 2015

**Abstract:**

Inverted Pendulum is a popular non-linear, unstable control problem where implementation of stabilizing the pole angle deviation, along with cart positioning is done by using novel control strategies. Soft computing techniques are applied for getting optimal results. The evolutionary computation forms the key research area for adaptation and optimization. The approach of finding optimal or near optimal solutions to the problem is based on natural evolution in evolutionary computation. The genetic algorithm is a method based on both biological and natural selection for solving both constrained and unconstrained problems. Particle swarm optimization is a stochastic search method inspired by collective behavior of animals like flocking of birds, schooling of fishes, swirling of bees etc. that is suited to continuous variable problems. These methods are applied to the inverted pendulum problem and their performance studied.

**Keywords:** Particle Swarm Optimization (PSO) and Genetic Algorithm (GA), Evolutionary Computation (EC), Inverted pendulum, Fuzzy logic controller (FLC).

**References:**


**Authors:** S. Suganthi Amudhan, Dwivedi Vedvyas J, Bhavin Sedani

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**Abstract:**

Indian textile industry is one of the prominent contributors in the overall country export and national economy. It provides enormous employment opportunities for Indian labour. Textile industry is ranked as the second largest source of employment in India following agriculture. Thus, the growth and the all round development of this industry plays a direct role in the progress of the economy of the nation. Any Industry can face the current global competition and achieve higher productivity if its workforce is committed. To ensure effective performance of all workers towards organization goals, industry must provide proper working conditions, work environment and adequate facilities. Improper work environment and working conditions are not only the reason behind job dissatisfaction increased turnover, reduced performance and productivity but also directly or indirectly impacts the work life balance of workers. So as to retain its skilled workers, it’s important to maintain their satisfaction level in the industry and identify the areas to improve the WLB of workers. The population for study consisted of factory workers working in the textile industry of Madhya Pradesh. Managers and supervisors were excluded from the study. The present research was carried out so as to offer an insight and recommend on the ways in order to enhance the WLB by making the working circumstances better for the workforce employed in the textile industry. Findings depict that most of the work-environment allied factors had a negative effect on the work life balance of workers. Results also throw light on the fact that employed workers are not comfortably placed in their workplace and this has rigorous implications on the families, organizations and society in general. It is exceedingly recommended for organizations to follow worker-friendly policy along with more supportive and thoughtful cultures, so that workers have harmony and their work-life balance could be maintained.

**Keywords:** Work Life Balance, working conditions, family life, workers, Textile Industry.
References:


Abstract: This publication discusses high-performance energy-aware cloud (HPEAC) computing state-of-the-art strategies to acknowledgement and categorization of systems and devices, optimization methodologies, and energy / power control techniques in particular. System types involve single machines, clusters, networks, and clouds, while CPUs, GPUs, multiprocessors, and hybrid systems are known to be device types. Objective of Optimization incorporates multiple calculation blends, such as “execution time”, “consumption of energy” & “temperature” with the consideration of limiting power/energy consumption. Control measures usually involve scheduling policies, frequency based policies (DVFS, DFS, DCT), programmatic API’s for limiting the power consumptions (such as” Intel- RAPL”, ” NVIDIA- NVML”), standardization of applications, and hybrid techniques. We address energy / power management software and APIs as well as methods and conditions in modern HPEACC systems for forecasting and/or simulating power/energy consumption. Eventually, programming examples are discussed, i.e. programs & tests used in specific works. Based on our study, we point out some areas and there significant issues related to tools & technologies, important for handling energy aware computations in HPEAC computing environment.

Keywords: Energy, Temperature, Control, Policies, Cloud.

References:


AMD: Bios and kernel developer’s guide (BKDG) for AMD family processors (15h models 00h-0f). 2015.


Authors: Asha Durafe

Paper Title: Securing Criminal Records using R-Pi, QR code and Steganography

Abstract: In today’s digital scenario it has become very essential to maintain secrecy of criminal records otherwise forgery could happen. Using steganography it is possible to provide security for the information which is communicated over the internet from one crime branch to the other. Steganography one of the emerging security fields works to mask the very existence of the message. A wide range of carrier file formats can be utilized, but digital steganography is the extremely beneficial data hiding technique to secure criminal image as well as the crime scene images. Various applications have various prerequisites of the steganography method utilized. In this paper, we proposed CRSS (Criminal Record Security System) an image steganography method with LSB and RSA technique for enhanced security and along with that Raspberry pi and GSM module is used. Thus, for a more secure approach, the proposed method hides the criminal’s confidential records such as criminal’s image, crime scene digital images etc. using LSB steganography and also encrypts the confidential data making use of a private key using RSA algorithm and then sends it to the desired end. The receiver then decrypts the confidential data to get the original criminal information. CRSS is also proposed to send a QR code to the receiver which hides sensitive data and may include criminal’s previous crime history and other written proofs which are scanned at the receiving end reveals the entire criminal record. The entire system is implemented on Raspberry Pi 3 processor and thus a secure transmission of data without traditional desktop dependency in a more economical way could be established.

Keywords: Steganography, Data Hiding, Least Significant Bit (LSB), RSA, Raspberry-Pi, QR code, GSM.

References:


Authors: G.Saranya, R.Dharsheeni, V.Chitrarasu, S.Gokuldharan, P.Gokulraj

Paper Title: Trash Boat for Floating Waste Removal

Abstract: Pollution plays a major part in global warming and water pollution stands alarming for all living organisms in the world. Water pollution is killing tens of millions of Indians and nearly 19.3% of Indian population does no longer have access to clean water. The toxicity of Indian water our bodies are increasing except India’s boom and urbanization. It is located that out of general water available, round 70% of surface water in India is not worthy for consumption. India has a mortality fee of 400000 lives according to year because of lack of sanitation and hygiene. Researchers have found that the closing purpose of water pollution is the plastics. In order to overcome these issues, a smart trash boat is designed in this paper which can accumulate all the floating and semi floating wastes specifically plastics from the urban drain from any water bodies. This system is enabled with Artificial Intelligence and image processing which is capable of classifying, managing, accumulating and indicating the status of trashashes along with its statistics.

Keywords: Smart trash boat, Reinforced learning, automatic trash management, conveyor system, solar powered and image processing.

Reference:

Authors: B. K. Gill, Minakshi, V. K. Ratttan

Paper Title: Excess Thermodynamic Properties and Molecular Interactions in Binary Liquid Mixture of o-xylene and N-nonane

Abstract: Experimentally measured data for viscosity and refractive index of (o-Xylene + n-Nonane) binary mixture are reported in this research paper for various compositions for three different temperatures at atmospheric pressure. Modified Ubbelholde viscometer and Abbe-3L Refractometer were used for experimental measurements. Deviation in molar refraction (ΔR) and deviation in viscosity (Δη) w.r.t composition have been calculated from the experimental data. ‘Grunberg and Nissan’ equation and Herric’s Correlation were used to correlate the viscosity data. Excess thermodynamic properties were fitted to Redlich–Kister equation. Coefficients and standard deviations, hence obtained are reported. Variation in Excess Thermodynamic properties for the mixture have been discussed in terms of intermolecular interactions.

Keywords: o-Xylene, n-Nonane, deviation in molar refraction, deviation in viscosity.

References:
Abstract: At global level, the India has amassed the largest livestock and their skins and hide are used for the manufacture of large scale leather and 75% of tanneries in India are the small scale tanneries. The leather industry in India with annual turnover of more than 12 Billion dollar has a cumulative annual growth of about 3.09% in the last five years and 2nd highest manufacture of footwear and garments in the entire world, which leads to foreign exchange. Tannery sludge generation about 150000 TPA causes chromium pollution and contaminates water bodies & soil and risk to eco-system. Further, that affects the agricultural productivity and therefore, Tannery has been classified under the red category. The Supreme Court finding of fact resulting in the closure of polluting tannery industry

Keywords: (FSW),(TRS),(AXF).

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11. AASHTO T265 Laboratory procedure for determination of Moisture Content of Soils
Abstract: This paper aims to investigate the performance of fin effectiveness, efficiency and to improve the heat dissipation characteristics by varying fin geometries and materials. Here the system flows natural convection and forced convection heat transfer. The greatest ‘h’ value will be acquired at a specific point by changing the velocity of the fluid. Acquiring maximum efficiency and effectiveness of the pin-fin apparatus can be accomplished at a specific temperature. In this cross-section area of fins are considered as constant. The heat conveyed along the length of the fin, Reynolds number, Nusselts number, Heat Transfer coefficient, Effectiveness and Efficiency of the fins were evaluated and compared with the fluid fluent (CFD) analysis.

Keywords: Reynolds number, Nusselts number, heat transfer coefficient, efficiency, effectiveness, fluid fluent (CFD) analysis.

References:


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Abstract: Understanding time has been quite a challenge for human beings. Though we in general understand time but its implication for physics and the universe just make things very murky. In this paper we will discuss what is the relevance of time in the study of astronomy and how it impacts the Universe. The great physicist Einstein has to be credited for introducing Time as one of the dimensions and after that the whole concept of looking into time has totally changed. We have understood space and time have an integral collaborative part to play in the vast Universe. Not only that through general relativity we have seen how time interacts with gravity and how time can be distorted by gravity. From the simple watch on our hand time has taken a great leap and made a mark of its own. Not to say the behaviour of time in certain celestial bodies still makes us wonder are we missing some aspect of time. Time acts peculiarly inside a Black Hole and forget Singularity as the concept itself puzzles our knowledge of physics. The concept of time as one of the dimensions has opened a lot of new avenues of research but also has bought with it lot of unanswered questions. It does not stop here when we try to analyse past, present and future with time though theoretically may be very easy to understand but once we add physics into its things get a bit complicated. The stars that we see in the night sky is actually past whereas the person travelling in space is future and we are present. This paper will try to see if events can be placed in time and how light brings those events into our understanding. It must be understood that any event that is observed by human beings is due to the fact that light is falling on that object. In Big Bang several events happened in the beginning before the commence-ment of photon or light that does not mean time had not started. So, it is clear that light and time is not correlated though for human beings to look into an event light is of course needed. This paper will try to analyses the time and light dilation in a Black Hole and how that influences the concept of time. Also, this paper will try to understand how much more research is required to understand the whole concept of light, time and Black Hole.

Keywords: Big Bang, Black Hole, Einstein’s special relativity theory, Gravity

References:


710-714

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<tr>
<th>Authors:</th>
<th>Devansh Kumar Garg, Gauri Rao</th>
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<tr>
<td>Paper Title:</td>
<td>An IoT Based Fall Detection System</td>
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<tr>
<td>Abstract:</td>
<td>Statistics suggest that, falls in elderly people are more common than we usually anticipate. These falls are often the leading cause of grave injuries and sometimes even lead to death. Astonishingly, falls are the reason of death in 70% of people in the age group of 75 and older. “More than 90 percent of hip fractures occur as a result of falls, with most of these fractures occurring in persons over 70 years of age. One third of community-dwelling elderly persons and 60 percent of nursing home residents fall each year.” (George F. Fuller, COL, MC, USA, White House Medical Clinic, Washington, D.C.; Am Fam Physician, 2000). With such statistical data in hand, it has become an urgent need to device a system to alert the people nearby and attract the help that is direly needed in the situations like these. The purpose of this project is to provide the necessary help through a device that would detect the fall through a series of sensors. The device essentially, measures the speed, orientation, weight of the person in question. It makes use of an associate degree measuring system, a rotating mechanism, a load sensing element, a Wi-Fi module and a microcontroller. Any interruption in the original data in respect to speed, orientation or weight is recorded and further transmitted and monitored to be registered as a fall. Subsequently, an alarm is set into working and the concerned people are notified through a series of signals transmitted and received through the microcontroller. Many a time, a mere change out of co-incidence can get registered as a “fall” and set off false alarms and unnecessarily create panic. Such a situation was anticipated and thus, a safety button, also called as, nap button, was installed in the device. The button snoozes the system for a certain time period. The device in discussion is customized to be set or fixed on the wheelchairs, if the person in discussion is wheelchair dependent. Additionally, a wearable device is also made available. This custom made device will make it possible for the people to get emergent help and to prevent further catastrophic damage from happening.</td>
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<tr>
<td>Keywords:</td>
<td>Monitoring, Transmitted, Threshold, Mobile system, Internet of things, Technologies, Services, Health care, Mechanism.</td>
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<td>1.</td>
<td>Dr. H. Shaheen, E. Himabindu, Dr. T. Sreenivasulu, Dr. Rajasekar Rangasamy, International Journal of Engineering and Technology; 2019</td>
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<th>Authors:</th>
<th>Jaswinder Singh</th>
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<tr>
<td>Paper Title:</td>
<td>Emerging Trends in Teaching and Learning with ICT and Barriers in ICT</td>
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<tr>
<td>Abstract:</td>
<td>This paper is about the concept of information communication technology its role, importance, usage in teaching and learning. The field of ICT joins science and technology .It contains the package of computer tangible and intangible items, cell phones and telecommunication, web, internet, guided and unguided media, digital cameras, artificial intelligence and the rest. It combines the field of computer and information science tremendous and speedily growing knowledge base that is developed by researchers and scholars. ICT has declared to be beneficial in solving problems in teaching, learning, education and related field. There are two types of...</td>
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learning mediums. Traditional medium and ICT medium. ICT replaced the traditional medium with smart technology devices. Emerging learning tools such as podcast, blog, integrated learning module Wikipedia and m-learning have begun developing rapid strides in teaching learning processes. There are some barriers of ICT in teaching/learning process were discussed using general talk survey, unstructured interview and observations. It exposed that teacher factor, chalk and talk, inadequate funding, infrastructure, internet connectivity were some of the barriers of Information communication technology in teaching and learning process.

**Keywords:** ICT, Teaching, Learning, Education, Communication.

**References:**

6. www.google.com
7. www.wikipedia.com
8. Based on field survey

**Authors:** Ravikumar P, Abhinav Bhandari, Joshua Paul Verghese, Abhilesh N Jain, Tika Devi Rai, JessyRooby, Sundararajan T

**Paper Title:** Mechanical Properties of High Calcium Flyash- GGBFS Geopolymer Paste, Mortar and the Effect of Glass Fibre Mesh on the Strength of Geopolymer Mortar Tile

**Abstract:** In this paper, a combination of high-calcium fly ash (HCFA) and ground granulated blast furnace slag (GGBFS) was used along with a combination of sodium hydroxide (NaOH) and sodium silicate(Na2SiO3) as alkaline activators (AAs) to produce geopolymer paste and mortar. The alkaline activator ratio (AAR) was maintained at 1.5 apart from their molarity at 10 for the study. A rational method, namely minimum voids approach was used for the mix design. A commercially available glass fibre mesh was used as reinforcement in the geopolymer mortar produced above, to assess its potential for use as a flooring tile. The influence of W/S (water-to-solids) ratio and the influence of various fine aggregates, namely, river sand (R), manufactured sand (M) and construction demolition waste (D) on the various geopolymer system (GP) and on the strength characteristics, are highlighted. A maximum transverse strength (TS) of 6.25 N/mm2 could be attained by the geopolymer tile, using three layers of glass fibre mesh and GP mortar developed. The study indicates that a combination of FA and GGBFS helps us to attain substantial strength under ambient temperature in geopolymer mortar.

**Keywords:** Geopolymer paste and mortar, Flyash(FA), GGBFS, Alkali-activators(AAs), Glass fibre mesh reinforcement, Compressive strength(CS), Flexural strength(FS), Flooring tile.

**References:**

9. IS 3812 (part 1):2013, Pulverised fuel ash- specification; Part 1: for use as pozzolana in cement, cement mortar and cement concrete (Third Revision) BIS, New Delhi, India.

**Authors:** Manasa G R, Anusha Anchan, Santhosh G

**Paper Title:** Implementing an IoT based Remotely Controlled Antenna Positioning System

**Abstract:** wireless communication systems rely on antennas for signal reception. Proper placement of antennas is important to achieve successful wireless communication according to satellites / transmitters. Manual antenna
changes are often risky in a way that usually results in unexpected accidents and can lead to death. To determine its position, the sensors are mounted on the antenna, and the motors change their position. Because the location of a transmitting station changes over time, antenna path must also be changed accordingly. This system will track the location of the antennas and provide new coordinates for the antenna positioning. Correctly position antenna is done by this system. We are therefore proposing an IOT based antenna positioning system that enables antennas to be placed remotely based on IOT. The paper explains how to implement the current and evolving technologies in Antenna Positioning. We can essentially use this device to place antennas respectively in the desired direction using IOT.

**Keywords:** IoT, GUI, Adafruit IO, Antennas.

**References:**


**Authors:** Vikas Verma, Apoorv Varshney, Ashish Mathur, Santanu Banerjee, Poorneshwar Anand

**Paper Title:** Invigilator Duty Allocation in Examination Hall

**Abstract:** The complexity in invigilator duty allocation in examination schedule has increased in last few years as number of examinations was increased. This complexity had some ambiguities as some invigilators got maximum number of duties while some got minimum number of duties. This paper proposed an optimize algorithm to allocate duties to invigilators. This algorithm provides optimized way to allocate duties of invigilators to reduce ambiguities such as unequal amount of duty allocation of invigilators. In this paper, an algorithm is proposed to allocate any numbers of invigilators in different examination halls in such a way that each invigilator will get equal amount of duties. This algorithm has written and implemented in java language.

**Keywords:** Invigilator, Duty Allocation, Examination Schedule, Scheduling Algo.

**References:**


**Authors:** Shailesh Saxena, Mohammad Zubair Khan, Ravendra Singh

**Paper Title:** An Experimental Test and Optimization of Friction Stir Welding Process for AA6082 By using GRA

**Abstract:** Friction stir welding (FSW) is a type of jointing process, it uses solid state welding method, also it is widely used in same type and different types of welding like Al, Mg, Cu, Ti, and their alloys. In this study, friction stir welding of two aluminum alloys AA6082 is done with many sets of tool rotation speed, feed and axial force. In this experimental work FSW process was carried out for AA 6082 and optimization of that FSW process parameters were find out for maximum tensile strength values. Taguichi’s L4 orthogonal array was utilized for three parameters – tool rotational speed (TRS), traverse speed (TS), and axial force (AXF) with two levels. Several optimization was carried out with Taguchi method of grey relational tests. During the investigation obtained highest tensile strength value fourth sample 60.887 N/mm2 and lowest hardness strength value second sample 31HRB and bead appearance found very best surface occurred fourth test plates at the same time angle.
distortion observed very fine in the fourth test plate. The result was calculated for both ultimate tensile strength and hardness value. The expected grey relational grade was shifted from 0.704 to 0.792, it was the highest value received throughout this experimental results. It was mentioned that the multi-responses of FSW process was improved with this method.

Keywords:

Reference:


Authors: B. K. Gill, Minakshi, V. K. Ratttan

Paper Title: Vehicle Number Recognition From Vehicle Images using CNN

Abstract: Experimentally measured data for viscosity and refractive index of (o-Xylene + n-Nonane) binary mixture are reported in this research paper for various compositions for three different temperatures at atmospheric pressure. Modified Ubbelholde viscometer and Abbe-3L Refractometer were used for experimental measurements. Deviation in molar refraction (ΔR) and deviation in viscosity (Δη) w.r.t composition have been calculated from the experimental data. ‘Grunberg and Nissan’ equation and Herric’s Correlation were used to correlate the viscosity data. Excess thermodynamic properties were fitted to Redlich–Kister equation. Coefficients and standard deviations, hence obtained are reported. Variation in Excess Thermodynamic properties for the mixture have been discussed in terms of intermolecular interactions.

Keywords: o-Xylene, n-Nonane, deviation in molar refraction, deviation in viscosity.

References:


Authors: Poonam Kumari, S Prasad Babu Vagolu, Sunil Chandolu

Paper Title: Important Feature Selection for Predicting Human Freedom Index Score using Machine Learning Algorithms

Abstract: Human freedom index refers to the state of human freedom in various countries based their personal and economic attributes. Human freedom can help us identify nobility of citizens in a country. For an individual of a country freedom is of great value and hence it is worthy to measure. Though there are many attributes to measure the human freedom index both in personal as well as in economic factors, here we are interested to find only those features which contribute the most and are relevant to predict the outcome i.e. human freedom index score. We will go through various features engineering process like removing strongly correlated attributes, filtering method using Mutual Information (Entropy) and then use Select KBest algorithm to select top features filtered through Mutual information. These steps will help reduce the training time, increase accuracy and reduce overfitting when model is created to predict the human freedom index score which is a Machine Learning Regression problem.
**Keywords:** Corelated Feature, Decision Tree Regression, Feature Engineering, Human Freedom Index, Linear Regression, Machine Learning, Mutual Information, Random Forest Regression, Regression, SelectKBest.

**References:**


**Authors:** P.Durgadevi, Veeramakali, Sherine Glory

**Paper Title:** Energy Efficient Distributed Cooperative Cluster Based Communication Protocol in Wireless Sensor Networks

**Abstract:** Theoretical Energy imperative in remote sensor systems has gotten an expanding research enthusiasm for late years. Radio abnormality, channel blurring and obstruction brings about bigger vitality utilization and inertness for packets transmission over remote channel. One late innovation that can possibly drastically increment the channel limit and lessen transmission vitality utilization in blurring channels is helpful correspondence. The expansion in the direct limit brings about diminished blunder rate. In this paper, one agreeable correspondence method is proposed by developing vitality effective sending and getting bunches for each jump. It comprises of two stages to be specific routing stage, selecting and-transmitting stage. In the routing stage, the underlying way between the source and the sink hubs is found. In the second stage, the hubs on the underlying way progress toward becoming group heads, which select extra contiguous hubs with most minimal vitality cost from their neighborhood then the bundle is transmitted from the sending bunch to the recently settled accepting bunch. The recreation comes about demonstrate that the decrease in mistake rate and the vitality funds convert into expanded lifetime of helpful systems.

**Keywords:**

**References:**


**Authors:** Rajendra Singh Rajput, Anshul Gangele, Arun Singh Kushwah

**Paper Title:** Kinematic Analysis of Polydyne Cam Profile of A Diesel Engine

**Abstract:** This research paper tends to have an insight into the dynamics of cam and tappet of diesel engine which is supposed to work continuously for a longer period under huge variable loads to operate the valves of an internal combustion engine. The dynamics of valve gear train is so elemental in the due functioning of an engine. In this research, the analysis of five-order polynomial cam has been done to find the profile of displacement, velocity, acceleration and jerk for the suitability of diesel engines. The MATLAB software has been used as the vital aid in this analysis. This insight would sure be helpful in improving the mechanism of cam profile generation leading to betterment of camshaft design so as to increase the overall efficiency of the engine.

**Keywords:**

**References:**

1. P. Durgadevi, Veeramakali, Sherine Glory
2. Rajendra Singh Rajput, Anshul Gangele, Arun Singh Kushwah

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Keywords: Camshaft, Cam dynamics, Polynomial cam, Polydyne cam, Valve gear train.

References:


Authors: Shital Solanki, Ramesh Prajapati

Paper Title: Automated Classification using SVM and Back Propagation Learning Technique

Abstract: In this paper the comparative study of two supervised machine learning techniques for classification problems has been done. Due to the real-time processing ability of neural network, it is having numerous applications in many fields. SVM is also very popular supervised learning algorithm because of its good generalization power. This paper presents the thorough study of the presented classification algorithm and their comparative study of accuracy and speed which would help other researchers to develop novel algorithms for applications. The comparative study showed that the performance of SVM is better when dealing with multidimensions and continuous features. The selection and settings of the kernel function are essential for SVM optimality.

Keywords: Artificial Neural Network, Generalization, Nonlinearity, Support vector machine, Supervised learning.

References:

5. Lee, K., Booth, D., and Alam, P. A.: Comparison of Supervised and Unsupervised Neural Networks in Predicting Bankruptcy of Korean Firms. J. Expert Systems with Applications. 29, 1
Paper Title: Adsorptive Removal of Aqueous Disperse Dye by using Flocs

Abstract: Ferric chloride, Aluminium sulphate, and Ferrous sulphate flocs were used as an adsorbent in the decolourisation of aqueous dye C.I. Disperse yellow 3. To evaluate the potentiality of adsorbents, non-flow agitated experiments were carried out to find the equilibrium contact time, optimum equilibrium adsorbent dose. Preformed flocs at pH: 4 rather than pH: 10 produced excellent colour removal. Adsorption capacity of flocs of Ferric chloride, Aluminium sulphate and Ferrous sulphate was obtained as 500 mg/g, 333mg/g and 23.3mg/g at pH:4. The equilibrium data sorption follows Langmuir Isotherm and kinetic data follows pseudo second order stating that chemisorptions is the rate limiting step.

Keywords: Kinetic adsorption studies, equilibrium studies, aqueous solution, preformed flocs of Aluminium Sulphate.

References:

Authors: Devendra Kumar Mishra, Arvind Kumar Upadhyay, Sanjiv Sharma

Paper Title: An Efficient Algorithm for Text Mining in Business Intelligence using Machine Learning

Abstract: Data plays an important role in success of any organization, so organizations required more data to make decision for their planning to improvement. The data that are generating for any organization, in which 80 to 90 percent data belongs to unstructured data type. Text mining is the process that indicate retrieve appealing and unknown information from unstructured text. Social network sites also generate huge amounts of data, with the help of these data people’s behavior and thought easily determine but analysis of these data is a difficult task. This paper proposed an efficient approach for text mining using machine learning.

Keywords: Business intelligence, machine learning, unstructured data.

References:

Authors: K.Suriya, S.Sophia
Paper Title: A New Diminutive Octa Polarization Reconfigurable Circular Patch Antenna

Abstract: This proposes a new diminutive octa polarization reconfigurable circular patch antenna design. This new antenna can operate in eight different polarizing states (6 different angles of linear polarization and 2 circular polarization states) with the help of a reconfigurable probe feed network. The antenna comprises of a circular layer of radiation with four equally spaced slits at the boundary of the circular patch to obtain size reduction. The bias voltages of six pairs of PIN diodes are controlled to produce different linear polarization states with 30° interval between each state. A 3 dB hybrid coupler and a RF switch are used to produce reconfiguration between circular polarization states of the right and left hand. The proposed antenna was designed using CST microwave studio, fabricated as a prototype model and tested which produces desired values for various parameters of antenna including compact size. The designed antenna operates within 2.4-2.5 GHz frequencies suitable for wireless applications.

Keywords: Diminutive circular patch, octa polarization, polarization reconfigurable, reconfigurable probe feed network.

References:

18. BAR50 series Infineon PIN diode datasheet – http://www.infineon.com

Authors: Gautham, Amaresh S Patil, Sharat Chouka

Paper Title: Effectiveness of Location and Number of Multiple Tuned Mass Damper for Seismic Structures

Abstract: Tuned mass dampers (TMD) are one of the most reliable devices to control the vibration of the structure. The optimum mass ratio required for a single tuned mass damper (STMD) is evaluated corresponding to the fundamental natural frequency of the structure. The effect of STMD and Multiple tuned mass dampers (MTMD) on a G+20 storey structure are studied to demonstrate the damper’s effectiveness in seismic application. The location and number of tuned mass dampers are studied to give best structural performance in maximum reduction of seismic response for El Centro earthquake data. The analysis results from SAP 2000 software tool shows damper weighing 2.5% of the total weight of the structure effectively reduce the response of the structure. Study shows that introduction of 4-MTMD at top storey can effectively reduce the response by 10% more in comparison to single tuned mass damper. The use of MTMD of same mass ratio that of STMD is more effective in seismic response.

Keywords: TMD, STMD, MTMD, SAP 2000, El-Centro earthquake, response of the structure.

References:

Humans have been entertained by music for millennia. For ages it has been treated as an art form which requires a lot of imagination, creativity and accumulation of feelings and emotions. Recent trends in the field of Artificial Intelligence have been getting traction and Researchers have been developing and generating rudimentary forms of music through the use of AI. Our goal is to generate novel music, which will be non-repetitive and enjoyable. We aim to utilize a couple of Machine Learning models for the same. Given a seed bar of music, our first Discriminatory network consisting of Support Vector Machines and Neural Nets will choose a note/chord to direct the next bar. Based on this chord or note another network, a Generative Net consisting of Generative Pretrained Transformers(GPT2) and LSTMs will generate the entire bar of music. Our two fold method is novel and our aim is to make the generation method as similar to music composition in reality as possible. This in turn results in better concordant music. Machine generated music will be copyright free and can be generated conditioned on a few parameters for a given use.

The paper presents several use cases and while the utilization will be for a niche audience, if a easy to use application can be built, almost anyone will be able to use deep learning to generate concordant music based on their needs.

Keywords: AI in Art, Deep learning, Music Generation, Music Theory, Natural language processing, Predictive models, Tokenization

References:
2. Convolutional Generative Adversarial Networks with Binary Neurons for Polyphonic Music Generation - ISMIR 2018 (Yang et al.)
affecting individuals, communities, organizations, security, religions, and democracy. This paper aims to investigate deepfake challenges, and to detect deepfake videos by using eye blinking. Deepfake detections are methods to detect real and deepfake images and videos on social media. Deepfake detection techniques are needed original and fake images or video datasets to train the detection models. In this study, first discussed deepfake technology and its challenges, then identified available video datasets. Following, convolutional neural networks to classify the eye states and long short term memory for sequence learning has been used. Furthermore, the eye aspect ratio was used to calculate the height and width of open and closed eyes and to detect the blinking intervals. The model trained on UADFV dataset to detect fake and real video by using eye blinking and detects 18.4 eye blinks per minute on the real videos and 4.28 eye blinks per minute on fake videos. The overall detection accuracy on real and fake videos was 93.23% and 98.30% respectively. In the future research and development needs more scalable, accurate, reliable and cross-platform deepfake detection techniques.

**Keywords:** Deepfake, deepfake detection, deep learning, detection techniques, eye blinking.

**References:**

4. G. Shao, What deepfakes are and how they may be dangerous, 13 October 2019. [Online]. Available: https://deepfakedetectionchallenge.ai,

**Authors:** P. Tamijsle Sdv, M. Sujith, V. Sanjay, G. Sreeram, M. Anitha

**Paper Title:** Real Time Gender and Age Prediction using Deep Learning Techniques

**Abstract:** Face recognition plays a vital role in security purpose. In recent years, the researchers have focused on the pose illumination, face recognition, etc., The traditional methods of face recognition focus on Open CV’s

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fisHER faces which results in analyzing the face expressions and attributes. Deep learning method used in this proposed system is Convolutional Neural Network (CNN). Proposed work includes the following modules: [1] Face Detection [2] Gender Recognition [3] Age Prediction. Thus the results obtained from this work prove that real time age and gender detection using CNN provides better accuracy results compared to other existing approaches.

**Keywords:** Convolutional Neural Network (CNN), Face Recognition, Feature Extraction, Open CV’s fisher faces.

**References:**


**Authors:** T Swapna, Y Sravan Devi, K Sindhura

**Paper Title:** Video to Text conversion and Abstractive Summarization for Effective Understanding and Documentation

**Abstract:** Video is one in every of the sturdy sources of data and the consumption of on-line and offline videos has reached a new level within the previous few years. An elementary challenge of extracting data from videos is, a viewer should undergo the whole video to grasp the context, as against a picture wherever the viewer will extract data from one frame. Typically, protracted videos also are quite troublesome to follow because of reasons like totally different pronunciation, pace then on. Abstractive Text summarization extracts the utmost important information from a source which is a text and provides the adequate outline of an equivalent. The analysis work conferred during this paper describes a straightforward and effective methodology for video Summarization. It principally targets academic and technical videos. Speech is extracted from video. The speech is regenerate to the corresponding text using abstractive summarization technique and produces summarized text. For quicker conversion of video to text GPU can be used. This has numerous applications like lecture notes creation, summarizing catalogues for protracted documents then on.

**Keywords:** Video Summarization, Vision, Deep Learning, Abstractive Text summarization.

**References:**

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8. Yong Zhang , Dan Li , Yuheng Wang, Yang Fang and Weidong Xiao,“Abstractive text summarization with a convolutional Seq2Seq model” Appl. Sci. 2019; 9, 1665; doi:10.3390/app9081665

**Authors:** Rekib Ahmed

**Paper Title:** Application of GIS and Remote Sensing Technology to Detect Landscape Change in Hollongapar Gibbon Wildlife Sanctuary, India

**Abstract:** The present study stated on an evaluation into the use of remote sensing technology and geographic information systems (GIS) integration to detect land use/cover trajectories in Hollongapar gibbon wildlife sanctuary in Assam, India. Remote sensing technology was used to utilize multi-temporal satellite imagery

**References:**

1. Gibbon Wildlife Sanctuary, India

**Authors:** Rekib Ahmed

**Paper Title:** Application of GIS and Remote Sensing Technology to Detect Landscape Change in Hollongapar Gibbon Wildlife Sanctuary, India

**Abstract:** The present study stated on an evaluation into the use of remote sensing technology and geographic information systems (GIS) integration to detect land use/cover trajectories in Hollongapar gibbon wildlife sanctuary in Assam, India. Remote sensing technology was used to utilize multi-temporal satellite imagery

**References:**

1. Gibbon Wildlife Sanctuary, India
Keywords: remote sensing technology, Landsat data, supervised classification, paddy fields, tea gardens.

References:


Authors: P.K Banushya, C Govindaraju

Paper Title: Direct Power Conversion Battery Charger for Low Electric Vehicles

Abstract: This paper presents a new battery charger for low power electric vehicles with high power factor and Efficiency. The main objective of the proposed design is to reduce the conduction losses and Reverse Recovery Problem in power diodes. To eliminate both the issues, the diode rectifier is present in primary and secondary side of the transformer an series resonance circuit added. By using the series resonance circuit, Zero Current Switching (ZCS) possible and also alleviates the reverse recovery problem. Thus the proposed new battery charger operates with high power factor and high efficiency. Additionally, by using the present single power conversion, it is easy to install the on-board charger in the EVs. After the theoretical analysis, Simulation Results are obtained on MATLAB/Simulink environment and Hardware results are from the proposed model.

Keywords: AC–DC converters, DC-DC power converter, Series Resonance Circuit, Electric Vehicle, power factor correction (PFC), on board charger (OBC), Battery.

References:


Authors: Shivakumara T, Dwarakanath G V, Chethan A S , Muneshwara M S, Anand R

Paper Title: Aasthi – Asset Administration System

Abstract: Web Development is skill that is used to develop the web application, web development is rapidly growing as the technologies are also. A web developer should develop an application based on the client requirement and must be friendly and easily understood by the client or the users. AASTHI-Asset Administration System is the web application that is relevance to the asset management system in which plays typical role in the organizations and enables to computerized system widely spread which is used for the private network, communication between the members of an application, sharing the information between different users or members, automatically estimating the depreciation amount per annum is very important thing that has been focused on. The main theme of our paper AASTHI-Asset Administration System is to focus on the asset, license and to maintain the company environment. The procedure to calculate the depreciation amount of the asset is difficult and been estimated through the category of asset, asset type, asset devices, etc. In this paper work is
Suspend

Keywords: Administration, Asset, License, system.

References:
5. https://www.w3schools.com/php/php_form_url_email.asp
Abstract: This paper will explore the issues and the causes of accidents contributed by heavy goods vehicles (HGV) specifically instigated by blind spot. A blind spot is an area or zone that cannot be directly observe by the truck driver on their side mirror. Unfortunately, due to this, high number of accidents had happened because of HGV drivers were not alert or aware of another road user or pedestrian hidden in the blind spot area. This often occurred to heavy goods vehicle drivers. The aim of this paper is to understand the issue of HGV blind spot and identify the potential use signal sensing as an alert mechanism for the blind spot of a heavy goods vehicles. This is to detect other road users who are in the dangerous distance of the HGV. This study has revealed the holistic understanding of HGV blind spot issues and problem by finding the answer for research question initially outlined.

Keywords: Blind spot, signal sensing, construction logistics, heavy goods vehicle.

References:

Abstract: India loses 3% of its GDP due to road accidents. Significance of Geopathic stress as a causative factor of road accidents has been studied by few researchers; however its effect on pavement distresses and hence road accident is yet unexplored. The aim of this research is to determine the correlation between average number of accidents, Pavement Condition Index (PCI) values and Geopathic stress. Accident data was collected from Pune traffic department for 3 years period from 2015-16 to 2017-18. Based on the number of accidents during this period accident blackspots were found. On each black spot pavement distresses survey was carried out and its condition was analyzed by Indian Road Congress (IRC) 82:2015 code method. At these accident blackspots detection of geopathic stress was done by using 2 copper L-rods, lecher antenna. Intensity was measured in terms of electrical and magnetic field. Electrical field reading was measured using Esmsg-spon and magnetic field reading was measured by magnetometer. Data was analyzed using Karl Pearson’s correlation coefficient and a linear regression model is developed for average number of road accidents (Ā) with Pavement Condition Index (PCI). Utility of the equation is for forecasting the number of fatal accidents at similar black spots based on their pavement distress condition. A further attempt is to investigate the effect of electric and magnetic characteristics of geopathic stress on road accidents.

Keywords: Accident blackspots, geopathic stress, magnetic field, electrical field, pavement distresses, pavement condition index.

References:

### Detection of Fraud in Mobile Advertising using Machine Learning

**Abstract:** With ongoing advancements in the field of technology, mobile advertising has emerged as a platform for publishers to earn profit from their free applications. An online attack commonly known as click fraud or ad fraud has added up to the issue of concerns surfacing mobile advertising. Click fraud is the act of generating illegitimate clicks or data events in order to earn illegal income. Generally, click frauds are generated by infusing the genuine code with some illegitimate bot, which clicks on the ad acting as a potential customer. These click frauds are usually planted by the advertisers or the advertising company so that the number of clicks on the ad increases which will give them the ability to charge the publishers with a hefty sum per number of clicks. A number of studies have determined the risks that click fraud poses to mobile advertising and a few solutions have been proposed to detect click frauds. The solution proposed in this paper comprises of a social network analysis model – to detect and categorize fraudulent clicks and then test sample datasets. This social network analysis model takes into consideration a wide range of parameters from a large group of users. A detailed study is conducted for analyzing these parameters in order to separate the parameters, which affect the click fraud generation process largely. These parameters are then tested and categorized into sample datasets. The mobile advertising industry forms a large part of the revenue generated by the advertising industry. Hence, detection of click fraud in mobile advertising is important to ensure that no illegitimate sources are used to generate this revenue. To be precise, the proposed method touches an accuracy of about 92%.

**Keywords:** click fraud, add fraud, mobile advertising.

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### Digital Market using Blockchain Technology in Cloud Environment

**Abstract:** The majority organizations associate blockchain technology with the financial services manufacturing, it has concealed use within the manufacturing, government, healthcare, and education sectors as well. The Blockchain is an unlock and dispersed ledger. The Blockchain contract between two or more parties is confirmable and everlasting documentation. The Proposed System is smart market system, in this system Producers can sell the product directly in the market under the municipal council supervision or through online using block chain technology in cloud environment. The planned work is to intend a decentralized cloud server. We are powerful authentication where the information regarding all the products is encrypted. Those who have registered in the system come to know the product details about selling and purchasing. A highly developed method in cryptography can be used to address the issue of confidentiality, and some system could even monitor how much contact persons have. The blockchain technology is unified with cloud computing to offer the enlarged transparency and efficient market system. The proposed research work can apply merkle tree in the designed algorithm on smart contracts performance optimization and automatic repair. We acquire benefits of the scattered confirmation security of the Blockchain technology for financial transaction verification and influence smart contracts for protected service organization. In this system bitcoin, cryptocurrencies or any other money transfer mechanism is used for transaction. Without a third party dealings may get more profit for both sides. Different types of on-site circumstances are collected and checked by installing sensors that are IoT devices in different services, and on-site calculating devices are restricted slightly if required.

**Keywords:** Blockchain, cloud computing, elegant contracts, IoT, merkle tree, About four key words or phrases in alphabetical order, separated by commas.

**References:**

1. Beena G Pillai, Madhurya J A, Dayananda Lal N

### Digital Market using Blockchain Technology in Cloud Environment

**Abstract:** The majority organizations associate blockchain technology with the financial services manufacturing, it has concealed use within the manufacturing, government, healthcare, and education sectors as well. The Blockchain is an unlock and dispersed ledger. The Blockchain contract between two or more parties is confirmable and everlasting documentation. The Proposed System is smart market system, in this system Producers can sell the product directly in the market under the municipal council supervision or through online using block chain technology in cloud environment. The planned work is to intend a decentralized cloud server. We are powerful authentication where the information regarding all the products is encrypted. Those who have registered in the system come to know the product details about selling and purchasing. A highly developed method in cryptography can be used to address the issue of confidentiality, and some system could even monitor how much contact persons have. The blockchain technology is unified with cloud computing to offer the enlarged transparency and efficient market system. The proposed research work can apply merkle tree in the designed algorithm on smart contracts performance optimization and automatic repair. We acquire benefits of the scattered confirmation security of the Blockchain technology for financial transaction verification and influence smart contracts for protected service organization. In this system bitcoin, cryptocurrencies or any other money transfer mechanism is used for transaction. Without a third party dealings may get more profit for both sides. Different types of on-site circumstances are collected and checked by installing sensors that are IoT devices in different services, and on-site calculating devices are restricted slightly if required.

**Keywords:** Blockchain, cloud computing, elegant contracts, IoT, merkle tree, About four key words or phrases in alphabetical order, separated by commas.

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Authors: Selvakumar G, Deepthi R, Dinesh kumaar K, Harini V, Kosuri Nikhita

Paper Title: Intelligent Framework for Task Maintenance and Appraisal

Abstract: To provide an application that would monitor task status and to produce a report for each progress. Designating the number of tasks to every employee based on the project list while in the meantime, to screen the status of every working task and to provide the task report for the completed task. Using the Django framework monitoring the completion time( in hours) of each individual task and by viewing the media uploaded report will be generated. By this report, we will be able to predict each and individual employee’s working skills and efficiency, with this we will be able to foresee what sort of undertaking does the specific worker can complete inside cutoff time. For each Information Technology based organization this framework ought to be obligatory in light of the fact that it is valuable during the examination of the organization. For the culmination of the task, it requires more noteworthy the ability to do it well. More prominent proficiency requires lesser time and a high ability to finish the errand.

Keywords: Task designating, Priority task, Completed task viability.

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Authors: Nayna Parmar, Nikita Bhatt

Paper Title: Collision Mitigation Algorithm for Space Base Ais System

Abstract: Automatic Identification System gain demand and liking to be installed in navigational frameworks for collision mitigation due to more extensive inclusion. The as of late created satellite Automatic identification system gives better exactness than the prior utilized Terrestrial Automatic identification system. Space based Automatic identification system uses GMSK to regulate the message. The regulated Automatic ID System message is then transmitted & gotten among boats & satellite Automatic ID System over self-organize time division multiple access medium. The regular single axis spacecraft Automatic ID System receiver failed to decode the message precisely due to message cover. Using GMSK demodulation, filter and concept of Viterbi algorithm will try to obtain original message from cover message. In this paper Interference cancelation algorithm
improvement corrects the covered AIS message and decode the obtain data. The receiver, transmitter, & Interference cancelation are sketched in very high-speed description language (VHDL) Language.

**Keywords:** Automatic Identification System, GMSK, Satellite Automatic ID System, SOTDMA, Terrestrial Automatic ID System, Viterbi Algorithm, Very High Descriptive Language

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**Authors:** Seema Tiwari, Nidhi Jain, Aniket Aggarwal

**Paper Title:** Terpolymeric Nanocomposites of Silver for Wound Healing Applications

**Abstract:** In the present work, silver nanoparticle, sodium alginate, chitosan and gelatin are used to form nanocomposite films and films have been prepared for wound healing application. These films have been characterized by Fourier transform infrared (FTIR) spectroscopy, X-ray diffraction (XRD), Scanning electron microscopy (SEM) and an antibacterial study of the sample. The dynamic release data were interpreted with various kinetic models. These film has shown remarkable antibacterial property against E.Coli, thus offering their candidature for the application in the near future.

**Keywords:** silver nanoparticle; nanocomposites; wound healing.

**References:**


**Authors:** Pushpa Devi, Vikrant Singh Bhardwaj, K.L. Bansal

**Paper Title:** Suspend

**878-881**

**882-889**
Abstract: There is huge amount of data being generated every minute on internet. This data is of no use until we cannot extract useful information from it. Data mining is the process of extracting useful information or knowledge from this huge amount of data that can be further used for various purposes. Discovering Association rules is one of the most important tasks among all other data mining tasks. Association rules contain the rules in the form of IF then THAN form. The leftmost part of the rule i.e. IF is called as the Antecedent which defines the condition and the rightmost part i.e. ELSE is called as the Consequent which defines the result. In this paper, we present the overview and comparison of Apriori, Apriori PT and Frequent Itemsets algorithm of association component in Tanagra Tool. We analyzed the performance based on the execution time and memory used for different number of instances, support and Rule Length in Spambase Dataset. The results show that when we increase the support value the Apriori PT takes the less execution time and Apriori takes less memory space. When numbers of instances are reduced Frequent Itemsets outperforms well both in case of memory and execution time. When rule length is increased the Apriori algorithm performs better than Apriori PT and Frequent Itemsets.

Keywords: Apriori, Apriori PT, Frequent Itemsets, support, Confidence, Tanagra.

References:

Authors: Umesh Gupta, Ankit Bansal, Sandeep Singh

Paper Title: Application of Failure Mode Effect Analysis for Improved Scheduling in Maintenance of Machines

Abstract: Maintenance of machines is crucial measures in order to have stable and improved work flow. Any kind of failure might result in complete failure of the machine. Hence it becomes essential to identify the vulnerable failures that might occur in the components of any machine. The present work is carried out in order to improve the scheduling in maintenance of a lathe machine. Different components of the machine are studied in this research. “Failure mean effective analysis (FMEA)” method is applied to identify the failures associated with the components of the machine. Risk priority number is calculated based on which the components are provided with ranks. The rank signifies the flow of maintenance for all the components. The results reveal that the flexure bearing needs the least maintenance as it has the highest rank.

Keywords: FMEA, machines, maintenance, scheduling, failures.

References:


Authors: Reshma Ravindra Pawar, Geetha.R.Chillarge

Paper Title: Property Registration and Ownership Transfer using Blockchain

Abstract: The high-value property like Land, Home, related to real estate it is essential to have exact records that recognize the present proprietor and give evidence that he is surely the proprietor. Such a record can be utilized to protect the owner’s privileges, prevent sale fraud and to make sure that the ownership is correctly transferred to a new owner after sale. Thus it is essential to maintain correct and complete information and prevent illegal or unjustified, fraudulent changes. Many efforts have been taken already for providing data security to sensitive information. Blockchain is the technology that gives high security to the data. Blockchain technology can store an immutable history of transactional records, so no one can ever doubt the authenticity; records are permanently linked to the system so no one can ever interferes with a record of their own. This paper gives a comprehensive system on blockchain technology as it can not only be used in financial assets but anything which has a value.

Keywords: High Value Property, Property Registration, Blockchain Technology, Ownership Transfer, Digital Signature, Authentication.

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15. Aditya Harbola, Priti Dimri, Deepti Negi

Paper Title: Performance Analysis of Proposed Hybrid Machine Learning Model for Efficient Intrusion Detection

Abstract: At present networking technologies has provided a better medium for people to communicate and exchange information on the internet. This is the reason in the last ten years the number of internet users has increased exponentially. The high-end use of network technology and the internet has also presented many security problems. Many intrusion detection techniques are proposed in combination with KDD99, NSL-KDD datasets. But there are some limitations of available datasets. Intrusion detection using machine learning algorithms makes the detection system more accurate and fast. So in this paper, a new hybrid approach of machine learning algorithms is proposed which gives a better solution to handle the above problems.

Keywords: Intrusion Detection System, Hybrid Machine Learning, Performance Analysis, KDD99, NSL-KDD

References:


learning combining feature selection and classification algorithms is presented. The model is examined with the UNSW NB15 intrusion dataset. The proposed model has achieved better accuracy rate and attack detection also improved while the false attack rate is reduced. The model is also successful to accurately classify rare cyber attacks like worms, backdoor, and shellcode.

Keywords: Intrusion Detection, Feature Selection, machine learning, UNSW NB15.

References:


Authors: Nilesh Rohankar, Jithin C.J, Shashikant Bakre, Sachin Shelar, Ashpana Shiralkar

Paper Title: “Designing and Simulation using Software’s PV SYST & HELIOSCOPE for Mitigating Challenges of Grid Connected PV Based Solar Plant”

Abstract: India is having large potential of renewable energy for which Govt of India has a plan to develop 100GW solar generation. Out of which commissioning of 60 GW Distributed RE generation has been the beginning of an era of de-licensed generation. Paper emphasis on the need for active involvement of distribution companies (DISCOMS) for strong scalability of pilot projects concept under clustered solar agriculture feeder in rural areas and its power evacuation with high degree of performance indicators. In this paper we have discussed various issues regarding grid connected ground mounted solar plant with its energy generation, solar insolation, project sizing/designing tools like PV SYST & HELIOSCOPE software with simulation analysis. Paper covers analysis of above software results for critically study annual energy generation & to mitigate its challenges.

Keywords: Re, Der, Dg, Slde, Msedcl, Mspgcl, Cea, Merc, Pv Syst, Discoms, Helioscope.

References:
Brain tumors are the result of unusual growth and unrestrained cell disunity in the brain. Most of the medical image application lack in segmentation and labeling. Brain tumors can lead to loss of lives if they are not detected early and correctly. Recently, deep learning has been an important role in the field of digital health. One of its actions is the reduction of manual decision in the diagnosis of diseases specifically brain tumor diagnosis needs high accuracy, where minute errors in judgment may lead to loss therefore, brain tumor segmentation is an necessary challenge in medical side. In recent time numerous methods exist for tumor segmentation with lack of accuracy. Deep learning is used to achieve the goal of brain tumor segmentation. In this work, three network of brain MR images segmentation is employed. A single network is compared to achieve segmentation of MR images using separate network. In this paper segmentation has improved and result is obtained with high accuracy and efficiency.

Keywords: Deep neural network, K means clustering, Median filtering, Histogram equalization.

References:

Authors: Rajni, Pawan Kumar Dahiya

Paper Title: Traditional and Soft Computing Techniques for Image Enhancement

Abstract: Now-a-days, there is a growing demand for image processing. The target of image enhancement is to find details present in images having low luminance for better image quality. Enhancement is required to improve the picture quality. In this process, we can enhance an image, by applying the suitable technique. In enhancement, there is a conversion in image contrast, quality, color vision, brightness, clarity etc. So we need image enhancement. A comparative survey is carried out in this paper, explaining traditional and soft computing techniques. This paper clarifies a study of traditional such as edge detection of an image and fuzzy logic based soft computing for improvement of an image. In the result section output of image is shown as edges using traditional as well as fuzzy. A small description is also study for picture improvement using different soft computing and optimization techniques such as Neural network, Convolution Neural Network, Ant Bee Colony, Particle Swarm Optimization etc. in literature survey and in comparative table. It is concluded that Image enhancement can be done by traditional method, soft computing and optimization method. Image enhancement has found various vision applications that have the ability to enhance the visibility of images. To enhance an image it is very important that image should be clear, so before using the enhancement technique we should need to learn about the enhancements. So this paper described a survey of image enhancement with different techniques.

In future scope of this paper we can find out different type of parameters like PSNR, MSE and execution time, also we can use optimization technique. We are also showing a comparison table of image enhancement based on traditional, soft computing and optimization techniques with its open scope.

Keywords: Discrete wavelet transform, Image enhancement, Soft Computing, Fuzzy logic, Particle Swarm Optimization, Ant Bee Colony, Ant Colony Optimization, Histogram equalization, convolution neural networks, Edge detection.

References:

Abstract: Breast Cancer is one of the diseases where females have the highest mortality rate. Early detection is the way to diminishing the rate and helps increase the lifespan of suffering patients. Mammography is the method of using low energy X-rays for examination and screening the human breast. A team of radiologists required for the analysis of mammograms, but even experienced experts can misjudge in their evaluation. So Computer-Aided Detection (CAD) systems are having more pervasive for the purpose. There are various abnormalities, including micro-calculifications, are identified from mammograms. This study takes a look at all techniques that are helpful in detecting calcification. Several works of literature have been reviewed to explore and learn the outstanding way in different cases and situations for the sensing of classification in cancer of breast.

Keywords: X-ray, Breast Cancer, CAD, Mammogram.

References:
which is a widely used method to evaluate the seismic response of a structure. A review of the literature illustrates that although various numerical studies have investigated the effect of viscous dampers on the response modification factor (R), lack of experimental study has been conducted to verify the numerical models. This study evaluates the response modification factor of steel frame with and without viscous damper. Experimental and numerical analysis have been conducted in the present research. It is found that results from finite element analysis agree well with the experimental results. Besides, the use of damper increases significantly the response modification factors of steel structures, e.g., the factor of structures with dampers are approximate 32% higher than the structures without dampers. The determined response modification factors for the different structures used in this study can be applied to conduct equivalent static analysis of buildings as an initial design stage.

**Keywords:** seismic response; viscous damper; response modification factor, steel structures.

**References:**


**Authors:** P.N.V. Druga Prasad, N. Veerendra Babu, K. Harish Kumar

**Paper Title:** Blast Response of Steel and Cast Iron Circular Pipe Sections Under Explosive Impact using LS-Dyna

**Abstract:** There has been an immense significance of sparing structures like pipe structures which exchange oil and gas, blasts on these pipe lines may intrude on the transmission. In the current decades a lot of research is done to think about the auxiliary reaction under impact loads. Oil and gas companies must do all they can to ensure a steady supply of product to distributors and consumers. An infrastructure of pipes that carry oil and gas across the country and around the world is, therefore, essential. Parts such as piping materials, pipe shoes, and wear pads, must be durable and resilient, so maintenance and repairs do not interrupt the supply of product. Pipes are made of steel in these days as they have corrosive resistance and a strong and reliable material. Cast iron pipe is a pipe which has had historic use as a pressure pipe for transmission of water, gas and sewage, and as a water drainage pipe during the 19th and 20th centuries. The paper depicts the comparison of vonmisses stress and pressure of pipes made up of steel and cast iron subjected to different blast loads and the simulation is carried out using LS-Dyna software.

**Keywords:** Blast, LS-DYNA, Steel pipe, cast-iron pipe, Von misses stress, Pressure.

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Abstract: The proliferation of online shopping has introduced a number of problems for the customer not present in what we might call the traditional shopping experience. One of the challenging issues is how to handle the receiving of a parcel when not at home. This paper introduces the Smart parcel receiving System by introducing technology into common man’s life by exploiting the advancements in GSM technology which will solve the problem of missed deliveries, providing a smart and secure parcel delivery solution that we can monitor and control from our smartphone. The idea is to introduce a Smart Parcel Receiving System which will be able to verify and accept the ordered parcel as well as acknowledging the customer and the retailers of parcel.

Keywords: CCTV, e-commerce, GSM, IoT, IR Sensor, LCD.

References:
7. Smart courier box

Authors: V.Velmurugan, N.N.Praboo

Paper Title: CRONE Control Strategy for Air Pressure System

Abstract: Pressure process in industry is inevitable and is considered with foremost importance in many processes like boilers, pressure vessels, reactors, closed vessels, steam drums and flash points. Pressure measurement and control is important requirements of all process, since it is related to safety of the human resources and equipment. So in this work an Air Pressure System (APS) is considered for investigation. Over the years an increasing attention made on fractional order controller and dynamic systems using fractional order calculus. Its theoretical and practical interests have been confirmed today, and its relevance to engineering society can be think carefully about as developing scientific avenue. This project discusses the design and implementation of generations of CRONE controller for APS. The Mathematical model of APS is determined from the various operating regions by using worst case modeling technique. The three generations of the strategy of CRONE controller are designed based on worst case model. Simulation runs of set point tracking responses are documented. The time domain and integral error indices performances are obtained and compared on strategies of the generation CRONE controller. It is noticed that Third Generation CRONE (TGC) controller outperforms provide better performance than the other generations of CRONE controller.

Keywords: CRONE Controller, Air Pressure System, Control System Design (CSD), FGC, SGC, TGC, Black Locus, Non Linear Optimization.
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Authors: Anjali Goel, Neelam Rup Prakash

Paper Title: The Effect of Doping on Different FET Structures: MOSFET, TFET and FinFET

Abstract: MOSFET have been scaled down over the past few years in order to give rise to high circuit density and increase the speed of circuit. But scaling of MOSFET leads to issues such as poor control gate over the current which depends on gate voltage. Many short channel effects (SCE) influence the circuit performance and leads to the indeterminant response of drain current. These effects can be decreased by gate excitation or by using multiple gates and by offering better control gate the device parameters. In Single gate MOSFET, gate electric field decreases but multigate MOSFET or FinFET provides better control gate the device parameters. In Different FET Structures such as MOSFET, TFET and FinFET are designed at 22nm channel length and effect of doping had been evaluated and studied. To evaluate the performance donor concentration is kept constant and acceptor concentration is varied.

Keywords: Doping, FinFET, gate voltage, MOSFET, TFET and threshold voltage.

References:

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Authors:

P. Satya Shekar Varma, P. Shyam Sunder, Koppula Sri Vasuki Reddy

Paper Title: Guidance System for Scrutinizing the Students Performance using Random Forest Classifier

Abstract: For today’s education leaders, the ongoing challenge is to assess the student’s academic performance that could probably affect their organization’s potential. So, the emergence of Educational Data Mining [EDM] became the solution. By utilizing the data mining methods, infused with a theory of understanding the application and elucidation of the education and learning experience, EDM practitioners are able to generate training models that interpret the results and spot the students who may show poor performance so as to help tutors to offer effective learning environment. This paper proposes a guidance system which aims to analyze student’s demographic data, academic details and extract all possible knowledge through surveys from students, parents and teachers with regard to latter state to configure whether the student is on the proper course of achieving the goals using the random forest classification algorithm. This model pursues highest possible accuracy comparison to the other previously related models proposed by authors. Furthermore, Anaconda3 data mining tool is used to develop this model which flourishes to draw the attention towards the pupils functioning based on their interests. In this study, we have accumulated the records of 480 students with 16 attributes. After contemplating all records of factors their hypothesis and association with the performance.

Keywords: Anaconda3, Classification, Component, Decision Tree, EDM, Guidance System, Prediction, Random Forest.

References:

Authors:

Saksik Singh, Jitesh Kumar

Paper Title: Automatic Train Protection (ATP) and Signaling with Accident Avoidance System for Indian Railways

Abstract: Automatic Train Protection (ATP) and signaling with accident avoidance system for Indian Railways is proposed in this paper which aims to develop a prototype of a safety system for unmanned level crossing areas and to avoid train accidents due to collisions and obstacles. The system consists of two Arduino Uno boards, two IR Sensors, two traffic lights on both sides of the track, servomotor controlled gate and an ultrasonic sensor to stop the train in case of any obstacle in front of running train. According to the INDIAN RAILWAYS ANNUAL REPORT AND ACCOUNTS 2014-15 [1] the main cause of accidents were carelessness on unmanned level

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crossings and the number of injured and killed were maximum due to this reason mentioned in [1]. The proposed system has automatic traffic light signaling on both sides of the track which indicates the traffic to stop while the train is moving and the gates on both sides of the track will automatically close to stop the transport and open after train crosses the other end. The proposed system will also provide safety for train collisions. This logic was applied in Embedded C and programmed to the Arduino Uno.

Keywords: Arduino, Unmanned level crossing, IR Sensor, Microcontroller, Ultrasonic Sensor, Servomotor.

References:
1. Indian railways annual report and accounts 2014-15

Authors: K R Dinesh, Gururaj Hatti

Paper Title: Tribological and Mechanical Properties of UHMWPE Polymer Composite filled with TiO2 and Al2O3 Particles used as TKR Implant

Abstract: This study focused on the development of a polyethylene biomaterial for replacement of the joints like knee joints, etc. Through forming aluminum oxide and titanium oxide particles into ultra-high molecular polyethylene, commonly known as high modulus polyethylene, this substance has strengthened its mechanical and wear properties. The composite is made using the injection molding machine by reinforcement materials like bio-inert aluminum oxide (Al2O3) and titanium di oxide (TiO2) with UHMWPE. Mechanical properties like Tensile, Bending, impact strength and hardness and wear rate of the synthesized polymer composite is tested according to ASTM standards.C3 composite shows enhancement in mechanical and tribological properties, only decrease in the impact strength is seen comparing to other two compositions. So C3 composite can be used as implant.

Keywords: UHMWPE, aluminium oxide (Al2O3), titanium di oxide (TiO2), TKR.

References:

Authors: K R Dinesh, Gururaj Hatti
Investigation of engine supporting optimization of... are tested according to ASTM standards. C3 composite shows enhancement in mechanical and tribological properties, only decrease in the impact strength is seen comparing to other two compositions. So C3 composite can be used as implant.
overcomes the difficulty of small breakages in the characters. The aspect ratio of the character image can be used to categorize the character such as single or multi touching. Single touching is divided by yet another ways such as horizontal or vertical touching. Finally, the proposed algorithm for Horizontal and Vertical character segmentation named as HorVer method is applied on the horizontally and vertically touching characters to segment as independent character. Experimental result produces 91% of an accuracy on segmenting the touching characters in Tamil palm leaf manuscript images collected from various resources and Tamil Heritage Foundation (THF). A novel method can be achieved in Tamil touching character segmentation by the proposed algorithm.

**Keywords:** Character segmentation, Pre processing, Touching characters, Tamil character segmentation.

**References:**


**Authors:** Sandeep.V.Gujjar, Nandini R Nadar, Kanaram Choudhary, Anand. M. Hunashyal

**Paper Title:** Influence of Mwcnt’s/Zinc Oxide Nano Particles/Epoxy Resin Composite Coating on Mild Steel to Enhance Anticorrosion and Mechanical Properties

**Abstract:** The motive of this research is to develop a new hybrid Nano composite on the surface of mild steel to eradicate the rate of corrosion that takes place on the surface of the mild steel and to enhance mechanical properties. For this, a hybrid Nano composite of Multi-Walled Carbon Nano Tube’s (MWCNT’s), Zinc Oxide (ZnO) Nano particles and Epoxy resin has been used to overcome the major disadvantage of mild steel which is corrosion. The mechanical property of mild steel is also increased. Ultra-sonication method is adopted for better dispersion of ZnO Nano particles and MWCNT’s. In this study, Ethanol is used for better dispersion. After applying the coating on the surface of newly developed Nano composite by using pneumatic gun spray method is used. FESEM was conducted to study the surface morphology of corroded surface of mild steel. The rate of anticorrosion and mechanical properties get improved by the application MWCNT’s/ZO Nano particles/Epoxy resin.

**Keywords:** MWCNT’s, Zinc Oxide Nano particles, Epoxy Resin, Anticorrosion, Mechanical Properties.

**References:**


In our daily life we can see so many road accidents are increasing daily especially the bike accidents are increasing more and more because of so many things like high speed, drunk and drive ,riders not using helmet ,using mobile while driving and due to the late of ambulance in all these cases riders are not taking care of there lives and they are losing there lives so we are going to introduce a "MULTI ACCESS HELMET" which will solve some of the above problems and we can reduce the accident rate by using this project. The essential purpose of this errand is to save a couple of presences of the people.

This venture incorporate a few sensors like gas sensor ,ultrasonic sensor and vibration sensor .the gas sensor is utilized to recognize the liquor taken by the rider on the off chance that the liquor level is more prominent than the limit, at that point the ringer will be on and furthermore the red light will likewise on which show the threat sign and the rider won't ready to where the cap right now, on the off chance that he isn't wearing the head protector, at that point the bicycle additionally won't begin . Ultrasonic sensor will perceive the thing if the article is recognized in the more drawn out division, by then also the chime of this errand is to save a couple of presences of the people.

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Abstract: In recent years, with the widespread application of cloud computing, more and more enterprises, institutions, and individuals have started to use cloud services to place their data in the cloud. With the rise of cloud services, the accompanying data security issues have received increasing attention. Because data stores are in the cloud, there are many outstanding security issues. This paper proposes a public cloud data security solution based on a trusted third-party platform. The solution is based on an independent and trusted third-party platform, and has certain advantages in data encryption, key management, data awareness, data sharing, and accident responsibility.

Keywords: Cloud, Cloud Computing, Cloud Data Security, Private Cloud, Security.

References:
References:

Authors: N.V.K Ramesh, V.Bhagiradh, K.Indravathi, M.Leena Reddy, B. Devena Raju

Paper Title: An Efficient Accident Rescue System using Lora

Abstract: The road fatalities in India are increasing exponentially. These road fatalities have high impact on any country. The life of the injured person can be saved by providing the medical assistance. The traditional methods mainly concentrate on the transmission of the messages using the cellular network. The methodology of this project is to identify the location of the accident prone area and send that coordinates to the nearest medical help centers. The communication takes place between the rider and the system with the help of the Bluetooth device. GPS device is very well-known for the identification of the current location. The coordinates of the accident prone area will be extracted using GPS. The latitude and longitude coordinates of different hospitals will be stored in the database. The coordinates of the accident prone area and the coordinates of hospitals in the database can be mapped and the distance between them can be calculated. The coordinates of the nearest hospitals can be recognized and the communication can be established with that hospital.

Keywords: GPS device, Bluetooth device, cellular network location, accident prone area.

References:
Unified Power Quality Conditioner using PV Fed SVPWM based Multilevel Converters for Power Quality Improvement

Abstract: This paper presents a solar photovoltaic based unified power quality conditioner (PV-UPQC). The proposed system consists of a shunt compensator (ShC), series compensator (SeC) and PV array connected in parallel to a common dc-link. A three-level diode clamped multilevel inverter configuration is used as shunt and series converters. The SVPWM technique provides reduction in the common mode voltage and the balancing of the dc link voltage. The shunt compensation converter extracts power from PV array and provides compensation for load harmonic currents. The series compensation converter compensates for the power quality (PQ) problems such as grid voltage sags/swells and source harmonic voltages. The proposed system utilizes space vector pulse width modulation (SV-PWM) in multilevel inverter topology for the mitigating the power quality problems using PV-UPQC. The proposed system improves PQ and also utilize RES, it also simultaneously improves both current and voltage disturbances. The performance of the system is analyzed in MATLAB/Simulink for nonlinear load conditions.

Keywords: Power quality, space vector pulse width modulation, shunt compensator, series compensator, solar photovoltaic, unified power quality conditioner, multilevel inverter.

References:


Authors: P. Chandra Sekhar

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References:
Abstract: Sentiment Analysis (SA) is a current field of study in text mining. The subjectivity of text, sentiment, and opinions are treated computationally by SA. This study examines the sentiment of the tweets containing “#metoo”. As a comparison, the same analysis was performed on the MenToo movement. MeToo started picking up significance in India with the expanding ubiquity of the global development, and later gathered sharp force in October 2018 in the film business of Bollywood, focused in Mumbai, when Tanushree Dutta blamed Nana Patekar for lewd behavior. An Indian filmmaker has joined calls for the development of a “#MenToo” movement for men’s rights, saying it should be “as important as #MeToo. This case study gathers around 20,000 tweets from the major cities of India for the duration of a week. Tweets were analyzed through the ‘sentiments’ dataset of tidytext (afinn, bing, nrc) and RSentiments dataset. The goal was to understand the overall sentiment better and find the associated patterns. With the hashtag analysis, it can be seen that #metoo was associated with the film industry, whereas #mentoo was more rooted in the cause.

Keywords: #metoo, #mentoo, Sentiment Analysis, RSentiments, TidyText.

References:
2. R. Bais and P. Odak, “Sentiment Classification on Steam Reviews,” Stanford University, 2017

Abstract: The trend of network attacks through end-users are widely used by attackers today. One of them is the attack by distributing malware into users' computers to steal data or escalate to higher privileges. The technique of attack by distributing malware is a dangerous attack method that is difficult to detect and prevent. Therefore, the task of detecting the sign of malware and alerting it for the user or the system is very necessary today. Current studies and recommendations for detecting malware are often based on two main methods that are using a set of signs and analyzing abnormal behavior based on machine learning or deep learning. In this paper, we will propose a method to detect malware into users' computers using an Event ID profile analysis technique. Event IDs are signs and behaviors of malware that are tracked and collected on the operating system kernel of the workstation. The difference between our research and other published methods is the way to collect behaviors of the malware. We don't collect them through virtualization systems, but through direct processes in the operating system kernel. Therefore, even though malware uses hidden techniques, its actions are recorded by the operating system kernel and based on those processes, we use the Event ID analysis technique to conclude about the existence of malware in the system.

Keywords: MALWARE detection, WORKSTATIONS, Event ID.

References:
Abstract: Brain tumour is undesirable expansion of destructive cell in or around the cranium. It can directly attack our healthy brain cell within the skull or it might invasion indirectly from disparate organs of the body such as lung cancer, breast lump. Its size becomes double within 25-30 days. Brain tumour is one of the highest threatening illnesses among cancerous diseases. Unfortunately possibility of death patients from brain tumour is to a greater extent in contrast with other illness. If we didn’t treat the cerebrum tumour at near the beginning the possibility of patient death will be very high in just one half year. Hence it’s very important for the research to find away to automatically recognize brain tumour and classify it to cancerous and non-cancerous tumor. That’s why this day’s one of the most widely research zone in image processing is brain tumor recognition and categorization. This article present various phase involves in brain cancer recognition and categorization such as pre-processing, cleavage, characteristics extraction, and classification of brain tumor by utilizing SVM algorithm. The proposed system execution and analysis was examined which achieved favorable outcome, high accuracy at minimal time in contrast weigh the research completed previously.

Keywords: Peak Signal to Noise Ratio (PSNR), Support Vector Machine (SVM), Grey- Level Co-Occurrence Matrix (GLCM), Mean Square Error (MSE), Graphical User Interface (GUI).

References:


Authors: Ahsanullah Umtery, Harpreet Kaur
Exhaust Gas Cleaning Technology for Vessels

Abstract: The present investigation aims to propose results of development of an effective system for the purification of exhaust gases that are emitted to the environment by ship power plant from sulfur oxides (SOx) and solid particles. Numerical simulation of a combined scrubber with vortex plate based on the developed theoretical approach was performed. Mathematical model of aerohydrodynamic and heat-mass transfer processes contains five interconnected modeling blocks. There was investigated the influence of the scrubber’s geometric characteristics onto the efficiency of its work. As a result, for the elements of vortex plate the rational design parameters were determined (the angle of blades installation for the swirls \( R_1/R_2=0.6\)). The interaction of gas aerosol with water foam was studied during numerical simulation. It was done with considering of hydrodynamic regime on the surface of a vortex plate. As a result, for the scrubber rational design and operating parameters were formulated (inlet flow velocity \( V=18-25 \) m/s, the height of foam layer \( H=70-150 \) mm, inlet dust concentration \( 40-50 \) g/cub.m of the gas to be cleaned, cross-sectional area of the purification unit up to \( 2 \) sq.m), Computer-based solid-body scrubber model was created during numerical simulation. CFD modeling of the main hydrodynamic processes based on this model was carried out. It was done for all developed structural solutions for scrubber elements. The main results obtained during CFD modeling of the scrubber operation make it possible to analyze the technology of its use and to achieve a reduction in energy costs while maintaining the quality of gas cleaning. The developed theoretical model of a scrubber gives an ability to simulate the flow of a gas-dust stream considering all changes that were done in the geometry of the scrubber. The very model can also be used to optimize the scrubber’s design depending on the type of production and parameters of the gas to be contaminated. During research works there was formulated a conclusion about the necessity to take into consideration the uneven distribution of the field of velocity when modeling the process of gas purification and cooling inside a scrubber.

Keywords:

References:


Authors: U Chaitanya, G Sravya, Sai Priya K, T Mary Prajwala

Keywords: Hierarchical model, Trending history, user’s appraisal.

References:
5. A hierarchical attention model for social contextual image recommendation, Le Wu Member, IEEE, Lei Chen, Richang Hong, Member, IEEE, Yanjie Fu, Xing Xie, 2019.
Abstract: Catalyst shape and size selection is an important aspect of the industrial catalyst design. Shapes of different sizes were made using alumina and characterized using standard methods used in the industry. Tableting machine, extruder and granulating equipment were used for forming different catalytic shapes. The samples were characterized by BET surface area, pore volume (N2 adsorption and water pick-up) and the sphericity & voidage calculations were performed for different alumina shapes. The physical strength and bulk density of the shapes were analyzed using ASTM methods. Spheres exhibited highest pore volume as the forming process exert minimum external force to the material. BET Surface area of all the samples were found comparable. The impact of different shapes and sizes on the pressure drop across the bed was studied for different gas flow rates using a fixed bed reactor set-up. Sphericity & voidage were calculated for different shapes and sizes and a modified Ergun equation was used for theoretical evaluation of the pressure drop. The experimental & theoretical results were compared and the relative error was noted. The study showed how the theoretical and experimental values differ as non-ideality in the flow across the packed bed increases. For special shapes like trilobe extrusions, improved voidage helps to minimise the pressure drop across the bed.

Keywords: Catalyst forming, Catalyst shape, Ergun equation, Pressure drop, Packed bed catalytic system.

References:


Authors: Kishore Ravindran, G. Madhu

Paper Title: Impact of Shape and Size of Catalysts on the Physical Properties and Pressure Drop in Fixed Bed Catalytic Systems

Keywords: Catalyst forming, Catalyst shape, Ergun equation, Pressure drop, Packed bed catalytic system.
Authors: Bijender Bansal, Bright Keswani, Pankaj Gupta, Monika Goyal, Deepak Goyal


Abstract: There are many researches in which the impact of black hole attacks at AODV networks is highlighted. In the research work, the impact of iBlack iHole iattack iover iAODV routing is calculated and random node selection technique is used. In addition, the simulation of black hole attacks’ impact on network performance is proposed in case of proposed model and traditional model. The selection of nodes is made randomly. The simulation of proposed selection based model is able to enhance the ratio of packet delivery. It is efficient to decrease the ratio of packet loss than traditional models. Comparative evaluation of the performance of existing and proposed model is made on the ibase iof iPacket iDelivery iratio, iPacket iloss iratio, iPacket iDelivery iratio, iPacket iLoss iratio in case of 200 Node and 225 Node. This research paper also determined iAverage iEnd iratio and iDeliver ihead during comparative analysis. The proposed work can minimize the downfall in delivery ratio as the amount of malicious node increases.

Keywords: AODV, Network simulation, Black hole attack, NS2, Random node selection, Routing protocol.

References:
8. Preventing Black Hole Attack in Mobile Ad-hoc Networks Using Anomaly Detection by Yiheultan Fattahume Alem & Zhao Heng Xuam from Tainjin 300222, China 2010, IEEE.
12. A Simulation Study of Malicious Activities under Various Scenarios in Mobile Ad hoc Networks (MANETs) by Akshay Aggarwal, Nibhjay Chaubey and Keyurbaib A Jani from Gujarat, India 2013, IEEE.
Paper Title: Self-Healing Besides Restoration Methods in Smart Grid Distribution Networks

Abstract: The Smart grid refers to a next-generation power grid which is a two-way information flow where electricity and information switch over between the service and its customer’s. The power system becomes smart by applying intelligence by way of multidirectional flow of electricity and information to create an extensive distribution network through smart grid technology. It made smarter power system by developing a networking communication, controls, automation, new technologies and tools working together to make the great efficient and more secure environment. For an effective integration and quality of the service to the consumer’s smart grid technology is needed due to working with the electrical distribution system and quickly to respond digitally for rapidly changing electric demand. At this point, an electricity disruption such as a blackout can affect a series of several areas such as banking, traffic, and security. To address the power restoration, smart grid makes use of self-healing strategy which will allow automatic switching when equipment failure or outages occur. There have been numerous studies in the last decade so in to even out the fundamental and mathematical challenges of making a smart self-healing grid a reality. In this paper, we explore the Smart grid Communications likewise discusses the service restoration methods in Distribution Networks of Smart Grid Environment.

Keywords: Smart grid, Power system, Power restoration, Self-healing, FLISR, Meta-heuristic algorithms

References:


Authors: Maheswarareddy Annareddy, K.K. Saini
Paper Title: Intrusion Detection System in Wireless Sensor Networks by using Lesser Algorithm

Abstract: Wireless sensor networks (WSNs) are vulnerable to various types of security threats that may degrade the performance of the entire network. This problem could not provide protection for the attacks on key management and authentication protocols during fatal issues such as service denial attacks, routing attacks, sybil attacks and few other. Over the last few years, researchers have developed different distributed and centralized intrusion detection systems for wireless sensor networks but not reached to a higher performance level. A solution to this problem is the proposed Intrusion Detection System (IDS) with an implementation of more efficient algorithms that can perform routing decisions at every node. There are a couple of routing algorithms in the wireless sensor network which use topology data and takes routing decisions instantly. Extensions to the original position-based algorithm were subsequently presented to perform even more efficiently in conditions where they do not operate. Host growth brings about a route transition, which causes some network to settle on new routes. For ad hoc networks certain routing protocols have already been proposed. The fundamental idea is to allow cellular beneficiaries with bad channel conditions to use the ad hoc network to connect to those cellular collectors who experience great cellular channel conditions. The proposed system can also analyze the network by collecting enough data and detects irregular sensor node(s) behaviour. Finally, the current article explains the implementation of the lower algorithm in sensor networks for evaluating the network intrusion detection system.

Keywords: Authentication Protocols, Denial of Service, Key Management Protocols, Wireless Sensor Networks.

References:

Authors: Mukesh Kumar, Mohd Asif Ali, Sanawer Alam
Paper Title: Solar System Array by Fuzzy Logic based on MPPT Algorithm

Abstract: In recent times a huge attention has been given on development of proper planning In this paper we present a top dimension perspective on forefront status of Closed circle ID system the use of PID Controller from explicit creators. The proportional– integral– subsidiary (PID) controller is the most extreme comprehensively ordinary controller inside the business bundles, specifically in strategy enterprises in light of fabulous expense to profit proportion. In this paper we focus on MPPT based solar system performance enhancement by use of fuzzy logic controller’s designs optimized by particle swarm optimization (PSO). We have described about different latest AI. techniques that has been hybrid with fuzzy logic for improving PV array based solar plants performance in recent time. The artificial intelligence technique applied in this work is the Particle Swarm Optimization (PSO) algorithm and is used to optimize the membership functions for maximum power point tracking rule set of the FLC. By using PSO algorithm, the optimized FLC is able to maximize energy to the system loads while also maintaining a higher stability and speed as compared to P&O based MPPT algorithm.

Keywords: ANN, GHG, PhotoVoltaic, Fuzzy.

References:
Abstract: Machine learning techniques with high performance computing technologies can create various new opportunities in the agriculture domain. This paper does comprehensivereview of various papers which are concentrating on machine learning (ML) and deep learning application in agriculture. This paper is categorized into three sections a) Yield prediction using machine learning technique b) Price prediction c) Leaf disease detection using neural networks. In this paper we study the comparison of neural network models with existing models. The findings of this survey paper indicate Deep learning models give high accuracy and outperform traditional image processing technique and ML techniques outperforms various traditional techniques in prediction.

Keywords: Machine Learning in Agriculture Application: Algorithms and Techniques

References:
6. doi: 10.1109/TIAR.2016.7801222

Authors: Meereadvi, Sindhu N, Monica R Mundada

Paper Title: Machine Learning in Agriculture Application: Algorithms and Techniques

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Keywords: Machine Learning in Agriculture Application: Algorithms and Techniques

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211.


11. Yang Lu , Shujuan Yi , Nianyin Zeng , Yurong Liu , Yong Zhang, “Identification of Rice Diseases using Deep Convolutional Neural Networks”, Neurocomputing, Volume 267, 6 December 2017, Pages 378-384


Authors: V. Praveena, Ram Nivash .B.S, Maheema .M, Nandhini .R

Paper Title: Highway Cruise Control System for Vehicles using Low Power RF and Can Protocol

Abstract: Nowadays mishaps are happening much of the time, causing destruction of numerous individuals by committing unassuming errors while driving (in school zone, slopes region, and roadways). In any case, once in a while it may not be conceivable to see the billboards put by the Highway Department to caution the drivers in such sort of spots and there is an opportunity for mishap. The headway in the processor innovation and microcontrollers has opened another framework intended to forestall the mishaps caused because of carelessness of drivers in observing rush hour gridlock flags close by the street and different abnormalities on the streets. So to suggest the driver about the zones and to consequently keep up the speed is cultivated by methods for low power RF innovation. The primary target is to plan an Electronic Display controller implied for vehicle's speed control and screens the zones, which runs on an implanted framework and can be hand crafted to fit into a vehicle's dashboard to show data on the vehicle. This framework whenever received by some state can successfully diminish the quantity of street mishaps brought about by speeding vehicles losing control of the vehicle at speed breakers or by driver's carelessness towards traffic signals. This paper presents another structure to control the speed of the vehicles at clumsy zones and security zone places for fixed time. The undertaking is made out of two separate units: Zone status transmitter unit, Electronic Display and Control unit. When the street sign is gotten from the zones, the vehicle's Electronic Display Controller Unit cautions the driver, to lessen the speed as indicated by the zone; it hangs tight for driver's reaction and diminishes the speed of vehicle consequently with CAN Protocol.

Keywords: CAN Protocol, Zone status transmitter unit, Electronic Display and Control unit

References:


Congestion control in LAN network using Fuzzy logic

Abstract: The rapid growth and increased communications over internet has also increased the demand for an effective and efficient communication over the network. Therefore an efficient mechanism to deal with the network traffic can reduce the interruptions caused during communication and provide reliable and enhanced quality of service. Routers are responsible for performing the direction of network traffic over the internet. Congestion control mechanisms provide a better way of handling network congestion. This paper analyzed the performance of RED with fuzzy logic. The important objective of fuzzy logic is to reduce packet loss during data transmission. The analysis results show that the packet dropping probability could be reduced with the help of FLRED.

Keywords: Congestion control, RED, Fuzzy logic.

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3. Performance Analysis of Fuzzy based RED for Congestion Control in MANET Richa Rai, Laksmi Shrivastava and Sarita Singh Bhadauria, Department of Electronics and Communication, Madhav Institute of Technology and Science Gwalior, India
5. Fuzzy Logic Congestion Control in TCP/IP Best-Effort Networks C. Chrysostomou+ , A. Pitsillides+ , G. Hadjipollas+ , A. Sekercioglu++ and M. Polyarpou+++ 
6. Fuzzy RED to Reduce Packet Loss in Computer network Khulood. A. Nasser Ammar. A. Abdullah Dept. of Computer Science College of Science University of Basrah
7. Fuzzy Logic Based Network Congestion Control Using Active Queue Management Techniques I. K. Tabash, M. A. A. Mamun, and A. Negi
8. RED, GRED, AGRED congestion control in heterogeneous traffic types Omid Seifaddin, Azizolullah, and Hamid Vosough Multi Media University, Malaysia

Techniques of Image Processing on Dental Images and Identification of Challenges

Abstract: Digital image processing is a boon in medical image processing. Oral hygiene is considered as one of the main aspect of the health. So, it is important to determine the dental diseases and cure them. This leads to use of technologies that help in detecting the diseases. Dental imaging technologies have seen a rapid advancement over a century. The image capturing technologies have evolved from analog films to 2D imaging and recent 3D imaging technologies are now in vogue. Detection of dental diseases by using dental imaging techniques still possess some challenges, inappropriate use of techniques can lead to undesired results. In this paper we will look at various dental imaging technologies that are used for detection of dental diseases and the associated challenges.

Keywords: digital imaging, radiography, image capturing techniques.

References:
Paper Title: Unfired Solid Bricks for Construction Purpose using Fly Ash and Bottom Ash as Main Ingredients

Abstract: Turning a large quantity of fly ash (FA) and bottom ash (BA) into unfired solid bricks is the objective of this study. Five brick mixtures were designed with a constant water-to-binder ratio of 0.35. FA was used to replace 0, 30, 50, 70 and 85% amount of cement, while BA was used as a fine aggregate. Unfired bricks produced in this study had characteristics as unit weight (UW) of 1.51 – 1.68 T/m3, compressive strength (CS) of 4.8 – 16.1 MPa, water absorption (WA) of 11.7 – 16.1%, water permeability (WP) of 3.68 – 11.69 L/m²h, electrical resistance (ER) of 8.7 – 20.2 kΩ.cm, and thermal conductivity (TC) of 0.29 – 0.69 W/mK. When FA content increased, the UW, CS, ER, and TC of bricks declined, while WA and WP increased. Close observation under scanning electron microscopy (SEM) indicated that many unreacted FA particles and voids were detected in the microstructure of brick samples with high FA content. All brick samples produced in this study had properties conforming to requirements by Vietnamese standard and are classified as grade 7.5 or higher, except for a brick sample containing 85% FA. The replacement level of FA for cement proposed in practice is 70%.

Keywords: Bottom ash, fly ash, unfired solid brick, industrial wastes, thermal power plant ashes.

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Authors: Si-Huy Ngo, Trong-Phuoc Huynh

1167-1172
15. TCVN 6477, Concrete brick, Ministry of Science and Technology, 2016 (Vietnamese standard).

Authors: Pydiraju, M. Balakrishna

Paper Title: Effect on Efficiency of Lobe Performance in a Roots Blower

Abstract: A Roots blower is a mechanical device for moving air or other gases. As the flow process is highly complex in roots blower operation, it is necessary to analyse the efficiency of lobes and develop the geometry of roots and casing to reduce the flow loss significantly. In the present thesis, the methodology to find near optimum combination of blower operating variables of performance. Roots blower are positive displacement device. In this study, roots blower is used to control the room conditions like temperature, moisture control, and air and transfer low volume intake into the system, increase the power efficiency of the engine. It is reliable, economical and having low maintenance cost. A roots blower performance depends on quality of air intake and geometry used. The quality of air major impact to the lobe arrangement and effect on the temperature increase, reduced thickness of lobes and impact on performance of roots blower.

Keywords: Lobes of Root Blower, Torque, Roots blower, Lobes.

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Abstract: An ever-increasing usage of internet from simple data transmission to highly sensitive data storage has given rise to the need to establish techniques for securing such transactions. Cryptography has been widely used in recent decades to provide protection for the Internet data, although mainly used in the diplomatic and military societies. These regularities have made randomness in data processing a key element for security. The generation of random numbers is a subject which continues to interest the researchers since several decades. Chaos theory is one such approach to demonstrate the randomness of the data in Cryptosystems. Chaotic circuits have been used in this paper to produce different multiple keys to be used for both text and voice encryption. The significant difference in the initial constraints of chaotic circuits is seen to produce entirely different keys and cipher text.

Keywords: Cipher text, Chaos Function, chaotic circuit, Cryptography, Decryption, Encryption, Plain text,

References:


Authors: Mosam K. Sangle, Dipak P. Patil, Ketan A. Dhamane, Rohit K. Jathar, Rushikesh S. Kardile

Paper Title: Semi-Automatic Seed Sowing Robot

Abstract: Agriculture is the backbone of Indian economy. A half of the total population of our country has chosen agriculture as their chief occupation. due to the impact of latest “innovation in Agro-technology” farmers came to know about the various techniques involved in farming and the advantages in it. Due to this Now a days Agro-technology is improve day by day.Hence in this work of project we decided to design a better Electro-mechanical system which is available to the farmers at a cheaper cost & easy to use. It will be improved the standard of living of farmers as well as it will be help to reduce labour cost & time.

Keywords: Freeduino, DC Gear Motor, L298N Motor Driver, Servo Motor, Bluetooth Module HC-05

References:

Retinopathy (DR) detection is the identification of the essential features in the fundus image. Techniques like of a standard data infrastructure by medical professionals. One of the major deterrents in automated using images is a difficult job due to the microscopic variability of the appearance of different classes and the lack
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words. The subject of the speech input may vary but the end goal is to recognize whether the attitude of the speaker

Diabetic Retinopathy (DR) causes damage to the reti
prevent permanent vision impairment and avoid arduous medical treatment in the later stages. Diabetic
Research Review International Journal Of Multidisciplinary Vol-3 | Issue-12 | December 2018 | Published Online: 10 December 2018
Mr. V. Nivash , Mr. N. Kavin, Mr. S. Manikandan, Mr. S. M. Meyvel, Mr. K. J. Nethaji.“Automatic Seed Sowing Machine”International Journal for scientific research & DevelopmentPublished in: Volume : 6, Issue : 2 Publication Date: 01/05/2018

Abstract: Speech Recognition is an interdisciplinary technique used to convert spoken language into text. It is a sub domain of computational linguistics and can be implemented using Machine Learning and Deep Learning Algorithms. Opinion Mining or Sentiment Analysis is a process which enables identifying opinions expressed by an author in a piece of text computationally. This opinion refers to the polarity of the expressed opinion, i.e. positive or negative. Through this research work, we aim to combine these two natural language processing techniques and devise a system that can take speech as the input and determine the sentiment behind the speakers’ words. The subject of the speech input may vary but the end goal is to recognize whether the attitude of the speaker towards the subject was positive or negative. The input will be converted to text and this text will then be classified using several different machine learning techniques. These include Naïve Bayes’ Classifier, Support Vector Machine, Logistic Regression and Decision Trees. After classification, the results for the three classifiers will be predicted and compared. Future scope of the project includes creating an ensemble of these classifiers to get better accuracy and precision of determining the sentiment of the speaker.

Keywords: Sentiment Analysis, Machine Learning, Natural Language Processing, Opinion Mining, Speech Recognition

References:

Abstract: Patients suffering from prolonged diabetic conditions are prone to Diabetic Retinopathy (DR) which leads to vision impairment if left untreated. Diabetic Retinopathy has been on the rise across the globe due to an increase in the number of diabetic patients. Diabetic Retinopathy detection in early stages has become vital to prevent permanent vision impairment and avoid arduous medical treatment in the later stages. Diabetic Retinopathy (DR) causes damage to the retina and gradual loss of sight and in severe cases permanent vision impairment eventually leading to blindness. An early analysis of Diabetic Retinopathy helps in controlling the progress of the disease and increases the chances of recovery. An automated classification of Diabetic Retinopathy using images is a difficult job due to the microscopic variability of the appearance of different classes and the lack of a standard data infrastructure by medical professionals. One of the major deterrents in automated Diabetic Retinopathy (DR) detection is the identification of the essential features in the fundus images. Techniques like Gaussian Blur and auto-cropping has been used for feature extraction and noise removal. This paper, we aim to classify various fundus images of the eye into various classes of diabetic Retinopathy and automate the screening process.
Keywords: Diabetic Retinopathy, Retina, fluorescein angiography, Convolutional Neural Network, radial, Optical coherence tomography, preprocessing.

References:


Authors: Himanshu Pandey, Kundan Kishor, K. C. Prabu Shankar

Paper Title: Dementia Prognostication using Machine Learning

Abstract: Since the introduction of Machine Learning in the field of disease analysis and diagnosis, it has been revolutionized the industry by a big margin. And as a result, many frameworks for disease prognostics have been developed. This paper focuses on the analysis of three different machine learning algorithms – Neural network, Naïve bayes and SVM on dementia. While the paper focuses more on comparison of the three algorithms, we also try to find out about the important features and causes related to dementia prognostication. Dementia is a severe neurological disease which renders a person unable to use memory and logic if not treated at the early stage so a correct implementation of fast machine learning algorithm may increase the chances of successful treatment. Analysis of the three algorithms will provide algorithm pathway to do further research and create a more complex system for disease prognostication.

Keywords: Machine Learning, SVM, Neural Network, Dementia, Naïve Bayes.

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Authors: Manikanta K B, Yathish D P, K N Bhanuthieja, Brahanand S. H

Paper Title: Smart Device to Protect Women from Dangerous Situations

Abstract: India is a country which is having more youth man power. If we want our country to be a developed one we need to utilize both man and women resource also [2]. In order to achieve this both men and women should be treated equally without any gender discriminations. In order to achieve this we need to provide security for women who is working in late nights and travelling alone for home in order to prevent them from rapes and molestations. If any kind of molestations and rapes happen means it will going to be international news. Because of this entire government and whole country will put into shame. As women’s are going out for work and there are coming to home lately security for them from rapes and molestation plays a vital role in this security. We have to design a device to prevent this for some amount of time so that she can at least escape from that critical life threatening situation because always no one can able to monitor or can stay with her [2]. In order to achieve this we are designing a device that will going to use stun gun to generate small amount of electric shock so that it can make any person to be unconscious for some amount of time as well with the help of this device when she press stun gun it will going to trigger the Arduino [7] so that with the help of GSM [9] and GPS module [8] present in the device we can share the current location of the women in danger an alarm message to the predefined users so that we can help the women in no time.

Keywords: Arduino Uno, GSM module, GPS module, Stun gun

References:
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10. A personal stun- A smart device for women’s safety by Shivani Ahir, Smit Kapadia, Prof. Jigar Chauhan, Prof. Nidhi Sanghavi

Authors: P. Oliver Jayaprakash, P.Sudarshan, C.Hemalatha

Paper Title: Mechanical Properties of Strengthened RC Beams using Steel Plates

Abstract: The focus of this analysis is the review of steel plate strengthened RC beams using Single row and Stagger row bolt arrangements and to compare the bonding behaviour of different bolts arrangement under flexure. Also, to investigate the behaviour, load bearing capacity and the deflection for control and steel plate bonded beams. This research is constrained by FEM analysis utilizing ANSYS to the actions of standard RC Beam and RC beam steel plate associated.

Keywords: FEM, ANSYS.

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Authors: Sangeetha Pradeep, Vishnupriya V Pai, A S Mahesh

Paper Title: Blockchain based Alimentary Agricultural Product Provenance: A Manufacturing Synthesis

Abstract: The research proposes a blockchain based traceability system on agricultural products supply chain, where each exchange is rearranged as a block in the chain and is noticeable to the authorized members concerned. The paper is based on a methodology in which an effective method for recognizing a guaranteed product using blockchain innovation is used; that is, to store information from chemical lab test in sequence and chronological order, so that they are difficult to control a short time later. Here we try to understand how blockchain technology is applied in tea powder production and delivery. The data blocks are permanent as any change to the recorded data, breaks the link. In the general process of converting tea leaves to the tea powder bundles, the traceability framework proposes security, transparency and safety. The need for a traceability system for the food supply chain is unavoidable when irrational chemicals and hazardous synthetic substances are manufactured, adulterated, processed and used. Adulterants are to a great extent added to foods to diminish production costs, sell it at a more significant cost or to attract the purchaser in some other way. To beat these issues, food supply industry needs a transparent system which empowers a purchaser to confirm the structure of each food product from the farm to the retailer.

Keywords: Blockchain, Agri-food Supply chain, Multichain.

References:

Authors: J.Madhusudanan, R. Deepika, G.Mithra, S.Suvathy

Paper Title: Age Monitoring and Fault Detection using Iot

Abstract: The Internet of Things (IoT) has a monumental development in recent trends of commercial, environmental, and medical applications. The motors are considered the most important device in industries as of today. Hence, it is necessary to detect the defects of the motor and to increase the attention of defect detection by using different kinds of technologies like IoT. The advantages of a motor is that it is a simple rotor construction resulting in low value, ruggedness, and has low maintenance needs. Here, we present a condition observation with fault detection system for motor supported Internet of Things (IoT) for safe and economic electronic communication in industrial fields and we measure the aging of the motor by this system. To develop a motor observation system for detecting the defects and to calculate the aging (i.e) Lifespan Prediction of the motors is the key concept of this project.

Keywords: Fault Detection, Internet of Things (IoT), Life time prediction, Motor Systems.
References:


Authors: P. Ramesh Babu, A. Pradeep, P. Rajendra Prasath, R. Rishikesh kumar, J. Sharvin

Paper Title: Design and Implementation of Cloud based Digital Energy Meter using ESP8266

Abstract: Increasing cost in energy sector demands for structured use of energy. It is vital to understand the rate of energy consumption during specific period utilizing Energy Meters. Energy consumption can be measured using a traditional energy meter; however, their use is restricted in inaccessible areas or in occasion of poor visibility resulting in limited functionality. Also, the main drawback is that a person has to take readings area by area from every house and institute make it time consuming. We propose a Cloud based Wireless Energy Meter [1] which can send data via wireless communication (cloud computing) to a PC or mobile phones in the form of e-mails or mobile application notification or through web page; where surveillance and analysis of the data will be made. This computational system can be used to measure energy quantities of transformers and high voltage towers at remote locations, industries, domestic area, and institutions.

Keywords: Arduino, Current sensor, Energy meter, IOT, Node MCU, Voltage sensor.

References:


Authors: Neha Garg, Kamlesh Sharma

Paper Title: Sentiment Analysis of Events on Social Web

Abstract: These days, Data volume has experienced enormous increase in volume, giving new challenges in technology and application. Data production has been expected at the rate of 2.5 Exabyte (1Exabyte=1.000.000Terabytes) of data per day. The main sources of data are: sensors collect climate information, traffic and flight information, social media sites (Twitter and Facebook are popular examples), digital pictures and videos (YouTube users upload 72 hours of new video content per minute), etc. Out of them social media becomes the prominent representative for the data source of big data. Social big data comes from the combination of social media and big data. Here, the data is mostly unstructured or semi-structured. The classical approaches, techniques, tools and frameworks for management of data have become insufficient for processing this huge volume of data and not capable for providing efficient solution to handle the increased production of data. The major challenge in data mining of big data is, its inadequate approaches to analyze massive amount of online data (or data streams). Specially, the field of sentiment analysis and predictive analysis has become so much promising area to place an organization at doom or at boom by provide accurate decision at accurate time. The current paper provides an insight of machine learning algorithm both supervised and unsupervised method; and the traditional knowledge extraction process. The application field of sentiment analysis, the issues those are faced during data collection and cleaning. This study flourishes a complete picture of recommendation system based on the sentiment analysis of events. The key motivation of the paper is to incorporate the event sentiment analysis and give the feedback and recommendation and illustrate the ongoing researches in the field of sentiment analysis and its application.

Keywords: Machine Learning, Predictive Analysis, Sentiment Analysis, Supervise Learning.

References:

Disease Identification in Maize Plant Leaf

Abstract: Agricultural productivity is that issue there on Indian Economy extremely depends. this is often the one altogether the reasons that malady detection in plants plays a really important role within the agriculture field, as having the malady in plants are quite natural. If correct care isn't taken during this space then it causes serious effects on plants and since of that various product quality, amount or productivity is affected. Detection of disease through some automatic technique is useful because it reduces an oversized work of watching in huge farms of crops, and at terribly early stage itself detects the symptoms of diseases means after they appear on plant leaves. This paper presents a neural network algorithm for image segmentation technique used for automatic detection still because the classification of plants and study on completely different diseases classification techniques which will be used for plant disease detection. Image segmentation, that is a really important facet for malady detection in disease is completed by victimization genetic algorithm.

Keywords: agriculture field.

Authors: G Siva Nageswara Rao, Ch Sasi Kiran Reddy, M Vamsi Krishna Sai, Sk Javed Hussain

Paper Title: Disease Identification in Maize Plant Leaf

Reference:
Keywords: Hybrid MMC, SiC, Fly ash particles of bagasse, Aluminum.

References:

Authors: Mohammad A. Abbadi, Ahmed M. Al-Bustanji, Mouhammad Al-kasassbeh,

Paper Title: Robust Intelligent Malware Detection using Light GBM Algorithm

Abstract: Attackers take advantage of every second that the anti-vendor delays identifying the attacking malware signature and to provide notifications. In addition, the longer the detection period delayed, the greater the damage to the host device. To put it another way, the lack of ability to detect attacks early complicates the problem and rises serious harm. Consequently, this research intends to develop a knowledgeable anti-malware system capable of immediately detecting and terminating malware actions, rather than waiting for anti-malware updates. The research concentrates in its scope on the detection of malware on the Internet of Things (IoT), based on Machine Learning (ML) techniques. A latest open source ML algorithm called the Light Gradient Boosting Algorithm (LightGBM) has been used to develop our instant host and network layer anti-malware approach without any human intervention. For examination reasons, the suggested approach serves the LightGBM machine learning algorithm to adopt datasets obtained from real IoT devices using the LightGBM machine learning algorithm. The results indicate a successful method to detecting and classifying high accuracy malware at both network and host levels based on the Holdout method of cross-validation. Additionally, this result is better than many prior related studies which used different algorithms of Machine Learning and Deep Learning. Though, an old study which used the same dataset was the best among the literature. However, it still slightly less than what this study achieved, besides the complexity which deep learning adds. Lastly, the results show the ability of the proposed approach to detect IoT botnet attacks fast, which is a vital feature to end botnet activity before spreading to any new network device.

Keywords: Malware, Classification, Machine Learning, Botnet, Detection, Internet of Things, Gradient Boosting, LightGBM.

Keywords:


Authors: Siva Sankara Babu Chinka, G. Jyothsana Surya Kumari, M. Gunia Sahithi, S. Mahesh, M. R. Krishna Mohan

Paper Title: Exact Damage Identification of Plate-Like Structure using Mode Shapes

Abstract: In this paper, Mode Shape Based Damaged Detection Technique (MSBDT) has been applied for plate-like structures to recognize the damage location and quantify the damage length. Two alternative approaches are exclusively used to extract damage indexes through mode shapes of undamaged plate (i.e. reference data) and damaged plate. The absolute difference of mode shapes used in first approach and mode shape curvatures used in second approach of undamaged and damaged plates. Healthy Aluminium plate was tested in the laboratory for accurate material properties and considered three different damage cases by changing the crack orientation and location for successfully implementation of above approaches. In order to make certain the sensitivity of the proposed approaches, natural frequencies and corresponding mode shapes for first six modes in transverse direction of a plate are obtained by Finite Element Modal Analysis (FEMA) in ANSYS 18.1 and validated by Experimental Modal Analysis (EMA) in virtual instrumentation environment using LabView software.

Keywords: Plate-like structures, experimental modal analysis, mode shape, Damage identification, mode shape curvature.

Reference:


Authors: Zakia Acharoui, Altai Alaoui, Mourad Azhari, Abdallah Abarda, Badia Ettaki, Jamal Zerouaoui

Paper Title: Using Latent Class Analysis to Identify Political Behavior of Moroccan Citizens on Social Media

Abstract: The high use of social media has led to a new form of political involvement and participation. In this paper, we use Latent Class Analysis to identify participants’ behavior regarding political participation and engagement based on the nature of their interaction on social media. The LCA findings reveal three statistically distinct and behavioral classes regarding political interaction on social media. The profiles were ranged from ‘Activist’ that show more engagement in political activity, such as following candidates and political parties, posting and participating in discussions related to economic, social or political issues or, encouraging others to debate their point of view, to ‘Agitator’ and ‘Outsider’ profiles that show a low probability of interacting on social media and engaging in political actions. The LCA technique has provided meaningful and distinct information on the participants’ political profile than clustering classical techniques.

Keywords: Latent Class Model, Clustering, Social Media, Political Commitment.

Reference:

Detecting Malicious Applications on Android is based on Static Analysis using Machine Learning Algorithm

Abstract: Attacks on users through mobile devices in general, and mobile devices with Android operating system in particular, have been causing many serious consequences. Research [1] lists the vulnerabilities found in the Android operating system, making it the preferred target of cyberattackers. Report [2] statistics the number of cyberattacks via mobile devices and mobile devices using Android operating system. The report points out the insecurity of information from applications downloaded by users from Android apps stores. Therefore, to prevent the attack and distribution of malware through Android apps, it is necessary to research the method of detecting malicious code from the time users download applications to their devices. Recent approaches often rely on static analysis and dynamic analysis to look for unusual behavior in applications. In this paper, we will propose the use of static analysis techniques to build a behavior of malicious code in the application and machine learning algorithms to detect malicious behavior.

Keywords: Malicious applications on Android, static analysis, abnormal behavior, machine learning.

References: 1283-1287

Authors: Amisha Mishra, Shruti Duggal, Snehashu Banerjee, R. B. Sarooraj

Paper Title: DNA Classification using Machine Learning for Detecting Genetic Disorders

Abstract: Deoxyribonucleic acid is a double-helical molecule composed of two chains that contains genetic instructions. Genetic diseases are caused by changes in pre-existing genes. A genetic abnormality results from the alteration in chromosomes. DNA classification helps to identify genetic disorders in organisms. DNA pattern recognition is a major issue in bioinformatics. DNA is classified into several categories on the basis of Structure, Location, Number of base pairs etc. Traditionally the DNA Molecule is studied by extracting it from the blood sample and is then manually analysed to find out the abnormalities. To increase the accuracy, a machine learning based DNA classification is done which helps in studying the extracted DNA image using various techniques. This consumes minimal amount of time and is more efficient. The image is pre-processed using median filter and canny edge detection. DNA sequences can be recognized correctly and effectively without any uncertainties with the help of Neural Network. The network successfully classifies an image given as input when it is trained with patterns. Thus, we can analyse if a person has a genetic disorder.

Keywords: DNA, Canny edge detection, Neural Network, Genes.

References:

Authors: Madhu Patil, Goutham M.A

Paper Title: Trust Based Routing in Wireless Sensor Network

Abstract: The nodes are often placed in a hostile or dangerous environment so WSN will be vulnerable to security attacks. Attacks can be active or passive. Passive attack involves unauthorized attackers who listen to the communication channel and monitor its activities. In active attack, the unauthorized attacker’s listens, monitors and alters the data passing through the communication channel. To address security concerns, cryptography approach has been adopted but this alone cannot cope with some of the routing attacks. As sensor devices are resource constrained, existing cryptography approach may not be applicable, due to the computational complexities that it involves [1] [3]. Hence, author present energy efficient trust based routing strategy, which is a viable alternative for WSN.

Keywords: Direct trust, indirect trust, malicious node.

References:
Abstract: The unsuccessful handoff and call dropping have been a fast growing, challenging and interesting area in real time application. The immense advancement in cellular networks communication study, has made tremendous improvement in the sphere of wireless technologies which are complementary to other and their union for specific area and services has created single wireless network system. The different wireless network systems having separate function have been combined under the concept of Next-Generation Wireless Communications Systems (NGNS) with a view to provide seamless high-quality wireless network services to mobile users. A set of mechanism are proposed for successful handoff process during the transfer of active calls or date session from one cell in a cellular network to another or from one channel in a cell to another maintaining uninterrupted service to a data session user. In this paper factors responsible for unsuccessful handoff and new call dropping probability method with probable control measures are reviewed. Methods are also proposed to increase handoff performance of mobile IP by decreasing the probability of false handoff initiation to a greater extent under handoff management protocol of NGWS considering MT speed and handoff signaling which are directly proportional to false handoff initiation. In is reported that electromagnetic radiation is reduced to a considerable limit with the use of multi antennas instead of a single big antenna.
Keywords: Electromagnetic radiation, False handoff initiation, GPS (Global Positioning System), Handoff, MT (mobile terminals), Mobile IP, NGWS (Next-Generation Wireless Communication System).

References:


Authors: Prudhvi Raj Budumuru, Madhusudan Donga, Asha Korada

Paper Title: A New Spatial Domain Filter for Impulse Noise Removal with Improved Accuracy Based on Multiple Conditions

Abstract: Numerous filtering methods are proposed for Impulse noise removal, it is an important task in the field of image restoration. The familiar spatial domain algorithm to remove impulse noise is Standard Median Filter (SMF). Most of the existing algorithms are based on median filtering and recent algorithms are Modified Hybrid Median Filter (MHMF) and New Modified Hybrid Median Filter (NMHMF). These two are worked up to 20% noise density conditions with different samples of images. The implementation of proposed method compares with known existing methods by comparing Mean Square Error (MSE) and Peak Signal to Noise Ratio (PSNR).

Keywords: Impulse noise, SMF, MHMF, NMHMF, MSE, PSNR.

References:


Authors: Ashokkumar P, Jegatheeswaran D, Karthick Raj T, Iyyappan R

Paper Title: An Experimental Research on Prognosis of Compressive Strength of Concrete by using Sensor

Abstract: now a days there are many methods available to monitor the health condition of the structures. The need of monitoring of health of structures also serves as important factor because of lower quality of materials availability now a days. In this project the temperature sensor is embedded inside the concrete specimen to monitor the variation in temperature of the concrete due to process of hydration. Temperature is one of the major factor that determines the compression strength of concrete structures. The maturity in the temperature data can be monitored by applying this concept in real time application in field. The Internet of Things (IOT) technique is used to send and store the temperature data in the cloud server. With help of the data that stored in the cloud server maturity index formula is used to calculate the temperature time factor with help of which the strength of the
structure is indirectly correlated and can be found. In case of the large scale projects there are various methods being adopted to find the strength attained in the concrete element in site such that by doing the cube destructive testing, this concept can also been adopted to ensure the strength attainment in concrete. Hence more than one method was been adopted to ensure the strength which allows the engineers to take the decision without any confusion.

Keywords: Sensor, IoT (Internet of Things), Cloud server, Compression strength.

References:

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Authors: Madhur Mahiyar, Punit Singh Sikarwar, Nitin Gupta, Prashant Tomar, Shashank Agarwal

Paper Title: Stabilization of Red soil and Black Cotton soil using Iron Slag and Fly Ash

Abstract: The infrastructure is increasing day by day which leads to construction in the space where soil is not much of good strength and the Safe Bearing Capacity of soil is very low. In such areas soil stabilization can prove to be good alternative for improvement in its properties. The stabilization has been found to be effective in improvement of strength and compressibility. If soil is used for any construction purpose like pavement construction or embankments then such constructions may prove to be cost effective. Mixer like what is used in concrete making can be employed to mix the soil with different admixtures (Iron slag and fly ash) and then placing a mix soil for making road and embankment. If such constructions are done without stabilization then it will lead to decrease in strength and also increase in construction cost. The structures built upon such soil may also lead to failure. Initially cement and lime have been used to stabilize the soil but now we need to find other alternatives as there is lot of CO2 emission in the production of cement which is not safe for our environment. The alternatives to be used should not harm to the environment. In the present study we have used fly ash and iron slag in different proportion for red soil which obtained by the weathering of basalt (It is termed as red bole in Geological terms). The percentage of iron slag is used as 2%,4%,6%,8% and 15%by weight of soil and fly ash is used in 10%, 15%, 20% and 25%by weight of soil. After procuring the soil the Standard Proctor Tests were conducted to determine the Optimum Moisture Content and Maximum Dry Density. Red bole soil and black cotton soil are stabilized using iron slag and fly ash and then the results of various tests have been compared. Consistency Limits, Specific Gravity, Free Swell Index, Standard Proctor, Permeability, Direct Shear, Unconfined Compression Strength and Swelling Pressure tests were performed on each soil (i.e. red bole and black cotton). The tests were performed using the standard codes and the methodology as per various IS codes.

Keywords: Black cotton soil, Fly ash, Iron slag, Red bole, Stabilization.

Reference:

Paper Title: Amalgamation of Machine Learning Algorithms for Crop Yield Prediction

Abstract: Agriculture is India’s prime occupation. In Indian economy agriculture plays a major role by means of providing more employment opportunities for the people. In order to provide food to the huge population of India, agriculture sector needs to maximize its crop productivity. This research work presents an approach which uses different Machine learning (ML) techniques by considering the various parameters of cultivated crop to predict the best yield. Further in this Multiple Linear Regression (MLR) technique and artificial neural networks (ANN) are used to make a brief analysis for the prediction crop yield. With the above idea a new model was created, and from this numerical results were obtained. The accuracy and efficiency of the method has been explored and results from the artificial neural network and regression methods were obtained and compared.

Keywords: Agriculture, Artificial Neural Networks, Crop Yield, Machine Learning, Multiple Linear regression.

References:

Authors: K. Premkumar, J. Preethi, J. Sandhya, Inti Satyapriya Harshini

Paper Title: Medical Image Forgery Detection using Cnn

Abstract: With the improvement of the computer technology, image processing techniques have become important in a wide variety of medical applications. Numerous new features have been added to satisfy people. People consult doctors online, without even visiting them. As health is a critical issue, we should care take full attention and security. This paper proposes a medical image forgery detection system for the identifying whether the image is altered or not. The forgery done on the medical images can lead to various issues that can shake the medical industry this also promotes wrong diagnosis, organ trafficking etc. Hence a group of different forgery detection algorithms is described and by using the Convolution neural networks we can detect and the forged images. This paper also gives a brief outline about the advantages and disadvantages of the existing systems in forgery detection.

Keywords: Convolution neural network, Copy-move attack, Forgery detection, Medical imaging.

References:
Abstract: Depression is viewed as a significant cause of suicidal inclination. It affects the style of writing manifested in the text. Analyzing linguistic markers in social media posts help in recognizing and classifying whether thoughts or sentiments expressed in source text correspond to a depressed user. A large amount of emotion-rich data generated by social media platforms is in the form of tweets, feeds, blog posts, etc. Analysis of this user-generated data helps in understanding an individual’s state of mind. The main focus is to scrutinize the posts of users of twitter to analyze the depression attitudes of users. Natural Language Processing and ML techniques like MNB, TF-IDF, SVC, SGD, and LR have been utilized for training the data set and estimating the efficacy of our proffered approach. Firstly, the words are reduced into their morphological form during preprocessing. Then, a depression analysis model is built based on the suggested method and various features of depressed users derived from psychological research. Tweets with the hashtags #depression are classified based on their content and their relative tendencies towards depression. Tweets related to social distance, workplace stress, peer pressure, family problems, personal weakness, failure, mocking, and self-stigma helped in depression detection. The results have been rendered using the key evaluation measures, which include accuracy, precision, and F1-score. The results of the study may be beneficial in assisting mental health awareness and supporting organizations to provide data about resources and counter common depression.

Keywords: depression analysis, ML, natural language processing, twitter.

References:

Abstract: There is a lot of audio data generated on a day to day bases, which goes to waste without undergoing due processing. If we process this data, it can be beneficial for a multitude of purposes. Vocal data is unstructured, which makes it even harder for processing. This data has to undergo thorough pre-processing to convert it to a machine-understandable form. We aim to perform analysis of human voice to extract meaningful data and make a prediction of their age, gender, and accent. The developed system uses the Mel-frequency Cepstral Coefficient (MFCC), zero-cross-rate(ZCR), chroma_stft, spectral_centroid, spectral_bandwidth, and spectral_rolloff algorithms as a tool for Feature Extraction. The algorithms used for making inferences are support vector machine (SVM), K-nearest neighbors, and SVR. The work can be extended even further by combining video data with the audio data for analysis. The system can also be improved by increasing the number of languages it can detect.

Keywords: Feature Extraction, Speech processing, age-gender classification, Accents classification, mel-frequency Cepstral Coefficient, zero cross rate, SVM, KNN.

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Paper Title: Embedded System Based Emergency Evacuation System

Abstract: The complex nature of the internal environment of public buildings make us to think about how to protect people in the break-out of fire and quickly reach the safe area. With the help of Arduino and other components such as fire hydrants, fire extinguishers, safety evacuation symbols in buildings, the migration of the people can be dynamically monitored and controlled. Using Arduino, an intelligent dynamic evacuation path solving model for emergency evacuation system was built for large public buildings. When an emergency situation occurs, the system can help guide people to evacuate from building and reach the safe exit quickly, so as to reduce casualties and economic losses.

Keywords: Arduino, Embedded system, Evacuation, GSM module.

References:
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Authors: Manoj Kumar, Suresh G. Patil

Paper Title: Punching Shear Performance of Steel Fiber Reinforced Geopolymer Concrete Slabs

Abstract: This article provides performance of two way slabs under punching shear. The two way slabs are cast with dimensions of 600x600x75mm and to cast the slabs geopolymer concrete along with micro (13mm length (small fiber)) and macro steel fibers (50mm length (big fibers)) were used. Total four mixes were taken to the present study and for each mix three slabs were cast. The first mix without fibers, second mix with small fiber, the third mix with big fiber and fourth mix with small and big fibers are taken to the present study. All the slabs were tested under single point concentrated load and load is placed at the center of the slab. From the experimental investigation it is obvious that, the slab with combination of small and big fibers showed superior performance among all and it showed 157.1% higher strength carrying capacity than the slab without fibers.

Keywords: Punching shear, Two way slab, Failure loads, Stiffness, Energy absorption, Regression model.

References:

Authors: J. Unni Kiran, P. Sai Kiran
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<tr>
<th>Paper Title:</th>
<th>Secure Communication with Blowfish Cryptography for Data Sharing on Cloud using Android Devices</th>
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<tr>
<td><strong>Abstract:</strong></td>
<td>Communication over desktop applications and mobile applications has increased. Requirement that the information security is very significant. This document is about encoding or decryption of text data from applications using block cipher called 64/128 Blowfish bit to extend security while sending data to the cloud. It rounds 16 times to and the key length must be multiples of 8. Java has accustomed implement a blowfish algorithm, in android programming and checking Blowfish encryption performance with other encryption algorithms based on network and energy usage. The proposed algorithm is meant using android(java).</td>
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<tr>
<td><strong>Keywords:</strong></td>
<td>Blowfish, data, encryption, decryption, communication, cloud, performance and block cipher.</td>
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<tr>
<th>Authors:</th>
<th>Lingaiah Jada, S. Shiyama</th>
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<tr>
<td>Paper Title:</td>
<td>GFDM Based Error Correcting Codes in Underwater Acoustic Channel</td>
</tr>
<tr>
<td><strong>Abstract:</strong></td>
<td>In this paper underwater acoustic communication system based on Coded GFDM (CGFDM) is simulated and the performances are analyzed using different error-correcting codes. And also the parameter selection principle of error-correcting code is evaluated. To build practical and high performance CGFDM system the error-correcting codes from low to relatively high computational complexity, such as, convolutional code, RS code, serial concatenated code of RS code plus convolutional code and turbo code is evaluated. The parameters of code rate, code length, generation polynomial, interleaving and interleaving matrix length are all considered and analyzed elaborately. Finally, the simulating experiments proved that there are some relatively low complexities systems based on serial concatenated codes of RS code plus convolutional code that are able to gain better performance as the systems based on turbo code</td>
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<tr>
<td><strong>Keywords:</strong></td>
<td>Turbo code, RS code, convolutional code, serial concatenated code, CGFDM.</td>
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<tr>
<th>Authors:</th>
<th>Sidhant Goyal, MD Shagil, Arwinder Kaur, Harpreet Vohra, Ashima Singh</th>
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<tr>
<td>Paper Title:</td>
<td>A YOLO based Technique for Early Forest Fire Detection</td>
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<tr>
<td><strong>Abstract:</strong></td>
<td>Forest fires, wildfires and bushfires are a global environmental problem that causes serious damage each year. The most significant factors in the fight against forest fires involve earliest possible detection of the fire, flame or smoke event, proper classification of the fire and rapid response from the fire departments. In this paper, we developed an automatic early warning system that incorporates multiple sensors and state of the art deep learning algorithm which has a minimum number of false positives and give a good accuracy in real time data and in the lowest cost possible to our drone to monitor forest fire as early as possible and report it to the concerned authority. The drones will be equipped with sensors, Raspberry pi 3, neural stick, APM 2.5, GPS, Wifi. The neural stick will be used for real time image processing using our state-of-the-art deep learning model. And as soon as forest fire is detected the UAV will send an alert message to the concerned authority on the mobile App along with location coordinates of the fire, image and the amount of area in which forest is spread using a mesh messaging. So that immediate action will be taken to stop it from spreading and causing loss of millions of lives and money. Using both deep learning and infrared cameras to monitor the forest and surrounding area, we will take advantage of recent advances in multi-sensor surveillance technologies. This innovative technique helps the</td>
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forest department to detect fire in first 12 hours of its initialization, which is the most effective time to control the fire.

**Keywords:** WildFire, Forest fire, Early Detection, Images data, Deep Learning, Survival Analysis, Supervised Learning, CNN

**References:**


**Authors:** Noor Rahman Stanikzai, Shalika Mehta

**Paper Title:** Effective Material Management to Minimize Problems in Building Construction Project.

**Abstract:** Developmental material administration from the underlying stage to the developmental stage is the fundamental issue for the structure extends the expense of the undertaking increments when the arranging, controlling and coordinating of material is poor. To keep up the viable material administration to accomplish a convenient inventory of material and gear and to diminish the task cost and finish on schedule. This paper clarifies about the systems which are utilizing for stock control the board for development venture ABC analysis will be applied for four exceptionally affected materials by utilizing this method we will acquire economic development utilizing the S-CURVE strategy for the variety between arranged expense and genuine expense for material things however materials waste is the major problems in Afghanistan construction industry that has significant implications in both the proficiency of the business and the natural effect of construction project due to top material management.

**Keywords:** Construction Material, Project Management, Always Better Control Analysis, S-curve

**References:**


**Authors:** R Murali Mohan, U N Kempaiah, Madeva Nagaral

**Paper Title:** Influence of Artificial Aging on the Dry Sliding Wear Behavior of ADC12 Alloy-B4C-Rice Husk Ash Particulates Reinforced Hybrid Composites

**Abstract:** The influence of artificial aging on the wear behavior of ADC12 alloy reinforced with Boron carbide (B4C) and Rice Husk Ash (RHA) composites have been investigated. Hybrid composites with 5 wt. % of B4C fortification constant and variable quantity of rice husk ash particles in steps of 9 and 12 wt. % in the ADC12 alloy prepared by melt stir process. ADC12 aluminium alloy, ADC12 alloy-5 wt. % B4C-9 wt. % RHA and ADC12 alloy-5 wt. % B4C-12 wt. % RHA Samples were solutionized at a temperature of 525°C for 1 h. Further, these solution heat treated samples were artificially aged at the temperature of 175°C for 10 h. Microstructural
characterization was carried out by using SEM and EDS. A pin-on-disc wear testing machine was utilized to assess the wear loss of specimens, in which a solidified EN32 steel plate was utilized as the counter face. Wear tests were accompanied on ADC12 alloy, ADC12 alloy-5 wt. % B4C-9 wt. % RHA and ADC12 alloy-5 wt. % B4C-12 wt. % RHA hybrid composites at varying loads of 10 N, 20 N and 30 N with varying sliding distances of 250 rpm, 500 rpm and 750 rpm for constant sliding distance of 1000 m. The wear resistance of ADC12 alloy enriched with the accumulation of B4C and RHA particulates. Further, heat treated samples were exhibited the superior wear resistance as compared to the base alloy and un-heated treated samples.

**Keywords:** ADC12 Alloy, Artificial Aging, B4C, Microstructure, Stir Casting, Wear Behavior

**References:**

5. Han et al., Composites Science and Technology, 59, 1999, pp. 147-155.

**Authors:** Aezeden Mohamed, Ahmad Alrawashdeh, Abdalhamid Rahoma

**Paper Title:** Corrosion and Inhibitor on Material: Experimental and Computational Calculations

**Abstract:** In this paper, we provide a comprehensive study of corrosion inhibition of mild steel in 1 M HCl solution at 313, 323, and 333 K using 4,4-Dimethyl oxazolidine-2-thione (DMOT) and its protonated form (DMOTH+) as inhibitors. Our results show that the corrosion rate of mild steel in 1 M HCl increases as the temperature increases while it decreases as the DMOT concentration increases. In contrast to the corrosion rate, the DMOT inhibition efficiency decreases with temperature and increases with increasing DMOT concentration. Both experimental and quantum chemical computational results reveal that the adsorption of DMOT and DMOTH+ on the mild steel surface is a mixed-type process having both physisorption and chemisorption. Moreover, the inhibitor adsorption on the mild steel surface was found to obey the Langmuir adsorption isotherm and the value of Gibbs energy of adsorption at the three studied temperatures is associated with an adsorption mechanism involving both physisorption and chemisorption processes. Heavy corrosion, cavities, and pitting of surfaces were observed in the absence of DMOT inhibitor, while much less corrosion was consistently observed in the presence of DMOT inhibitor.

**Keywords:** corrosion, corrosion inhibition, density functional theory, inhibition efficiency, mild steel.

**References:**

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<tr>
<th>Authors</th>
<th>Siddikov Isomiddin Khakimovich, Sadikov Saidkamol Babaevich</th>
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<tr>
<td>Paper Title</td>
<td>Verification the Related Data Base by the Layered Radial-Basis Neural Network</td>
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<tr>
<td>Abstract</td>
<td>The verification method of the information in the related data bases by the theory of layered radial-basis neural networks given in this article. The method consists of three levels: clustering the data by Kohonen network, learning and usage of radial-basis neuron network, marking the reliability of the rows in the table of data base. The software worked out by the invers method in the basis of radial-neuron basis. The suggested data base by the method of verification gives opportunity to work out the models of integrated informational systems, algorithms and software.</td>
</tr>
<tr>
<td>Keywords</td>
<td>radial-basis neuron networks, related data base, verification, neuron networks, learning, Kohonen networks, clustering.</td>
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</table>
Multiple Eye Diseases are currently diagnosed visually by ophthalmologists. In the beginning period, the huge scope screening of eye diseases is outlandish since there are less number of ophthalmologists and in addition these strategies expend additional time. This indicates that in order to correctly identify the disease, manual intervention and the proper infrastructure is important. Owing to the fact that many developing nations are not able to provide their masses with the basic healthcare facilities, the need for computer-aided systems that are robust and inexpensive increases manifold. Over the last few years, convolutional neural networks (CNN) are being increasingly employed for the task of automatic and semi-automatic image classification. Through this paper, we aim to develop a method using deep learning architecture to detect eye disorders in fundus images. In the initial step preprocessing is accomplished for the fundus image, trailed by feature extraction and order. Different evaluations of influenced pictures are tried by the proposed technique and the presentation has been looked at and examined. The models would be tested using standard evaluation metrics to evaluate the effectiveness of the models.

Keywords: Deep Learning, fundus image classification, convolutional neural networks, epoch.

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12. João V. B. Soares, Jorge J. G. Leandro (2006) , "Retinal vessel segmentation using the 2 numberal of the vessel by combining the vessel's attributes and the vessel's geometric features".
13. Hafsa Ahmad, Abubakar Yamin (2014) "Detection of Glaucoma using Retinal fundus images".
15. Meimey Yang1, Ji-jiang YANG (2013) “Classification of retinal image for automatic cataract detection”,
tracking system using Raspberry Pi controller. This system consists of light sensor, MQ135 Alcohol sensor, temperature sensor, accelerometer, video recorder, limit switch sensor, GPS and GSM modems to prevent vehicles from collisions and alert while colliding. All the sensors are connected to the Raspberry pi controller. In addition to this an SD card is provided to collect and save the data from the sensors. We can recover this data from this SD card to know the reason behind the accident and can avoid it from happening again. When an accident is occurred the information about the accident will be sent to the preregistered number through an sms. The main feature of this system is whenever the sensors records a value beyond the specified value whether it is about crossing the lane line, not wearing seat belt, the driver is drunk, or reaching close to the other vehicles etc., an alert message will be sent to the preregistered number.

**Keywords:** MQ135, Accelerometer, Raspberry Pi, Limit switch, GPS, GSM.

**References:**

3. “Paul Black and Dylan Wiliam” Inside The black box
6. Fleischer, Paul Benjamin, Nelson, Atso Yao, Sowah, Robert Adjetey; Bremang, Appah Design and Development of GPS/GSM Based Vehicle Tracking and Alert System for commercial Inter-City Buses.
9. /978-3-642-15787-9_25

**Authors:** S.M. Khantimerov*, R.R. Fatykhov, V.V. Bazarov, N.M. Lyadov, N.M. Suleimanov

**Paper Title:** Porous Germanium Anode Material for Lithium-Ion Batteries

**Abstract:** This work is devoted to the development of porous germanium anode material for lithium-ion batteries. Samples of porous germanium were fabricated by ion implantation of Co+ ions in single-crystal germanium plates. The surface morphology of porous germanium samples with an increase in the implantation dose of Co+ ions was studied. Scanning electron microscopy study revealed that the implantation leaded to the formation of porosity of the surface and the surface morphology differed for different doses of implantation. It is assumed that the obtained Ge material with a porous surface can be used as effective anode material in lithium-ion batteries and will show an increased capacity and charge / discharge rate relative to traditionally used graphite.

**Keywords:** anode material, electrode, ion implantation, Li-ion accumulator, porous germanium.

**References:**


**Authors:** R.R. Garipov, S.M. Khantimerov, N.M. Suleimanov

**Paper Title:** Electrically Conductive Composite based on Functionalized Carbon Nanotubes/Epoxy Resin
Abstract: This work is devoted to the study of the effect of carbon nanotubes functionalization on the electrical conductivity of composite materials based on them. Carbon nanotubes were functionalized by treatment in nitric acid and isopropyl alcohol. Changes in the morphology of multi-walled carbon nanotubes during liquid-phase functionalization were investigated using Auger-electron microscopy. Samples of composite material on the basis of initial and functionalized carbon nanotubes and epoxy resin were prepared and the concentration dependence of electrical conductivity using the four-probe method was studied. The study reveals the effect of functionalization in various solutions on the electrophysical properties of the obtained carbon nanotubes/epoxy composites.

Keywords: Carbon nanotubes, composite material, electrical conductivity, functionalization

References:

Authors: D Nageswari, N Kalaiarasi, G Geethamahalakshmi, P Ajay Mohan, M N Karthick Sutharsan

Paper Title: Passcode based Circuit Interrupter

Abstract: In recent surveys, the electrical accidents to the linemen are increasing year by year due to the improper communication between the electrical staff and the substation. These faults occur during maintenance and there is no proper coordination between the people to people. This paper deals about this issue and the solution brought out to reduce electrical accidents due to these communication failures. In our day to life, the applications of embedded systems are used in everywhere and it is cost effective and better accuracy and precise of results will get. Currently, the research is going on the basis of embedded systems which includes microcontroller plays a vital role. Recent technology like Arduino based system is used by implementing the password protection in circuit breaker. Password is entered by the specific person and there is a provision of password changing system. Arduino UNO is used to control the signal in the relay module and the matrix keyboard is introduced to enter the input and LCD display is used to display the output and the ON/OFF switches provided as the loads through the Relay switch. By using this system, accidents can be prevented and valuable human lives can be saved.

Keywords: Circuit breaker, Arduino UNO, 4x4 Matrix keypad, LCD Module.

References:
2. thehindu.com/newscities/Bangalore/last-year-saw-increase-in-number-of-electrical-accidents/article27268496.ece.
7. www.atmel.com

Authors: K.Kanimozhi, K.Thangadurai

Paper Title: New Aadhaar with Multimodal Biometric Model-Based E-Voting System with Dynamic Hybrid IANFIS-PSO

Abstract: This work deals with the E-voting system with a biometric concept that will make the voting system smart, secure and easy to vote which can be linked with Aadhaar card. While the process of doing the Aadhaar
enrolment process Authorities gathered information of fingerprints and iris of every character and this whole fact of every person persists in the Indian government database. However these two biometric is not enough for the voter authentication process, besides improving the recognition rate, combining multimodal biometric modalities might be more appropriate for E-voting applications. If the Indian Government link this database to the voter ID present in these days vote casting gadget, then all of us can easily forge their votes the use of multimodal biometric authentication. With this motivation, the new Aadhaar with multimodal biometric-based E-voting systems (AMBEVS) system is designed in this work and it allows users to be confirmed using either modality. Here the validation of the voters is verified with the use of Dynamic Hybrid ANFIS-PSO. A critical function and objective of the proposed gadget are to decorate the photograph high-quality and low diploma of complexity for the security of multimodal biometric reputation frameworks. The experimental results show that the proposed AMBEVS are more robust, reliable and accurate as compared to the unimodal based biometric systems.

Keywords: Aadhaar, Adaptive system of neuro-fuzzy inference, Multimodal Biometric Electronic Voting Machine, Optimization of particle swarm

References:
1. ANI “Petition in Delhi HC seeking Aadhaar-based election voting system”. Jul 15, 2019, Available at: http://www.ecoti.in/D8Us9b
mathematical formulation, and simulation techniques and methods. The paper discusses the techniques and methods, frameworks, and domain applications of prescriptive analytics.

**Keywords:** Machine Learning, Meta Heuristics, Optimization, Predictive Analytics, Prescriptive Analytics

**References:**


Authors: Sourav Poddar

**Paper Title:** Novel Simulation and Optimization for the Production of Green Products I.E., Green Gasoline, Green Diesel and Green Waxes.

**Abstract:** During the last decagon, there has been expanding international worry over the rise of anthropogenic CO2 discharge into the Earth’s atmosphere. The application of CO2 into a valuable asset is a major concern. The generation of syn gas and then usage of the syn gas into liquid fuel, seems to be one of the promising options in...
terms of industrial employment, as it offers several advantages: (a) reduction of CO2, (b) conversion of gases, specially bio-gas, natural gas, LPG, and etc. and CO2 into syngas (c) producing syngas with H2/CO2 ratio 1:1.9 to 1:2.1 which may further be used for the generation of valuable petrochemicals. The present research focuses on the gas to liquid conversion using the simulating software, Aspen Plus ®. The outcomes are then subjected to Design Expert ® for calculation of the optimal generation rate. The feedstocks used for the proposed present examination are bio-gas or pyro-gas, natural gas and LPG. The research scheme, gas to liquid conversion is carried out using three steps: (a) gas (feedstock) to syngas from the combination of dry reforming and steam reforming of methane, (b) Fischer Tropsch process to produce long chains of hydrocarbons and (c) usage of unconverted CO and H2 and other alcohol derivates in the CHP unit for the production of electricity. Amongst all the feedstocks natural gas production or generation is maximum followed by bio-gas or pyro-gas and then LPG. Due to non-available resources of natural gas and generation of GHG emission, for countries like India, bio-gas or pyro-gas can be used as a promising sustainable feedstock for reducing GHG emission and global warming. The outcomes of Aspen Plus ® of biogas or pyro-gas are then subjected to Design Expert ® for the prediction of the maximal production. It can be confirmed that with 6997.54 kg/h of biogas flowrate and 99.39% recycling of CO2, the production of green gasoline, green diesel and green waxes are 565.24 (kg/h), 545.45(kg/h) and 642.68 (kg/h) respectively. The outcomes are in good agreement with the theories, thus proving the process to be a realistic one in nature. Therefore, bringing its viability for India in terms of reduction in CO2 emission and development of gas to liquid conversion process.

Keywords: Dry reforming of methane, Aspen plus ®, green products i.e., green gasoline, green diesel and green waxes, CO2 valorization, Fischer Tropsch.

References:

Authors: K. Vinod Kumar, P. Ram Kishore Kumar Reddy, P. Sujatha

Paper Title: MFO-ANN based FOPID Controller for Torque and Speed Control of SRM Drive System

Abstract: This paper proposed an optimal control algorithm based Fractional Order PID (FOPID) controller for the torque ripple minimization of Switched Reluctance Motor (SRM) drive system. That convalesce both control loop task, the Moth Flame Optimization (MFO)- Artificial Neural Network (ANN) algorithm is insinuated. The routine of intelligent technique is principally as the objective function of system error minimization. At this time the quality inspired algorithm of MFO is firstly reconnoitered to optimize the speed and torque error from the SRM system. Instead the output of MFO algorithm is optimized and to finding the premium value, the ANN method is recuperated. Nonetheless, the output of MFO-ANN is imperiled to the input of FOPID controller. For tweaking the exact FOPID gains, the multi objective functions are grew. Created on the operation of propositioned algorithm by normalize the system speed and minimize the torque ripples of SRM system. The qualities of the suggested procedure are force falconer and in addition to augmented level of the reliability and flexibility in answering the system error. Also the enactment of proposed MFO-ANN process is executed in the MATLAB/Simulink running platform.

Keywords: SRM drive system, MFO, ANN, PSO, FOPID, torque ripple, speed and current

References:

Authors: Arnab Dey, Sudhanshu Jain

Paper Title: Automated Locking based on Thermal Camera and Artificial Intelligence

Abstract: In the fast lifestyle of today where work and learning consumes most of people's time. We through this paper look forward to providing further convenience to people through automated locking of house doors on detecting no person inside the house. This will ease pressure on the mind to lock or unlock the gate and carry keys or keep track of the digital system installed in the required events of leaving home or coming back. We recommend a thermal camera along with artificial intelligence means to detect humans inside the house and take action accordingly. If no human is found inside the house and no member(s) facing the door then lock doors immediately. System of face detection and recognition of member(s) to unlock the house in the event of returning or going back inside the house is to be incorporated as well.

Keywords: Automatic locking, Thermal camera, Human detection, Artificial Intelligence, door locking.

References:
5. Marina Iväsić-Kos, Mate Krišto and Miran Pobar, “Human detection in thermal imaging using YOLO”, 5th International Conference on Computer and Technology Applications (ICCTA), April 2019. DOI: 10.11443/3323933-3324076

Authors: Jagdish Kushwaha, Shailesha Jaloree, R.S.Thakur

Paper Title: Analysis towards Enhanced Big Data Clustering Technique

Abstract: The expedient exuding innovation during recent year in the zone of data innovation is "Huge Data". Grouping is one of the significant assignment in wide scope of areas dealing with gigantic information. This study presents the different bunching approaches received for the viable enormous information grouping. Therefore, this survey article gives the audit of various research papers proposing different strategies embraced for the successful huge information grouping, similar to K-implies bunching, Variant of K-implies bunching, Fuzzy C-implies grouping, Possibilistic C-implies bunching, Collaborative separating and Optimization based bunching. In addition, an elaborative examination is finished by concerning the usage instruments utilized, datasets used and the received system for bunching of huge information. In this manner a successful plan must be created to outperform present systems for remarkable administration of enormous information. In the long run the examination issues and holes of different huge information bunching strategies are introduced for profiting the analysts for initiation towards better large information grouping.

Keywords: Big data, MapReduce, clustering, K-mean, C-mean.

References:
Abstract: The system provides a crop suggestion system which suggests the farmer the most profitable crop they can grow with the available resources, weather condition and market demand. This will be achieved with the help of data provided by the government and other sources. Smart farming also known as precision farming is the implementation of IoT in agriculture with the help of IoT devices, cloud internet and further analysis of data collected for precision farming. Through this system a farmer will be notified in time to take advantage of the condition of soil through analysing various parameters in soil like humidity, pH and temperature of the surrounding. With the help of humidity sensor and soil moisture sensor the condition of soil will be monitored and based on the condition, irrigation will be supplied automatically. This will reduce the wastage of water in irrigation and the crops will get precise amount of water supply. We will be using drip irrigation which is an efficient way of irrigation for orchard crops, vegetables, cash crops, flowers, spices, oil seed, forest crops. Integrating the efficient irrigation technique and automating it for precise irrigation will help to maintain the crop health with efficient use of resources. Adding to the irrigation system we also analysed the past crop production, state wise data for predicting the production and profitability of individual crop and suggest them to the farmer so that it will be profitable to farmers.

Keywords: Integrating, IoT devices.

References:
1. A Review Paper on IoT Based Smart Irrigation System Anjal Dokhande, Chetna Bomble, Rakshanda Patil
2. Application of Non-Orthogonal Multiple Access in Wireless Sensor Networks for Smart Agriculture ZENG HU, LONGQIN XU
3. Intelligent Agriculture and its Key Technologies Based on Internet of Things Architecture, JINYU CHEN and AO YANG, Southwest University of Science and Technology, Mianyang 621000, China
4. Internet-of-Things (IoT)-Based Smart Agriculture: Toward Making the Fields Talk, Muhammad Ayaz (Senior Member, IEEE), MohammadAmmad-Uddin(Senior Member, IEEE)
5. Internet of Things (IoT) for Smart Precision Agriculture and Farming in Rural Areas Nurzaman Ahmed, Debasis De
7. IOT Agriculture to improve Food and Farming Technology. Jagainesh.C, Gunaseelan.KDepartment of Agriculture Engineering MahendraEngineering College Namakkal (TN), India
9. Smart Agriculture Using Internet of Things Ibrahim Mat, Mohamed Rawi de Mohd Kassim, Ahmad Nizar Harun, Ismael Mat Yusuff MIMOS Berhad,Kuala Lumpur, MALAYSIA
10. Smart Farming – IoT in Agriculture Rahul Dagar, Subhranil Som, Sunil Kumar Khatri Amy Institute of Information Technology, Amit University Uttar Pradesh, Noida, India

Authors: Siva Sankara Babu Ch, Abhi Ram G, Srinu K, Prudvi Raj G, Nuruddin Shaik

Abstract: Now a days Air conditioning system has become a need for everyone to feel comfort in hot and humid condition and everyone feels comfortable to drink chilled water for quenching the thirst of the people. According to American Society of Heating, Refrigerating and Air conditioning Engineers in short ASHRAE Human comfort is defined as the condition of mind which expresses satisfaction with surrounding air.

In this project, we developed the water cooling refrigerator and air cooling system by combining both the systems through which water is chilled by an eco-friendly refrigerant R-134a and then the air is cooled by this chilled water. Performance analysis of the water cooling refrigeration system was done and analyzed with varying condenser length. By combining these both systems we can reduce the compressor work, cost, save the electrical energy and environment too.

References:

Authors: Aman Rakesh, Pranjal Sahu, C.N.S.Vinoth Kumar

Paper Title: Crop Recommendation and Automated Irrigation System

Authors: Siva Sankara Babu Ch, Abhi Ram G, Srinu K, Prudvi Raj G, Nuruddin Shaik

Paper Title: Effect of Condenser Length on Performance of Water Cooling Refrigeration System Cum Air Cooler
Keywords: Water cooling refrigeration system, Air cooler, Refrigerant, Vapour Compression System (VCS)

References:
9. Satish Markad, Vishal Nathile, Faizan Qureshi, Ankit Verma, Jaypal Pilondre, Hemant Anuj, Shubham Boble, Gaurav Kadu; Design and Fabrication of Refrigerator Cum Air Conditioner; IJARIE; ISSN – 2395-4396, Volume 4 Issue 2, 2018
12. J. Preethithan, Invention and Design of Watercooler Cum Air Conditioner; Journal of Industrial Engineering and Advances; Volu

Authors: Anita P, Manju Devi

Paper Title: Design of a Low Latency and High Throughput Packet Classification Module on FPGA Platform

Abstract: The Packet classification method plays a significant role in most of the Network systems. These systems categories the incoming packets in various flows and takes suitable action based on the requirements. If the size of the network is vast and complexity will arise to perform the different operations, which affects the network performance and other constraints also. So there is the demand for high-speed packet classifiers to reduce the network complexity and improve the network performance. In this article, The Bit vector Packet classifier (BV-PC) Module is designed to improve the network system performance and overcome the existing limitation of Packet classification approaches on FPGA. The BV-PC Module contains Packet generation Unit (PGU) to receive the valid incoming packets, Memory Unit (MU) to store valid packets, Header Extractor Unit (HEU) extracts the IP Header address information from the Valid packets, The BV-Based Source and Destination Address (BV-SA, BV-DA) unit receives the IP packet header Information and Process with BV based rule set and aggregates the BV-SA and BV-DA outputs, Priority Encoder encodes the Highest priority BV Rule for the generation of Classified output. The BV-PC utilizes <2% Chip area (slices), works at 509.38MHz, and consumed Less 0.103 W of total Power on Artix-7 FPGA. The BV-PC operates with a latency of 5 clock cycles and works at 815.03Mpps throughput. The BV-PC is compared with existing approaches and provides Better improvements in Hardware constraints.

Keywords: Bit vector (BV), Packet classifier, Ruleset, FPGA, Throughput, Packet generation Unit, Source Address, Destination Address, Latency.

References:
Abstract:
The period behavioral engagement is commonly used to describe the scholar's willingness to participate within the gotten to know the system. Emotional engagement describes a scholar's emotional attitude toward learning. Cognitive engagement is a chief part of overall learning engagement. From the facial expressions the involvement of the students in the magnificence can be decided. Commonly in a lecture room it's far difficult to recognize whether the students can understand the lecture or no longer. So that you can know that the comments form will be collected manually from the students. However the feedback given by the students will now not be correct. Hence they will no longer get proper comments. This hassle can be solved through the use of facial expression detection. From the facial expression the emotion of the students may be analyzed. Quantitative observations are achieved in the lecture room wherein the emotion of students might be recorded and statistically analyzed. With the aid of the use of facial expression we will directly get correct information approximately college students understand potential, and determining if the lecture becomes exciting, boring, or mild for the students. And the apprehend capability of the scholar is recognized by the facial emotions.

Keywords:
facial emotions, engagement, emotion detection.

References:

Authors:
Manisha Tejwani, Prachi Rane, Moin Syed, Oyesh Patel, Pragyan Pandey

Paper Title: Iot Based Smart Energy Meter Monitoring and Billing System.

Abstract: Paper introduces a system which provides a platform for a consumer to monitor the meter reading via “ThingSpeak” and control the energy consumption, it will also support in keeping the track of energy meter billing. This system helps us to reduce turmoil’s and energy related dissent. The system is implemented using Atmega328P.
microcontroller and ESP8266 Wi-Fi module. This system do not require the replacement of the energy meter but we associate this system with the installed energy meter that benefit the consumer, the base for designing and implementation of a system is IoT (Internet of Things). The instantaneous data will be fetched from the meter and uploaded on the ‘ThingSpeak’ IoT cloud platform.

**Keywords:** ATMEGA328P microcontroller, ESP8266 Wi-Fi module, Energy Mete, ThingSpeak.

**References:**


**Authors:** M. R. Babajanov, A. A. Kalandarov, U. E. Adambaev

**Paper Title:** Numerical Modeling of the Process of Thermoplastic Deformation of Transversally Isotropic Parallelepipeds

**Abstract:** The paper proposes a modified version of the iterative method for numerically solving a three-dimensional uncoupled boundary-value problem that describes the process of thermoplastic deformations of a transversely isotropic parallelepiped. A discrete analogue of the boundary value problem is compiled on the basis of the finite-difference method. A recurrent finite-difference relation is written which allows one to find the desired components of the displacement vector in combination with the iterative method. It is assumed that, at a first approximation, the values of the sought displacements in the internal nodes are trivial. The essence of the method is demonstrated by solving the thermoplastic boundary-value problem for a transversely isotropic parallelepiped. The proposed method can be applied to solve related problems of dynamic thermoplasticity.

**Keywords:** Coupled problems, displacement, iterative method strain, stress, thermoplasticity.

**References:**

### Authors:

| Authors: | Velivala Pavan Karthik, Lalithkalyan Anirudh Pusuluri , Ravi Kumar C.V. |

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### Paper Title: Smart Street Lighting System with Adafruit Cloud

### Abstract: Street Lights consume a lot of power overnight, even though they do not appear to. This paper describes a way to reduce that power consumption while also storing the data in the cloud. In a fast trending world, storing data on the cloud is good for better maintenance and monitoring. This paper also gives a method to control the lights remotely, if required. The lights will be ON in the evening from dusk, and will remain ON in high density traffic areas, till late night. Then, the time when traffic reduces, lights will start working autonomously. This traffic intensity and timings will vary from place to place. These street lights communicate via the fields in the cloud, and will ON the lights before the vehicle even reaches the next area, for a safe margin and to prevent accidents. The main aim of this proposal is to not only reduce power consumption of unused street lights at night, but to also implement it with the help of a cloud to get data for future implementations, which will help make a better cloud-based system in the future.

### Keywords: Adafruit Cloud, IR Sensors, Node MCU or ESP8266, MQTT (Message Queuing Telemetry Transport).
Abstract: The increase in demand for security purpose and detection of objects using the radar system has very much more efficient for Detection and Ranging. The Ultrasonic sensor mounted on the servo Motor produce ultrasonic sound waves ‘if an object bounce off’ in their path it interrupts the sound waves which produce a signal to the user by displaying on computer, laptops or on any screen. This project aims at making an efficient, cheaper and more reliable way that reflects all the possible techniques that a radar consists of.

Keywords: RADAR, UltrasonicSensor, Arduino controller.

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3. Swati Dhangra ; Rajasekhara Babu Madda ; Mohammad Aoun ; Sliding Window Based Nonlinear H∞ Filtering: Design and Experimental Results,In IEEE,2019.

Authors: Saurabh Tiwari, S. VeenaDhari

Paper Title: A Framework for Object Detection using Deep-Reinforcement Machine Learning

Abstract: Machine learning area enable the utilization of Deep learning algorithm and neural networks (DNNs) with Reinforcement Learning. Reinforcement learning and DL both is region of AI, it’s an efficient tool towards structuring artificially intelligent systems and solving sequential deciding problems. Reinforcement learning (RL) deals with the history of moves; Reinforcement learning problems are often resolve by an agent often denoted as (A) it has privilege to make decisions during a situation to optimize a given problem by collective rewards. Ability to structure sizable amount of attributes make deep learning an efficient tool for unstructured data. Comparing multiple deep learning algorithms may be a major issue thanks to the character of the training process and therefore the narrow scope of datasets tested in algorithmic prisons. Our research proposed a framework which exposed that reinforcement learning techniques in combination with Deep learning techniques learn functional representations for sorting problems with high dimensional unprocessed data. The faster RCNN model typically founds objects in faster way saving resources like computation, processing, and storage. But still object detection technique typically require high computation power and large memory and processor building it hard to run on resource constrained devices (RCD) for detecting an object during real time without an efficient and high computing machine.

Keywords: AI, Deep RL, Machine Learning, Reinforcement Learning.

References:
11. Fuji T. Sutsumi and Chika et al. “Hybrid approach of video indexing and machine learning for rapid indexing and highly precise object recognition communication and information” electric power industry komae shi Tokyo Japan.
27. Neha Sharma,Vibhor Jain, Anju Mishra et al. “An Analysis Of Convolutional Neural Networks For Image Classification” International Conference on Computational Intelligence and Data Science.

Authors: Ramiz Assaf, Mohammad Kanan

Paper Title: The Role of Quality in Bit Stream Access Internet Service Providers on Customer Loyalty

Abstract: The Internet Service Provider (ISP) sector in Palestine operates in a highly competitive market that presents many challenges related to Israeli rules and regulations concerning internet services. Such challenges emphasize the need for the various ISPs to have a detailed and clear understanding of the critical service quality dimensions that affect the loyalty of customers, and to constantly evaluate and strengthen the service they provide. Therefore, the aim of this work is to study the influence of service quality on customer satisfaction and loyalty in the Palestinian internet sector. The study used a quantitative approach based on the SERVQUAL dimensions to collect the data from internet subscribers through a questionnaire and the data was analyzed using statistical methods. The survey data was gathered from 403 valid responses covering more than eight ISP companies in the West Bank. An examination of the study variables based on the conceptual framework was achieved by using SPSS, where means of quantitative methods such as a comparison of means, and simple and multiple regressions were calculated. The results indicate that, in general, the level of service quality does not meet customer expectations. In addition, a descriptive analysis of the study variables indicates that the means of three service quality dimensions (reliability, responsiveness, and tangibility) have a medium degree level, while empathy and assurance have a high degree level. It is showed that service quality positively affects customer satisfaction. A positive relationship exists between customer satisfaction and customer loyalty. The study suggests that the effect of the “responsiveness” dimension on consumer satisfaction and loyalty is stronger than the other dimensions, with “tangibility” having the lowest effect. Finally, the study recommends to ISPs to improve the other level of service quality in order to meet customers' needs and wants, and in order to gain long-term customer loyalty.

Keywords: ISP, quality, questionnaires, SERVQUAL, Palestine, internet.

References:
Deep Residual Learning for Image Classification using Cross Validation

Abstract: Convolutional Neural Networks (CNN) are very common now especially in the image classification tasks as CNN’s have better classification accuracy than other techniques available in image classification. Another type of CNN called as Residual Neural Networks (RESNET) are gaining popularity because of better accuracy on the above dataset. In the present article the RESNET architecture is used for image classification on CIFAR-10 dataset using cross-validation approach that reflects a consistently better accuracy on the above dataset.

Keywords: Convolutional Neural Networks, CIFAR-10, Residual Neural Networks, Cross validation.

References:

10. CIFAR10

Authors: Diksha, Dinesh Gupta

Paper Title: Decision Tree based Classification and Dimensionality Reduction of Cervical Cancer

Abstract: The data analysis in medicine and biology have increased our fundamental understandings of biological processes and determining the factors causing any disease, but it has also posed a challenge towards their analysis. After breast cancer, most of the deaths among women are due to cervical cancer. According to IARC, alone in 2012 a noticeable number of cases estimated 7095 of cervical cancer were reported. 16.5% of the deaths were due to the cervical cancer with the total deaths of 28,711 among women. To analyze the high dimensional data with high accuracy and in less amount of time, their dimensionality needs to be reduced to remove irrelevant features. The classification is performed using the recent iteration in Quinlan’s C4.5 decision tree algorithm i.e. C5.0 algorithm and PCA as Dimensionality Reduction technique. Our proposed methodology has shown a significant improvement in the account of time taken by both algorithms. This shows that C5.0 algorithm is superior to C4.5 algorithm.

Keywords: Classification, Cervical Cancer, Decision Tree, Dimensionality Reduction

References:

Authors: M. Dhamodaran, R. Prema

Paper Title: Design and Analysis of Low Power 4T Sense Amplifier with Capacitive Offset Correction

Abstract: In this paper Sense Amplifier is analyzed the basic and fundamental operational block in the Static Random Access Memory. The function of the sense amplifier is to amplify the small signal bit line voltages into high voltages. In the existing literature survey, there are many methods available for designing the sense amplifier. In this paper, the cross-coupled sense amplifier is modified into a 4T based sense amplifier. The proposed scheme also developed for capacitive offset correction based sense amplifier. The existing and proposed designs of SA are briefly examined in this paper. The proposed design is implemented in the linear predictive technology model. The parameters like power and energy. The proposed scheme shows the better results compared to the existing method.

Keywords: Sense Amplifier, Mismatch, Read Write operation, Capacitive offset correction, Cross-Coupled, Power, Energy.

References:
2. Zikui Wei, Xiaohong Peng, Jinhui Wang, Haibin Yin and Na Gong, “Novel CMOS SRAM voltage latched sense amplifiers design based
Cloud Security in Reliable Blockchain Technology

Abstract: The Blockchain is a release and dispersed ledger. Latest communications and information can be added on to a blockchain but precedent information cannot be obliterated. The Blockchain operation connecting two or more parties is confirmable and everlasting verification of information. In present system A BaaS platform which grant blockchain tune-up over cloud computing system exploitation and method supervising, smart convention investigation with analysis. This research work nearby consistency of BaaS communications. Looking for more exhaustive and adaptable assessment technique for BaaS communications. Transaction through blockchain technology is more secure and reliable, and it collaborate with decentralized cloud computing will get more reliability. The proposed investigation exertion can affect merkle tree in the deliberated algorithm on smart contracts deployments and function calls within that block get executed on the node that mines the block cloud based IoT ecosystem proposed by many companies. All IoT devices communicate to the cloud and get global state info from the cloud. Blockchain technology integrated with cloud avoids cyber attack on cloud.

Keywords: BaaS, Blockchain, Cloud security, elegant contracts, IoT, merkle tree.

References:

Authors: Beena G Pillai, Madhurya J A

Paper Title: Cloud Security in Reliable Blockchain Technology

Abstract: The Blockchain is a release and dispersed ledger. Latest communications and information can be added on to a blockchain but precedent information cannot be obliterated. The Blockchain operation connecting two or more parties is confirmable and everlasting verification of information. In present system A BaaS platform which grant blockchain tune-up over cloud computing system exploitation and method supervising, smart convention investigation with analysis. This research work nearby consistency of BaaS communications. Looking for more exhaustive and adaptable assessment technique for BaaS communications. Transaction through blockchain technology is more secure and reliable, and it collaborate with decentralized cloud computing will get more reliability. The proposed investigation exertion can affect merkle tree in the deliberated algorithm on smart convention presentation optimization and involuntary refurbish. In this system merkle tree allows competent and protected authentication of huge data structures. Our proposed system include a trusted authority or a cloud provider to become a distribute service provider. Each dealer sends their IoT data with communication integrity, authentication code to the cloud server. Every consumer gives to the proceedings they are concerned in on the cloud. Every supplier becomes authenticated data generator on the cloud. Like this, examination contributors otherwise the users know how to optimize applicable apparatus or obtain equivalent defensive procedures according to the evaluation results. The smart contracts deployments and function calls within that block get executed on the node that mines the block cloud based IoT ecosystem proposed by many companies. All IoT devices communicate to the cloud and get global state info from the cloud. Blockchain technology integrated with cloud avoids cyber attack on cloud.

Keywords: BaaS, Blockchain, Cloud security, elegant contracts, IoT, merkle tree.

References:
A Device for Detecting the Food Freshness.

Food is the most vital thing for every human being living on earth and also plays a significant role in our lives. All the same many diseases are caused by the ingestion of unhealthy and rotten food. India is a developing nation consisting of 1.37 billion people. The ingestion of safe food is the most important requirement. This paper explains the use of different sensors for detecting the food quality. This device uses a temperature and humidity sensor along with pH, gas sensors. The Blynk program helps with knowing the values.
gathered from sensors. This sensor system can also be implemented in common households, and food consumption made easier using the Blynk application.

**Keywords:** Food quality, contaminated food, pH sensor, gas sensors, temperature and humidity sensor.

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1. An Intelligent IoT-based Food Quality Control Method Using Low-Cost Sensors by the Faculty of Engineering, "Aurel Vlaicu," Arad University, 310001.
2. Naveed Shalzad's integrated Food Quality Monitoring with Sensor Technology.
3. M. Omid, M. Khojastehmazhad, A. Tabatabaeefar, “Estimating volume and mass of fruit by image processing technique”, Volume 100, Issue 2, September 2010
9. Hong sheng He, Fanyu Kong, and Jin dong “Diet Cam Multi-View Food Recognition Using a Multi-Kernel SVM” Published in “IEEE Journal of Biomedical and Health Informatics” Vol pp,No 99, jan 2015

**Authors:** Prashant Vats, Manju Mandot

**Paper Title:** AVISAR – An Automated Framework for Test Case Selection & Prioritization using GA for OOS.

**Abstract:** In this paper we have presented an automated unified approach called AVISAR for the testing of the Object-oriented Systems (OOS) by Test Case Prioritization (TCP) & their selection using Genetic Algorithm for the OOS. The testing of OOS has become a more challenging task as nowadays it has been widely accepted as a paradigm for large-scale system designing. In this research paper we have also studied the Genetic algorithms in relation to their applications for providing solutions to the various aspects of the OO Testing. As a result after implementing the tool AVISAR using GA’s it has proven to be useful in providing effective solutions to resolve the issues related to the OO Testing domain. Thus it can be used for reducing the efforts of the users for testing by efficient selection of effective test cases.

**Keywords:** Object Oriented Testing, Genetic Algorithm (GA), Fitness Function, Test Case Prioritization (TCP), Jenetics.

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10. Gordon Fraser, Andrea Arcuri,” Evolutionary Generation of Whole Test Suites”, in proceedings of 11th IEEE International Conference on Quality Software (QSIC), pg. no. 31 - 40, 2011.
Abstract: CT3 (Comprehensive Training Testing and Tracking) is a platform developed for student performance tracking in the training sessions. This software is created for the Training and Placement Cell. By using CT3 we can track everyday performance of the student throughout the training sessions. The students can post their attendance and will receive day to day assessments in the respective training sessions. The students will have pre-training and post-training assessment. The result of the performance from pre-training to post-training assessments, will be displayed in a graph form on the Admin dashboard to track student improvement in the performance. In CT3 the module which we are dealing with is the Placement Module. In this module the admin can add the company which have the new job post for the students. The admin has to add description of the job post, company name, interview date, eligibility criteria and all the necessary information. Once the job post is done the notification will be send to all the student who are eligible. Here the student detail will be uploaded in a bulk using excel file and the system will filter those students who are eligible for the job post automatically. Company details will be mapped with eligible students so that whenever an opportunity come the student can be notified.

Keywords: Web Development, Tracking, Scenario based testing, Validation

References:

Authors: Sathya T, Reshi Krish T, Monish Kumar MS, KS Preetha

Paper Title: Driver Attention Monitoring System using IBM Cloud

Abstract: With online shopping and many logistic companies on the rise, a single accident can incur heavy loss to the supply chain department and not only disrupts the flow of the supply chain, but also causes injury to life and damage to property. These accidents occur primarily due to driving while feeling distracted or drowsy and it is paramount to monitor such behavior to avoid drastic outcomes in case of driving heavy duty vehicles. Therefore, it is natural for logistic companies to invest in securing their goods and ensuring that there is safe transportation of goods. The objective of our paper is to provide a novel solution to handle the aforementioned problems by monitoring the driver’s performance by analysing the facial features of the driver in real-time while storing the event-triggered data in the cloud and using the cloud services to send mobile alerts when the driver is drowsy or distracted via a mobile application in an cost effective and in an efficient manner.

Keywords: Facial feature recognition, DLib, SolvePnP, IBM Watson IoT Platform (WIoTP), NodeRED, IFTTT (If This Then That).

References:
**Paper Title:** Fuzzy Logic Inference System for Identification and Prevention of Coronavirus (COVID-19)

**Abstract:** Now a days Novel Coronavirus named COVID-19 becomes major health concern causing severe health issue in human beings and it becomes a pandemic. It’s a kind of zoonotic that means it can transmit animals to humans. It may spread via polluted hands or metals. No specific treatment is available so far for COVID-19, so initial identification and preventions for COVID-19 will be crucial to control or to break down the chain of COVID-19. For this purpose, we have proposed a fuzzy inference system to diagnose the COVID-19 disease by taking six input factor like as; Ethanol, Atmospheric Temperature (AT), Body Temperature (BT), Breath Shortness (BS), Cough and Cold and the output factor has divided into three linguistic categories which denotes the severity level of the infected patients.

**Keywords:** Coronavirus (COVID-19), Gaussian Membership Function, Fuzzy Inference System, Medical Diagnosis.

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10. Our word in data, “A novel coronavirus associated with severe acute respiratory syndrome (COVID-19) testing, ” Indian Council of Medical Research – India, 8(4), 2019
11. Our word in data, “Global Change Data Lab”, South Africa

**Paper Title:** A Machine Learning Method for Spam Detection in Twitter using Naive Bayes and ERF Algorithms

**Abstract:** In this era of machinery driven, online social media is a vast growing fact. The main social media is Instagram, Facebook and twitter. These are the media which are connecting the global as fast as other sources. It will be increase as tremendous way in future. These online social media users makes the information independently and also they can gibber the information, there are so many domains accepts the vital role of analyzing the social media. This may improves the throughput and also attain the back-and-forth competition. Now a day the people are spending their most of the time in the online social media. The vast increase in the popularity in the social media also makes the hackers to spam, thus causes the conceivable losses. The Cyber criminals are usually hack by produce the external phishing sites or the malware downloads. This became the major issues in the safety consideration of online social network and this makes the user experience as a damaged one. To combat with the issue of spams, there has been a lot of methods available. Yet, there is not a perfect effective solution for detect the Twitter spams with the exactness. In this paper, the collected tweets are classified with the help of NB and Enhanced Random Forest classifiers. The prediction is then assessed on many validation measures such as accuracy, precision and F1 score.

**Keywords:** Classification, ERF, Machine Learning, Spam Detection.

**References:**
## References

Abstract: Liquefaction is a phenomenon of loss of strength of the soil layers caused by earthquake vibration. Liquefaction causes the soil to be in a liquid – like state, especially on sandy soil. Analysis of liquefaction potential was performed by using the semi-empirical method by calculating the Safety Factor (SF) based on Standard penetration Test (SPT) and Cone Penetration test (CPT) data. After the SF value was obtained, then the Liquefaction Potential Index (LPI) was calculated to determine the level of potential liquefaction in the study area to further produce a liquefaction potential map based on the liquefaction potential index. Based on the results of the calculation of the LPI, the level of liquefaction potential in the study area was very low when the earthquake magnitude is 5 MW because the Liquefaction Potential Index (LPI) = 0. When the earthquake magnitude is 6 MW, 7 MW, 8 MW, and 9 MW, most of the investigation area has low potential level and there are some points that have high potential level.

Keywords: Earthquakes, Liquefaction, Safety Factor, Liquefaction Potential Index.

References:


Authors: Rini Kusumawardani, Muhammad Zain Rais

Paper Title: Liquefaction Hazard Mapping Based on LPI (Liquefaction Potential Index) At Jepara, Indonesia

Abstract: Liquefaction is a phenomenon of loss of strength of the soil layers caused by earthquake vibration. Liquefaction causes the soil to be in a liquid – like state, especially on sandy soil. Analysis of liquefaction potential was performed by using the semi-empirical method by calculating the Safety Factor (SF) based on Standard penetration Test (SPT) and Cone Penetration test (CPT) data. After the SF value was obtained, then the Liquefaction Potential Index (LPI) was calculated to determine the level of potential liquefaction in the study area to further produce a liquefaction potential map based on the liquefaction potential index. Based on the results of the calculation of the LPI, the level of liquefaction potential in the study area was very low when the earthquake magnitude is 5 MW because the Liquefaction Potential Index (LPI) = 0. When the earthquake magnitude is 6 MW, 7 MW, 8 MW, and 9 MW, most of the investigation area has low potential level and there are some points that have high potential level.

Keywords: Earthquakes, Liquefaction, Safety Factor, Liquefaction Potential Index.

References:


Authors: T Purnima, Chandu Delhipolice, K. Sarada

Paper Title: Identifying Intrusion Behaviour using Enhanced Hidden Markov Model

Abstract: Data Mining is a method for detecting network intrusion detection in networks. It brings ideas from variety of areas including statistics, machine learning and database processes. Decreasing price of digital networking is now economically viable for network intrusion detection. This analysis chiefly examines the system intrusion detection with machine learning and DM methods. To improve the accuracy and efficiency of SHMM, we are collecting multiple observation in SHMM that will be called as Multiple Hidden Markov Model (MHMM). It is used to improve better Detection accuracy compare with SHMM. In the standard Hidden Markov Model, we have observed three fundamental problems are Evaluation and decoding another one is learning problem. The Evaluation problem can be used for word recognition. And the Decoding problem is related to constant attention and also the segmentation. In this Proposed Research, the primary purpose is to model the sequence of observation in Network log and credit card log transactions process using Enhanced Hidden Markov Model (EHHM). And show how it can be used for intrusion detection in Network. In this procedure, an EHHM is primarily trained with the conventional manners of an intruders. If the trained EHHM does not recognize an incoming Intruder transaction with adequately high probability, it is thought to be fraudulent.
Keywords: IDS, KDD, HMM.

References:

Authors: S.Syed Musthafa Gani, S.Boobalan, S.Arun Prakash, S.Faizal Mukthar Hussain, A.MohamedIfthikarAli

Paper Title: Performance Enhancement in Transmission Lines by Locating the Distributed Generators using Improved Particle Swarm Optimization Algorithm

Abstract: This paper indicates the nonlinear congestion mitigation in the transmission lines. The generator active power is rescheduled to achieve the congestion- transmission line network in electrical power system. The transmission congestion in the buses can be reconfigured by using the Improved Particle Swarm Optimization Algorithm. By locating the Distributed Generators in the identified weak buses the voltage profile and the power loss in the transmission system can be improved. The proposed solution’s achievability is tested by estimating the cost of congestion on different standard IEEE transmission line networks. The algorithm have the recompense such as the capability of local search and the capability of global search in the algorithms Gravitational Search Algorithm (GSA) and Particle Swarm Optimization (PSO) algorithm respectively. Consistence with the calculation is tried by considering different contextual investigations including clog on the separate test transport arrangement because of two-sided, polygonal exchanges and line blackouts.

Keywords: Artificial intelligence, Improved particle swarm optimization (IPSO), Available Transfer Capability (ATC), power system planning, Open Access Same-Time Information System (OASTIS), Economic Dispatch (ED), Distributed Generators (DG).

References:
294.
Internet-of-Things (IoT) implementation in technological application is developing at higher speed because of more demand from the customers and firms which reply with the advantages proposed through the brilliant and elegant hardware unit. Using Drone concept, it is finding more applications in various areas which rises the threat of data hacking and also poses safety risk to common people. We must appreciate due to online device characteristic features. Our work prohibits illegal connection entry controlled by location problem for optimization of a society. W. Saad, M. Bennis, M. Debbah, "Unmanned aerial vehicle with underlaid device communications: Performance and tradeoffs", IEEE Transactions on Wireless Communications, vol. 15, no. 6, pp. 3949-3963, June 2016.


"study of Identification and Basic Design Development of Reservoirs in Blora

Authors: Dini Mandrianawati, Dyah Ari Wulandari, Pranoto Samto Atmojo

Addition of Criteria for the Drought Level Vulnerability to the Reservoir Location Priority

Bliora regency is mostly a water critical region during dry seasons due to its porous soil characteristic. In order to overcome this condition, in 2006, Indonesian Ministry of Public Works and Housing, through Mettana Engineering Consultant, conducted a Study of Identification and Basic Design Development of Reservoirs in Blora

Addition of Criteria for the Drought Level Vulnerability to the Reservoir Location Priority

Bliora regency is mostly a water critical region during dry seasons due to its porous soil characteristic. In order to overcome this condition, in 2006, Indonesian Ministry of Public Works and Housing, through Mettana Engineering Consultant, conducted a Study of Identification and Basic Design Development of Reservoirs in Blora
Regency. It determined 28 future reservoir locations by considering their technical, economical and socio-environmental aspects. However, for the reservoirs to be the most effective, it is necessary to include regional drought vulnerability aspect into consideration to determine their location priority. The main purpose of this research, to conduct an analysis of meteorological drought vulnerability in Blora regency region. In more detail the main goal is to determine reservoir location priority in Blora regency region by considering meteorological drought vulnerability aspect. Drought Index was calculated using SPI (Standardized Precipitation Index) method using 2009-2018 monthly precipitation data obtained from 15 precipitation stations. Mapping of drought vulnerable regions was done using GIS (Geographic Information System) technology using spatial interpolation approach. This research determined new priority, different from that determined by Mettana Engineering Consultant. Priority 1 formerly consisted of Suruhan, Kedungwungu, Bangsri, Sambong and Kalisari reservoirs while the new one consisted of Polaman 1, Polaman 2, Suruhan and Jurangjero reservoirs. Suruhan reservoir appeared in both versions. Kedungwungu, Bangsri, Sambong and Kalisari reservoirs moved to priority 2 in the new priority since they were located in low drought level regions while Polaman 1, Polaman 2 and Jurangjero reservoirs moved to priority 1 since they were located in moderately high to moderate drought level regions. It indicated that it is necessary to include drought vulnerability aspect into consideration in determining reservoir location, along with technical, economical and socio-environmental aspects. The government then may employ this aspect as an additional criteria in developing future reservoir construction program to be more effective that targets drought vulnerable regions.

Keywords: drought index, priority, reservoir, spatial interpolation.

References:

Authors: Priyanka Sharma

Paper Title: Paradise in Peril: Dams, Development and Domination

Abstract: Damming rivers is often seen as the panacea of the neo-liberal development paradigm. It is believed to be the fit all solution to problems of agricultural production, flood control, irrigation in arid and semi-arid regions, electricity generation as well as urban development. The industrialization of the world and the adoption of a capital intensive, mechanized and market-oriented production process has dramatically altered the environment as resource-extraction and resource consumption increased manifold. Nature, in fact, became a source of raw materials for feeding the ever growing needs of modernization and development as well as a dump-yard for material waste, slowly heading towards a perilous condition. The paper, therefore, seeks to explore and investigate the issue of damming rivers as a domineering force over nature explicating the power of science over nature.

Keywords: Dams, Development, Capitalism, environment, social justice.

References:
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<tr>
<th>Authors:</th>
<th>Jyoti S.Patil, G.Pradeepini</th>
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<tr>
<td>Paper Title:</td>
<td>Development of Easyget Algorithm for Deep Learning Sculptor Deepcnet Model using Hadoop Architecture</td>
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<tr>
<td>Abstract:</td>
<td>Manual segmentation in the brain tumors analyses for malignancy prognosis, via massive amount MRI images produced through medical routine, frustrating task and is a hard. There is a dependence on automated brain tumor graphic segmentation. The amount of precision necessary for scientific purposes is normally as yet not known, and so can't be conveniently quantified actually by means of professional physicians. That is a fascinating point, which includes just sparsely been resolved in the literature, but is nonetheless truly relevant up to now. Additionally, storage space automatization for medical images is essential need nowadays. To carry out very quickly analysis as well as, prognosis there's an imperative want of automated photo storage. Hence, this paper focused on development of new algorithm called “EasyGet” for automatic data storage and retrieval using Hadoop architecture.</td>
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<tr>
<td>Keywords:</td>
<td>Deep learning, Big data, Hadoop storage, Machine learning</td>
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Abstract: Expansion of farmland and unplanned land encroachments have increased as the earth's population boomed, which has led to uncontrolled deforestation across the world. Deforestation and industrialization have given rise to global warming, causing mayhem in the current ecosystem. The weather patterns are disrupted, and natural calamities are occurring more frequently. The after-effects of these events have led to dramatic losses in flora and fauna. Even though a large part of India's land is urbanized, there are many protected areas in specific parts of the country that represent significant vegetation that has been affected if we observe from the scale of a subcontinent. In this paper, we aim to trace the deforestation in the Sundarban from 1988 to 2019. This period is essential as a lot of industrialization and population boom happened during this time. We have selected the Sundarban because mangroves are a natural defense to cyclones and also provide shelter to a plethora of living organisms. Our study area covers more than 7000 square kilometers of the Indian Sundarban. The satellite images are from Landsat-5, Landsat-7, and Landsat-8, which are orthorectified. We make use of open-source software like Quantum GIS (QGIS), Google Earth Engine (GEE), and Google Colab, which is a Python IDE in this project. We make use of the K-means clustering, which is an unsupervised learning algorithm. Here, we have described a method to analyze deforestation accurately using low-cost techniques, which can be used by underdeveloped nations and private organizations to help in the fight against illegal deforestation.

Keywords: Deforestation, K-means Clustering, Machine learning, NDVI.

References:

Authors: 
Abderahmane Boucetta

Paper Title: New Segregation Method of Sic During Carbo-Thermal Silica Reduction

Abstract: The focus on SOG-Si for solar cell production have been increased in the recent years. A low cost Si requires a production with less electric energy used, less impurities and fast process. Reducing C presence in Si ingots generally is necessary. In the present work, we attempted to develop a new method to segregate SiC from the bulk Si by means a new shape of ingots that we designed. We have used a conventional induction furnace for this process. A comparison study between 2 shapes of graphite ingots was performed. We have succeeded in segregation of SiC from Si during the carbo-thermal reduction process of silica. the results revealed that The first ingot contained 34.3% of SiC while the second ingot had 100% of Si from about 13mm distance from the ingot bottom.

Keywords: SOG-Si, Ingots, SiC, Impurities.

References:
Abstract: With the increasing of digitization and massive adoption of advanced technologies in the various industries such as automotive, food, electronic goods etc. not only transform the equipment manufacturer’s operating mode, but also changing the business models. In particular textile industry, the raw materials are collected from different other industries, end products are manufactured, distributed and sold globally. Supply chain and logistics, in particular, are considered as fertile ground for a blockchain implementation due to the several parties involved in the logistic processes and the lack of trust that usually characterize the industry. In this paper, we addressed the automatic textile industry supply chain as case study, in which we present a non-destructive way of ensuring the traceability of different operational modes of supply chain. We have implemented automatic block chain-based framework, which helps track and trace every mode of operation in supply chain. The proposed framework is simulated in Ethereum platform and the result shows the proof – of – concept of proposed model that can be used for wide range of future smart applications

Keywords: Smart contract, supply chain, Ethereum, block chain.

References:

Authors: Setalaxmi H, Sumithra M.D., Anil Kumar E.S.

Paper Title: Significance of Nut Factor in Fastening of Joints in Engineering Structures

Abstract: Threaded fasteners are category of bolts used in the joint assembling of aerospace structure. Torque is the process of applying a force that works at a circular distance and rotates the threaded fasteners at thebolted joints of these structures. With the aid of this torqueing force the two different parts are clamped together to form the joints. Due to torqueing there arises an opposing force which is known as the frictional force. The frictional force in threaded portion of the bolt transforms the applied Torque into stress. Due to this stress there is a chance of joint loosening or bolt fracture which is considered to be critical. Hence, selection of torqueing force for a desired preload is a major issue in joint deployment. The friction coefficient is a key factor for estimating the torque that is required for the fasteners to be deployed in the aerospace structures. There are many features which influence the friction coefficient for example size, pitch, thread tolerance. Till date only experimental methods and theoretical formulae has been used to estimate the friction coefficient, torque and preload. This paper identified the key features which are most correlated to coefficient of friction using the fisher score filtering technique and ca boost algorithm for both numerical and categorical datatypes. Along with that gives the insight on the torque, preload and coefficient of friction which are associated in fastening of the bolted joint in different non-permanent aerospace structures.
Keywords: Aerospace structure, coefficient of friction, fasteners, preload relation.

References:

3. Keon-Hee Baek1, Nak-Tak Jeong1, Hee-Rok Hong1, Su-bin Choi1, Eun-Seong Lee1, Hyung-Min Kim1, Ji-Woon Kwon1, Seok-Yong Sung1, Myung-Soon Suh2, Hong-Seek Jang3, Ho-Yong Lee4 and Myung-Won Suh5 (2019), “Loosening mechanism of threaded fastener for complex structures” Journal of Mechanical Science and Technology 33 (4), 1689–1702

Authors: Priyansha T Jat, Nikhil Nautiyal, M. Pushpalatha

Paper Title: Chennai Hydrological Drought Prediction

Abstract: Chennai also referred to as Madras is located on the Coromandel Coast off the Bay of Bengal. It's the largest cultural, economic and academic center of south India. The city faced an acute water shortage in June 2019. Chennai was entirely captivated with spring water resources to fulfill its water needs. There are four reservoirs within the city, namely, Red Hills, Cholavaram, Poondi and Chembarambakkam, with a combined capacity of 11,057 mcf. These are the main sources of water for the town. Apart from the reservoirs, alternate sources of fresh water are Minjur and Nemelli desalination plants; Cauvery water from Veeranam lake; aquifers in Minjur, Panchetly and Neyveli.

Here is an initiative to place together a dataset that has the data about the varied water sources available within the city using LSTM (Long Short Term Memory), TensorFlow, NumPy, Keras and ANN (Artificial Neural Network). The idea is to figure out whether we can use this dataset to:
1. Visualize the water need / usage of the town
2. Identify whether the water sources availability is going to be able to meet the wants till the following months?
3. How bad is the current water crisis compared to previous years?

Keywords: ANN, Keras, LSTM, NumPy, TensorFlow

References:

1. Chennai Metropolitan Water Supply & Sewage Board
In this paper, the segmentation of cotton leaves from the complex background has been carried out using deformable model. In order to segment, a database of about 300 cotton leaves image was developed. The collected images were resized to 256x256 size. The resized image has been segmented using Adaptive Diffusion Flow (ADF) model. The ADF model has been obtained by replacing the smoothening energy term of gradient vector flow model with active hyper surface harmonic minimal function used to keep away from weak edges leakage. The infinite Laplace function is used to move the deformable model into narrow concave regions. Further, the developed model has been compared with the gradient vector flow and vector field convolution segmentation methods in terms of number of iterations, time taken for segmentation and various performance parameters namely precision, recall, Manhatten, Jaccard, Dice. From the results, it is concluded that the adaptive diffusion flow method is faster and performance parameters are better than the Gradient Vector Flow (GVF) and Vector Field Convolution (VFC) methods.

References:

3. P Revathi, M Hemalatha, Classification of cotton leaf spot diseases using image processing edge detection techniques, INCOSET, 2017.


Authors: Aruna Gawade, Narendra Shekokar

Paper Title: Preventing Cryptographic Attacks in IoT using Lightweight P-Box Permutation Encryption

Abstract: Internet of Things (IoT) is a leading technology, where numerous sensors with the ability to exchange information over the internet are involved. It supports various applications ranging from smart home to smart city including smart grid for calculating electricity tariff, real time monitoring and controlling traffic, Co2 emission level finding etc. Research advancements in IoT facilitates us to control or monitor the things remotely and take actions accordingly. Efficient working of the IoT, involves continuous exchange of information between the nodes which should be executed in trusted environment as this data is confidential and only trusted nodes should handle it. Current research work in IoT suggests the confidentiality mechanisms which are heavyweight and not suitable in IoT scenario. So there is a need for lightweight confidentiality mechanism. In this paper we have shown how lightweight P-Box permutation encryption algorithm can be effective in IoT. We have compared this encryption algorithm with PRESENT protocol and our results show that lightweight P-Box permutation algorithm took less time. To prove that our encryption algorithm is better w.r.t. security, we have also carried out known plaintext attack and chosen plaintext attack and shown that lightweight P-Box permutation encryption algorithm is resistant to both of these attacks. Further we have used this technique to transfer the smart meter data in Smart Grid and shown that the data exchanged between the two nodes in confidential manner.

Keywords: Internet of Things, smart grid, PRESENT, Lightweight P-Box Permutation Encryption, attacks

References:


Abstract: At the current era Security and Protection is of vital significance. While there is no system that is immune to attack, a steady and effective system-security-framework is fundamental to ensuring the protection of data. On a fundamental-level, we are living in a more technologically advanced world than we were as of a decade ago. This rise in the broad utilization of technology carried with it and ascent in network attack. Networked PCs have taken over practically all parts of our lives, they store and deal with a ton of data that whenever traded off could bring about critical results. Secure Sockets Layer and Transport Layer Security(SSL/TLS) are presently broadly embraced innovation to give security. SSL/TLS convention is made to give privacy to delicate data trade over the Web. They can be used to secure secrecy and protection however can in like manner be used to shroud vindictive exercises. Regardless, assurance right now in all the information being scrambled independent of whether the information is malignant or not. The SSL-Attackers don’t utilize a particular system for the assault, the attacker may attempt to stick the system by making superfluous-traffic. Using Anomaly-Detection-technique we find the outliers by analyzing the data-captured using Wireshark and identify any possible attack on the network. For detecting outlier in the traffic we have used ABOD technique contained in the PyOD-library, which is an open-source toolbox provided in Python for identification of anomaly on multi-variate information. Anomaly-Based-Detection is a practical and realistic option for identification of attack against security-convention.

Keywords: ABOD, Anomaly Detection, Network Traffic Analysis, Outliers, Python, SSL, TLS, WireShark.

Abbreviations: SSL, Secure Socket Layer; TLS, Transport Layer Security; SS, System Security; MSK, Master Secret Key;

References:
3. Ngoc Huy Nguyen, March 2019” SSL/TLS Interception Challenge from the Shadow to the Light ,” The SANS Institute 2019
7. Tran A T , September 2017 “Network Anomaly Detection,” Network Architectures and Services

Authors: Asha G, R. Hema Sumanth, A. China Venkat Chowdary, A. Shashank, T. Sravan

Paper Title: Real Time Image Captioning

Abstract: Image caption generator means it will generate a description for the images. It will predict what is happing in the images. We make our model using a hybrid CNN-RNN model in which in the CNN part of the model we use inception model for transfer learning and RNN is majorly used for language modeling. We use Flickr8k Dataset for training and testing the model. We use LSTM model in RNN to avoid the problem of vanishing or exploding gradient in the training phase.

Keywords: CNN-RNN architecture, LSTM, SOFTMAX, Image caption generator.

References:
Abstract: Text summarization is an approach for identifying important information present within text documents. This computational technique aims to generate shorter versions of the source text, by including only the relevant and salient information present within the source text. In this paper, we propose a novel method to summarize a text document by clustering its contents based on latent topics produced using topic modeling techniques and by generating extractive summaries for each of the identified text clusters. All extractive sub-summaries are later combined to generate a summary for any given source document. We utilize the lesser used news datasets which are available for text summarization. The well-known news datasets present their most important information in the first few lines of their source texts, which make their summarization a lesser challenging task when compared to summarizing the WikiHow dataset. Contrary to these news datasets, the WikiHow dataset is written using a generalized approach and have lesser abstractedness and higher compression ratio, thus proposing a greater challenge to generate summaries. A lot of the current state-of-the-art text summarization techniques tend to eliminate important information present in source documents in the favor of brevity. Our proposed technique aims to capture all the varied information present in source documents. Although the dataset proved challenging, after performing extensive tests within our experimental setup, we have discovered that our model produces encouraging ROUGE results and summaries when compared to the other published extractive and abstractive text summarization models.

Keywords: Extractive Text Summarization, Latent Dirichlet Allocation, Topic Clustering, Topic Modeling, WikiHow Dataset.

References:

Alerting Spoilage of Food in Refrigerator

Abstract: The era of smart homes wouldn’t be complete without intelligent refrigerators. Thus we have proposed an idea for detecting the food kept in the refrigerator and alerting the user on their spoilage which involves all the processes of ML and IoT. In places where large stocks of food are stored, manual maintenance is very hard and also when they are transported to long distant places from the cultivated lands to the end-users, they get spoiled due to lack of governance. The existing systems have provided a solution for this and we decided to give this facility for the working women who have very little time to do their household. This system helps in preventing other items in the refrigerator from the fungal attack caused by the affected ones. The solutions provided by the existing systems recommend sensors to detect the food items. Each food item might need a different sensor and hence this might lead to a lot of hardware components to be added to the refrigerator. Thus our system uses ML prediction methods like image processing. Finally, the notification of the spoiled food is intimated to the user by displaying the message in the refrigerator door.

Keywords: RaspberryPi, RaspberryPi camera module, R-CNN.

References:

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https://www.wikireading.com/Comb-Long-Hair


Paper Title: Alerting Spoilage of Food in Refrigerator
<table>
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<tr>
<th>Authors:</th>
<th>S. Babu, Kushagra Singh Bisen, Himanshu Chaubey</th>
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<tr>
<td>Paper Title:</td>
<td>Prediction of Social Trends using Twitter</td>
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<td>Abstract:</td>
<td>In this study project, we deal with the application of sentimental analysis on a dataset consisting of tweets. We implement a number of machine learning and deep learning frameworks to perform the analysis. In the end, we use a majority based method to show 4 of our best models for the dataset to achieve the best result.</td>
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<td>Keywords:</td>
<td>Tweets, Sentimental Analysis, Data Preprocessing, Machine Learning, Deep Learning, Feature Extraction</td>
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<th>Authors:</th>
<th>Mageshkumar C, Balakrishnan A, Dhanasekaran S, Gaddam Mahesh, Pinkesh Khanna K</th>
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<td>Paper Title:</td>
<td>Location Tracking System using GPS</td>
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<td>Abstract:</td>
<td>for most city travelers, the arrival time of busses is the key detail. Excessively long waiting times at bus stops also deter and make relevant travelers from taking buses. In this paper, a method of bus arrival time prediction is presented based on participatory passenger sensing. With commodity cell phones, the local environmental history of bus passengers is effectively gathered and used to predict bus travel routes and forecast bus arrival times at different bus stops. The proposed program relies entirely on the participating users' joint efforts and is independent of the bus operating companies. In this way, universal bus service support can be effectively introduced without the need for funding from different bus operating companies. The resort to more commonly accessible and energy-efficient sensing devices, including cell tower signals, movement statuses, audio recordings, etc., instead of referring to location information permitted by GPS, which puts less pressure on the involved party and encourages its involvement. A prototype system is designed with various types of Android based cell phones and an extensive trial duration of 7 weeks with the NTU campus shuttle buses as well as Singapore city buses. The test results indicate that the program proposed achieves excellent predictive accuracy compared to the solutions implemented by certain bus operators and supported by GPS. Further implementing the system and conducting 4-day rapid trials with London bus system, indicating quick implementation of the proposed system and promising city-wide results. At the same time, the proposed solution is available in more general terms and is energy efficient.</td>
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<td>Keywords:</td>
<td>Bus detection, GPS, Location tracking, Sensor</td>
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<th>Authors:</th>
<th>Sruthi Gollapalli, Konatham JayaSree, Banavathu Kalyani, V.V.N.V.Phabi Kumar</th>
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<td>Paper Title:</td>
<td>Smart Mirror using Raspberry Pi</td>
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<td>Abstract:</td>
<td>As the world is running at a faster pace, an individual finds it difficult to take time to get to know the vital information like news updates, weather forecasting, reminders in order to plan the day accordingly along with getting ready in the morning. Instead of allotting separate time for the morning updates, an individual can view the updates of required while getting ready in the morning, which saves time. A Smart Mirror is used to display news, time, weather updates and it is based on Raspberry Pi 3B+ and part of home automation. In this way, we are displaying the content required by the user on monitor and a two way mirror attached to it, which is enclosed in a wooden frame. As part as now, people are usually preferring ‘Multi-tasking’ as it became the usual habit for most</td>
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<th>References:</th>
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of the people. The Smart Mirror aims to display the information to the user like time, date, weather calendar, reminders and news-updates.

**Keywords:**


**Authors:** R. Chawngsangpuii, Prodipdo Das

**Paper Title:** Communication Protocol in Internet of Things

**Abstract:** Constrained devices are commonly used in the Internet of Things systems. Since these devices have limited communication and computation resources, communication protocols which are lightweight are needed. A lightweight protocol called Message Queue Telemetry Transport, which is a publish/subscribe messaging protocol, is utilized with the constrained devices. Hence, this paper is aimed at monitoring data by using machine-to-machine communication protocol with the help of an IoT device, Raspberry Pi.

**Keywords:** Communication protocols, Internet of Things, Message Queue Telemetry Transport, MQTT.

**References:**


**Authors:** M. Ravi Kishore, K.C.B.Rao

**Paper Title:** Cavity Backed Circular Half Mode SIW Array for Microwave Communications

**Abstract:** A two element array of circular shaped cavity backed substrate integrated waveguide (SIW) based antenna is proposed in this work. The elements are backed by a dielectric cavity of FR4 epoxy and fed by SIW slot coupling mechanism. Keeping the advantages of the conventional waveguides, the bandwidth of the radiation can be increased by choosing proper dimensions to the slots and circular patches. The two element array configuration in the design contributed to the comfortable uplift of the gain. The impedance matching is achieved by inserting a two arm power divider with pre-calculated dimensions. The accurate formulation of the electromagnetic problem of analyzing the SIW antenna is achieved by using integral equation based methods which can be solved numerically. The designed top layer of the antenna is analyzed with well known Method of Moments (MoM) and the results are compared. The functioning of the antenna is compared in terms of Return losses, radiation pattern and gain. The antenna exhibits 72% of bandwidth with peak gain of 4.2dBi in the range of 4.4GHz to 9.9GHz with the resonating frequency of 7.54GHz and well suited for C-band microwave communication applications.

**Keywords:** Substrate Integrated Waveguide, Circular HMSIW, Cavity backed, Method of Moments, Metallic vias, HFSS Software.

**References:**


Authors: Yepuri Spoorthi Hawanka, Kapavarapu Sai Sreeja, Yangala Shamitha, Bandaru Yuva Priyanka, Manam Srilatha

Paper Title: Indian Counterfeit Currency Detection

Abstract: The counterfeit currency printing rate has been increased with the progress of color printing Technology. Some people are printing fake currency using some laser printers. Therefore, the counterfeit currency notes production instead of the original currency notes has been rapidly increasing. This requires an efficient system that identifies the counterfeit currency note and displays the result. This paper developed a system consisting of image preprocessing, gray-scale conversion, image segmentation, edge detection, feature extraction, and comparison modules. The currency note is scanned and the scanned image is used in the modules. The outcome of the system will foretell if the note is counterfeit or genuine.

Keywords: Counterfeit detection, Gray-Scale conversion, Image Processing, Image Segmentation, Edge Detection, Feature Extraction.

References:

Authors: Karishma Shailk, Yaswanth Karreddula, Mujahid Maheer, Sai Pranay Roop Donthamsetty, G. Anuradha

Paper Title: Classification of Plant Leaf Diseases using CNN

Abstract: Agricultural productive is the dominant issue, which affects the economy of the country excessively. So detection of diseases in plants plays a major role in Agricultural field. In previous day’s farmers in the fields

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used to observe the plants just by seeing with their eye for identification of a disease. But this method may take lot of time, expensive and inaccurate. So advanced technology that can identify plant diseases as easily as possible is needed, in order to decrease the percentage rate of the contamination of crops and increase the fertility. Here in this paper techniques like preprocessing, segmentation and classification of image are used. Here Tomato, Maize, Grape, Potato and Apple plant leaves are used, where different diseases are identified for each plant. For Classification we used Convolution Neural Network Algorithm, so that we can automatically detect the plant leaf diseases. And this will help farmers to identify their diseases as early as possible.

**Keywords:** Agriculture, Classification of image, Convolution Neural Network, Identification, Pre-processing, Segmentation.

**References:**

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5. Bharat Mishra1,Sumit Nema2,Mamta Lambert3 “Recent Technologies of Leaf Disease Detection using Image Processing Approach” 2017 (ICIIECS)
10. https://online.visual-paradigm.com/

Authors: N. Z. Azeemi, G. Al-Utaibi, O. Al-Basheer

**Paper Title:** Customer-in-Loop Adaptive Supply Chain Migration Model to Enable IoT

**Abstract:** Poised to smart citizenry engagement, an unprecedented deluge of high quality streaming services induce a major data traffic challenge in Fourth Generation (4G) bandwidth and coverage, the upcoming smart city expectations cannot be ignored, eventually. The bottlenecks in ever exploiting benefits such as e-Life, to name a few at Mobile Equipment Providers (MEP) tiers, are complemented at Device Dependent Device Independent (D3I) configurations inherent at various tiers of Mobile Service Providers (MSP). While enabling a Supply Chain Management (SCM) augments a unique system support involving the MSPs and MEPs for desired Customer Relationship Management (CRM), Ad hoc Resource Planning (ARP), which we found prevalent in migration scenario from 4G to 5G technology deployment. Despite its complexity both in term of one-to-many and many-to-one across diverse MSP and MEP options, SCM operational objectives sets forth a unique challenge, hence is the main objective for our work presented here. In this paper, we presented a framework to enhance the 4G legacy in mobile service provider capacity for smart city Machine-to-Machine (M2M) backbone. The migration process is assessed with proposed strategic, technical and operational indicators, which demonstrate its adaptability and flexibility while integrating in conventional 4G deployments, especially taking into account radio devices and applications. Web-enabled Software Define Radio devices and applications are used to index the migration cost and support SCM planning and execution. We identify, the decentralization of mobile service providers infrastructure plays a major role in reducing the embedded complexity which often appears as primary bottleneck. 

MSP as a key player in the elasticity of migration, we presented a platform to support large as well as low MEP-MSP co-deployments. Pareto multi-criteria optimization is used to find the strategic indicators which are primary Transformation Steering Factors (TSF), valid in both device dependent or device independent M2M migration. We expose our result for achieving TSF, while rolling interoperability and reconfiguration of device deployed in a typical volatile inter-MSP or intra-MSPs tiers. Pareto Migration Indicators (MI) are optimized successively progressing across the transformation schemes; relative to base-line MSP services, hence enabling a lucrative choice while elasticity of provider-centric cost depends adaptively on technology legacy and M2M access of User Equipment (UE).

**Keywords:** Supply Chain Management (SCM), IP Networks, IoT, Adaptive Optimization, Smart City.

**References:**

Abstract: Stock market price movement forecast from multi-source data has gained massive interest in recent years. Studies were focussed on extracting the events and sentiments from different source data and employ them in learning the stock price movement patterns. This approach provided accurate and highly reliable forecasting as it involves multiple stock price indicators. However, some aspects of sentiment analysis and event extraction increase the training time and computation complexity in big data stock analysis. To overcome these issues, the hierarchical event extraction and the target dependent sentiment analysis are performed in this paper to improve the learning rate stock price movement patterns. In this paper, the events are hierarchically extracted from news articles using Deep Restricted Boltzmann Machine (DRBM). The target based sentiments from the tweets are detected using Improved Extreme Learning Machine (IELM) whose parameters are optimally selected using Spotted Hyena Optimizer (SHO). The stock indicators obtained from these two processes are used in the learning process performed using Tolerant Flexible Multi-Agent Deep Reinforcement Learning (TFMA-DRL) model for analysing the stock patterns and forecasting the future stock trends. The forecasting results obtained by using the TFMA-DRL model by combining the stock indicators of targeted sentiments and hierarchical events are trustworthy and reliable. Evaluations are performed using three datasets collected for 12 months period from three sources of Twitter, Market News and Stock exchange. Results highlighted that the proposed stock forecasting model achieved 90% accuracy with minimum training time.
Keywords: Stock market forecasting, stock prediction, target dependent sentiment analysis, event extraction, Deep Restricted Boltzmann Machine, Improved Extreme Learning machine, Spotted Hyena Optimizer, Tolerance based Flexible Multi-Agent Deep Reinforcement Learning.

References:

Authors: Ojaswi Sharma, Himanshu Saxena

Paper Title: Diabetic Retinopathy using Lstm-Rnn

Abstract: Diabetic retinopathy is an significant cause of loss of vision and blindness in millions of people worldwide. While screening protocols-fluorescence and optical accuracy to the identification of the disease, in most cases-have been identified, the patients remain unaware, and they can't perform these tests on time. The early diagnosis of the condition plays a vital role in preventing loss of vision which results in a prolonged period of untreated diabetes mellitus between patients. Different profound learning strategies were applied for classification and disease prediction in diabetic retinopathy datatsets, but most of them ignored data pre-processing and dimension reduction and resulted in poor outcomes. The diagnostic analysis is carried out in this paper with the use of profound learning and the LSTM-RNN methodology in this manner and by segmentation through Fuzzy c. Output indicates that the whole system being tested is validated by the use of 400 MESSIDOR (database) retinal fundus images.

Keywords: Deep learning, FCM, RNN, LSTM etc.

References:
2. Shailesh Kumar, Basant Kumar. "Diabetic Retinopathy Detection by Extracting Area and Number of Microaneurysm from Colour Fundus Image". 5th International Conference on Signal Processing and Integrated Networks (SPIN).


Paper Title: E-Passport Verification System

Abstract: In this digital world, RFID technology is applied to many applications in different fields such as transportation, health-care, industries etc. This technology along with Internet of things (IOT) facilitates wireless identification using active and passive tags with suitable readers. In this paper, RFID technology is applied for passport verification system to authentication the passport holder. This avoids forgery and manual work associated with traditional passport verification system. The passport checker checks the passenger’s passport by means of e-passport embed with RFID tag, fingerprint sensor and OTP through GSM. This e-passports are used in strengthening the security and helps the Airport authorities to identify the movement of order breakers or antisocial elements.

Keywords: Arduino, Fingerprint sensor, GSM, RFID reader

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References:


Authors: Vanitha V, Sabarish D, Sudhan G, Tharani N, Varunya V

Paper Title: Fabrication of Multirotor Windmill

Abstract: Finding techniques to meet the growing power demand is the greatest challenge for industrialists, engineers and entrepreneurs of the country. Wind energy is emerging as one of the various renewable energy sources, which contributes to the appreciable energy demand in the world. This paper focuses on the fabrication of multirotor windmill, which has two sets of turbine blades, out of which, one set of blades rotates in the clockwise direction and the other set in the anticlockwise direction. Conventional method is used for the design of blades. The floor space required for both the windmills are same. The two sets of blades are coupled by a Bevel gear mechanism which in turn, produces a uniform torque. When compared to the normal windmill, the proposed windmill has higher efficiency due to the presence of second set of blades.

Keywords: Bevel gear mechanism, Wind turbine, Multirotor, Two sets of blades, Wind speed

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2. Dowon Han, Young Gun Heo, Nak Joon Sudani, Mahamad Gardare, Snehal Sunil, Nichal Bhagyshri Sudhir, "Smart ration card system using RFID and embedded system". Vol. 4 No.3, 2018.


Abstract: Globally, the waste management is becoming a challenging problem because of garbage accumulation due to poor urban planning, overcrowding, etc. In last few years, robotic research is drawing more attention due to its effectiveness in helping humans to bring the waste-free environment as many waste material may cause healthy problems to human beings. This work aims to design and fabricate a robotic arm with four servomotors, which are controlled by a mobile app and Arduino microcontroller. Android based Mobile app is created to control the robotic movements. Two servomotors guide the robot for backward and forward movement and remaining two servomotors for picking and placing the garbages.

Keywords: Android app, Arduino, Servomotors, Robotic arm

References:
1. N. Sathish Kumar, B. Vuayalakshmi, R. Jenifer Prarthana, A. Shanku, "IOT based smart garbage alert system using Arduino UNO", IEEE Region 10 Conference 2016

Authors: Dong Hwa Kim, Getachew Teshome, Dawit Dubela, Yosef Dentamo, Hinsermu Alemayehu

Paper Title: Optimal Conversion of DC-DC Converter Considered Optimal Switching Time and Optimal Switching Mode of PWM by Fuzzy based PID Tuning

Abstract: This paper deals with design method of fuzzy controller for improving efficiency of DC-DC power converter. To design optimal control by fuzzy, this paper introduces optimal switching time and optimal switching mode of PWM. DC-DC Power converter is one of energy conversion device to transfer DC input source to DC output. When they transfer DC to DC, they have been using PID controller or fuzzy controller. Therefore, the efficiency of DC conversion strongly depends on PID parameter. Some papers illustrate tuning method of PID controller for this but have not been mentioning about the switching time and switching mode that can influence on the efficiency of DC-DC conversion. This paper suggests effective DC-DC conversion method by means of introducing switching time and switching mode into fuzzy based PID tuning.

Keywords: DC-DC converter, Fuzzy control, PID control, Energy conversion, PWM.

References:
3. Ihab S. Mohamed, “A Neural-Network-Based Model Predictive Control of Three-Phase Inverter With an Output LC Filter,”
Abstract: There are mainly five steps in agriculture that are plowing, seeding, watering, tuning, and harvesting. In this project, we are going to mainly focus on Boring, where a robot with the help of the drilling tool attached at its rear side will be used to remove the soil for the plantation. Secondly comes plantation, here the person will carry out plantation at desired places. Then comes the maintenance of the crop in which the amount of watering, sunlight, pesticide, fertilizer required for the healthy growth of the plant is controlled by the robot with help of electronic circuits present inside a robot. Then we focus on tuning operation, this module will be taken care of by cutters attached to the robot. Finally, fruit picking operation is done by a three-hand jaw attached to a robot which will be used to pick the fruits. Another additional module is a sample of soil that will be taken and processed with different chemicals and give us output as deficient nutrients in the soil and fertilizers to be added to make soil fertile land and suitable atmospheric conditions for the crop

Keywords: Agricultural robot, modelling.

References:

Authors: Kiranbir Kaur, Sandeep Sharma, Karanjeet Singh Kahlon

Paper Title: PaaS Cloud Application and Database Portability: An Initial View

Abstract: A new paradigm to cater to the demand for increasingly complex software systems and to shape the way software applications are developed, has emerged, called Cloud Computing. Evolved from the already prevailing and established technologies such as web services, SOA (Service Oriented architecture), virtualization, grid, and cluster computing, Cloud computing proved it to realize the dream of transforming computing as a utility to the customers. Applications developed at Platform as a Service level (Infrastructure as a Service and Software as a Service being the other two levels) face vendor lock-in issue as the proprietary and non-standard APIs offered by providers results in a lack of interoperability and portability among cloud providers. This paper reports on an experiment done to assess the difficulties encountered while porting an application that uses various SQL and NoSQL data stores, message queue service and blob storage of Microsoft Azure, Amazon Web services and Google Cloud platform among each other. The heterogeneity of the incompatible proprietary interfaces makes the porting a non-trivial task. Various problems faced during the portability of the application are discussed and a middleware solution approach to these problems is proposed in this paper.

Keywords: Platform as a Service clouds, Application portability, Data portability, Amazon Web Services, Microsoft Azure, Google Cloud Platform.

References:

Authors: Seeram Srinivasa Rao, Ghanta Vamsi Krishna, Bolisetty Venkata Neerav, Gattupali E N M S Satyasai, Vangavolu Yaswanth

Paper Title: Design of Agricultural Robot for Fruit Picking and Tuning

Abstract: In this project, we are going to mainly focus on Boring, where a robot with the help of the drilling tool attached at its rear side will be used to remove the soil for the plantation. Secondly comes plantation, here the person will carry out plantation at desired places. Then comes the maintenance of the crop in which the amount of watering, sunlight, pesticide, fertilizer required for the healthy growth of the plant is controlled by the robot with help of electronic circuits present inside a robot. Then we focus on tuning operation, this module will be taken care of by cutters attached to the robot. Finally, fruit picking operation is done by a three-hand jaw attached to a robot which will be used to pick the fruits. Another additional module is a sample of soil that will be taken and processed with different chemicals and give us output as deficient nutrients in the soil and fertilizers to be added to make soil fertile land and suitable atmospheric conditions for the crop.

Keywords: Agricultural robot, modelling.
Predicting & Identifying Risk of Polycystic Ovary Syndrome (PCOS)

Abstract: Polycystic Ovary Syndrome is a disorder that many women faces during their reproductive age, due to this they suffer from diabetes, infertility and high blood pressure. Diagnosis of this disorder is mainly done through various types of screenings like ultrasound images. Imaging is the most important factor in the diagnosis, through ultrasound images the follicles generated and cysts formed are easily affected. Although, this is the best method for diagnosis, the main concern is the symptoms shown by this disorder are many times ignored because symptoms like acne, hair loss, and weight gain can also be the causes of some other problem and this leads to the PCOS getting more severe. This paper can be said as a prevention measure or as an alert that one needs to visit hospital for screening. It will help female to recognize the symptoms like acne, hair loss, and weight gain can also be the causes of some other problem and this leads to the PCOS getting more severe. This paper can be said as a prevention measure or as an alert that one needs to visit hospital for screening.

Keywords: Polycystic Ovary Syndrome, Ultrasound images, Genetic algorithm, Back propagation algorithm

References:
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Abstract: Cardiovascular diseases (CVD) has emerged as one of the major causes for death in all over the world. This paper displays a framework to remotely screen, health of Cardiovascular disease affected patients utilizing Machine to Machine (M2M) innovation which is a part of the project called CySician. Real time patient health monitoring system is advantageous to the patients and society as it will significantly reduce medical charges, waiting time for patient and improve patient handling capability of any hospital. In this present patient health monitoring system pulse rate, ECG, body temperature, Body Mass Index (BMI) and general clinical interrogation is finished by a chatbot named “LifeBot”. The primary components associated with this project are pulse sensor, Raspberry Pi 3B+ (processing unit), temperature sensor module sensor, utilizing Machine Learning (ML) calculation it automatically analyzes the accumulated information to propose prescription to the patient. After the patient is diagnosed and the disease is detected, the patient will be notified with the kind of medication he needs. If the procedure is possible, the patient will be suggested with a basic treatment and will be monitored regularly. If the problem is of major scale, the patient will be directed to the payment gateway where he will be asked to pay a nominal fee for appointment from doctors to continue his check-up. Ultimately, the final well-being report is displayed to the doctor on the User interface that is visible on PC/Laptop.

Keywords: CVD, M2M, health monitoring; pulse rate, BP, ECG, BMI, LIFEBOT, ML, Raspberry Pi, payment gateway.

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12. B. Bhattacharya, S. Mohapatra, A. P. Mukhopadhyay and S. Sah, “Remote Cardiovascular health monitoring system with auto-

329.
Abstract: Arecaanut is a plantation crop sustains for decades and its crop water demand varies with the age. For scheduling and management of irrigation water, crop water requirement information is important. To calculate the crop water requirement, estimation of evapotranspiration is crucial. The term Evapotranspiration (ET) refers to transport of water molecules into the atmosphere from soil (soil evaporation) and vegetation (transpiration) surfaces. It is a most important component of hydrological cycle and also the most difficult factor to quantify. Crop water need is the amount of water required for balancing loss due to evapotranspiration. There are different methods proposed by researchers for the estimation of evapotranspiration. The conventional methods of evapotranspiration estimation from ground data are tedious. The advancement in remote sensing data provides estimation of evapotranspiration in a global scale. The invention of thermal remote sensing has benefitted greatly since it reduces the field data requirement for estimation of ET. It also helps to understand spatial distribution of landmass and different estimates also in estimation of evapotranspiration over a larger extent timely and periodically. In this study to estimate Arecaanut crop evapotranspiration Hargreaves Samani, Penman Monteith and Priestly Taylor methods were used and compared. Arecaanut crop evapotranspiration rate estimated form Landsat 8 and MODIS data are showed similar range of values between 3 to 4.45 mm/day. The study area covers an area of 835.3 hectares of Arecaanut crop and the gross crop water need is found to be 23059 m3.

Keywords: Arecaanut crop, Age based crop water requirement, Classification, Evapotranspiration.

References:

Authors: G. Lalitha, C. Sashidhar, C. Ramanchandrudu

Abstract: Durability of concrete is as the ability to resist weathering action, chemical attack, and abrasion while giving the desired engineering properties. Concrete require different degrees of durability depending on the exposure environmental conditions. The retrogression of concrete structures is due to effect of attrition of reinforcing bars which is occurred due to the chloride incursion so it is necessary to study the concrete durability nature before making its usage in present construction. The present research is focused on studying the effect of using sustainable material in concrete preparation. To know the effective usage of crushed waste glass in concrete and significance in Durability properties for different replacements was studied. The present research work was done using materials like cement, Fine aggregate, coarse aggregate, waste crushed glass, super plasticizer in order to know that at which combination of mix there will be optimum effect on properties of concrete. In this research Waste crushed glass was used as fractions of 10%,20%,30% and 40% by weight of crushed glass used. The durability tests to test resistance against acid environment chloride penetration and abrasion resistance tests are performed. The optimum value of acid resistance was observed when fine aggregate was replaced with 30% of fine aggregate with crushed waste glass, less abrasion loss at 30% replacement and chloride penetration also effective at 30% replacement.

Keywords: Fine aggregate, Crushed glass, Acid attack, Abrasion resistance

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Authors: C. Kalpana, S.Hemavathi, K.Geerthana, T.Dhakshayini

Paper Title: Attendance Maintaining and Monitoring using Face Recognition

Abstract: Technology has been playing a vital role in this world, where the work and the work place become digitalized. The paper reviews on monitoring the attendance using image processing, which involves face detection, labeling the detected face, training a classifier based on labeled dataset, and face recognition. Former methods on monitoring the attendance includes signing the attendance registry, fingerprint detection and barcode scanning where delinquency may occur. To prevail over and to take the technology to subsequent level image processing has been incorporated. Proposed system employs, capturing of the face in various dimensions, labeling of the captured images that is stored in the database for training and testing phase. Using the gathered data the machine is trained to recognize the face to provide access to the employees or students in the organization. The final phase is to take the attendance and maintain the record on attending hours using face recognition technique in which the input image of the employees or students is given.

Keywords: attendance, Boolean value, classification, face detection, regression.

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Authors: Besta Suresh Babu, Mohammed Ali Hussain, Mahmood Ali Mirza

Paper Title: Beacon Optimization for Optimized Routing Model using Tsch Network

Abstract: TSCH (Time-Slotted Channel Hopping) protocol is introduced recently by IETF 6TiSCH working group for achieving low energy consumption and highly reliable IEEE 802.15.4e. TSCH is a synchronous MAC (Medium Access Control) protocol with IPv6 enabling Internet of Things (IoT) that are deployed in environments that are prone to interference. However, the IEEE 802.15.4e only describes TSCH link-layer design without a study of communication scheduling and network formation for high density and rapid mobile ad hoc network (MANET) which are still an open issue to the research community. The exiting model incurs high latency and energy overhead for performing device association. To address aforementioned issues, this paper presents an Adaptive Routing (AR) model for MANET using mobility enabled TSCH network. Our model reduces the overhead of mobile device within mobility enabled TSCH network by introducing a novel modified beaconing for achieving Adaptive Routing design. Experiment are conducted to evaluate performance of AR over existing approaches shows significant reduction of energy overhead and attain good packet routing outcomes.

Keywords: IEEE 802.15.4e networks, Internet of Things, Mobility, Network formation, TSCH.

References:

IOT Based Forest Fire Prediction and Detection

Abstract: In recent days, satellite-based surveillance gadget is used to notice wooded area ahead however this works when fire is unfolded in the massive area. So these methods are no longer sufficient. According to a survey, about 80% losses are accumulated in the woodland due to the late detection of fire. To overcome this two, we proposed a new method to predict and the fire at early stages. In our proposed method the hardware kit with temperature and humidity sensor is connected to the PC and it is deployed in many places in the forest area. The PC is connected with the Internet. The details collected using sensor is upload with the fixed interval time. Then this data is upload to the cloud application. If the forest temperature is increased abnormally this will detect and consider the effectiveness of the sensors it be also used in industrial areas.

Keywords: DHT11 Sensor, ARDUINO, Raspberry Pi.

References:

Background Subtraction Method based Smart Parking System using Image Processing

Abstract: Now a day's population is increasing day by day. Due to increase in population usage of vehicles and the traffic at parking lot also increases. For this reason getting a parking spot is very difficult and time consuming for the car drivers. So to reduce this difficulty we are proposing a system called "Background subtraction method based smart parking system using image processing". This paper is mainly concerned to develop smart parking system on a credit card sized computer and camera is fitted at a parking lot to show availability of a parking place. The image processing can be performed on a Raspberry pi interface with Things view cloud platform through an API to detect cars. Raspberry Pi posts data to the Things view cloud, showing that the internet of things(IOT) based parking system. Availability of parking slot can be viewed in drivers mobile and can book the parking slot from their mobile by using an app.

Keywords: Raspberry pi, Image Processing, Car detection, Background Subtraction, Availability of parking slot.

References:
Abstract: In the area of Object Detection, the most important step is the extraction of object features. One of the most used approaches is Haar-like features and the Integral Image technique to integrate them. The Integral Image technique, used by Viola and Jones, is generally used to calculate the integral of a rectangular filter in an input picture. This filter is a rectilinear rectangle. We propose a method to integrate a rotated rectangle by one angle of rotation inside an image based on the Bresenham algorithm of drawing a segment. We use some pixels - called key points - that forms the four segments of a rotated rectangle, to calculate its Integral Image. Our method focuses on three essential tasks; the first is to determine the rule for drawing a segment (SDR), the second is to identify all the key points of the rectangle r, and the third is to calculate the integral image. The speed of this method depends on the size and angle of rotation of the rectangle. To demonstrate the efficiency of our idea, we applied it to the rotated Haar-like features that we proposed in a later work [12], which had as objectives the improvement of the Viola and Jones algorithm to detect the rotated faces in a given image. We performed tests on more widespread databases of images, which showed that the application of this technique to rotated Haar-like features improves the performance of object detectors, in general, and faces in particular.

Keywords: Haar-like features, Integral image, Face detection, Object detection, Viola & Jones algorithm, AdaBoost.

References:

Mechanical and Microstructural Characteristics of Self-Healing Bacterial Concrete

Abstract: Concrete is a major part of construction material in the world. The major drawback of concrete is easily cracks by low tensile strength. The innovative technology of introducing bacteria in the concrete to self-remitting of cracks in concrete. Formation of calcium carbonate in the crack surface due to the improvement of crack sealing performance. This current study focus on self-healing development of concrete. An MICCP (Microbiologically Induced Calcium Carbonate Precipitation) technique is an occurrence in managing the concrete cracks. Three different cell concentration of bacillus subtilis bacteria (20x105, 20x106 and 20x107 cells/ml) were introducing in concrete specimen, to find the optimum cell concentration of bacteria cell. From the optimum cell concentration the crack width measurements are carried out at the age of 7 days, 14 days and 28 days respectively. To calculate the crack width by two (Wet &Dry) different methods of healing agents were used. Microbial concrete have that enhancement of compressive and tensile strength. The formation of calcium carbonate was observed and visualized by scanning electron microscopy (SEM). Chemical composition of sample analyzed by energy dispersive spectrometer (EDS). Identification and quantification of bacterial concrete observed by X-ray diffraction (XRD).

Keywords: Bacillus Subtilis, EDS, MICCP, SEM, XRD

References:


Hydroponis a Sustainable Agriculture Production System

Abstract: Agriculture stands as a center-piece in Indian economy. In spite of being important, it faces challenges from production to financial incompetence’s. Indian agriculture is raged by several problems such as meager farm equipment’s, lack in quality toolsets, unusual monsoons or outbreaks of pest. Our present day world emerges with innovative technologies in farming such as soil and moisture sensors devices, meteorological tracking systems, remote sensing through satellite imagery, autonomous rovers and drones, agri-genetics, RFID tracking devices and finally vertical farming technology to help us transform our challenges into opportunities. These technologies can help us to transform our Indian agriculture farming systems into be a sustainable one. Sustainability in agriculture is possible only, when we have a constant supply of natural resource such as sunlight, water, moist-air, soil, and organic manures rich in nutrients in its proportion. To achieve this system, we must develop a controlled environment to check all the parameters of natural resources and use them according to their needs and quantity. Hydroponis is promise ably one such sustainable method of cultivating plants comparing to traditional farming techniques. The uniqueness of the system is utilization of water to less than 10 %. Secondly, the hydroponic system yields more veggies and fruits in a short span of time. This is achieved by selecting proper grow bed such as alluvial soil balls, rock wool, charcoal and gravels. The medium is selected based on nutrient retention rate in the grow bed with respect to cultivation of veggies. Hence, hydroponis agriculture production system gives promising yield round the year. And also, this system is commercially scalable and adaptable by all sectors of people. We can either start as small green house system in home or to a highly productive industrial scale. The paper proposes one such home based hydroponics system for tomato plants. The system follows ebb-flow method in hydroponics cultivation with fine grained gravel stones as grow bed medium. To monitor the growth of tomato plants, the system is equipped with sensors. These sensors measure the growth rate with respect to nutrient supplies for tomato plants. It is done in a controlled physical environment through IoT enabled devices. Thus, ensuring its yield for a sustainable productivity.

Keywords: Sustainable production, Hydroponics, Nutrient solution, IoT, Thingspeak

References:
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Authors:

Susmitha Peeka, Sabiya Tabassum, Dhanushya Pallem, Sowmya Aravapalli, M. Sobhana

Paper Title:

Visualization of Real-time Twitter Data based on Sentiment Classification

Abstract: Analyzing information from social media sites could bring great challenges and opportunities to solve many real time problems. It gives the public opinion about almost every product, personality or any service. The data from social networking sites is more accurate and useful to analyze the public sentiment about the trending topics. The activity of analyzing opinions, sentiments and also the subjectivity of data that is provided, is called sentiment analysis. Twitter is an easy-to-use python library which is used to extract source data from twitter. From these tweets, features are extracted and then classified using Naïve Bayes algorithm to identify sentiment. This aims to provide an interactive automatic system which predicts the sentiment of the tweets posted in social media using python in real-time. These applications of sentiment analysis are broad and they tend to be very useful in today’s lifestyle. It will evaluate people’s sentiment about the trends, entertainment, political issues and products which helps to improve marketing strategies with the help of hashtags, keywords etc.

Keywords: Trending Topics, Real-time, Sentiment Analysis, Twitter, Python, Tweepy.

References:

Abstract: The research is aimed at overcoming the uncertainties associated with the reform of legislation regarding the technical regulation of the building industry. The main goal of the paper is to systematize the normative base of building of Ukraine in the conditions of adaptation of normative documents to the requirements of the European Union. In order to achieve this goal, an analysis of the peculiarities of the information resource was conducted and the nature of the uncertainty contained in the normative documentation of the industry was investigated. The status of modern electronic databases of normative documentation in the building and building materials industry of Ukraine is described. The scheme for identifying different documents on the same issue is proposed. The possibility of applying methods and methods of fuzzy mathematics to formalization of texts of building norms and rules and expression of their semantics in the internal language of the Semantic Text Information Analysis System is shown. The practical value of the paper is seen in the improvement of the organizational and technical system “Technical Regulation in Building” by minimizing the number of regulations on the same issue and achieving consistency between normative. The paper's scientific novelty of is to apply the model of artificial intelligence to the solution of the problem of semantic analysis of documents contained in electronic bases of normative documentation of the system of technical regulation in building. The capability of artificial neural networks of the ImegNet category to solve the problem of semantic analysis text documents of Building Normative Base is proved. Further researches will focus on formulating the Text Information Analysis Models and Methods of the Text Information in the Building Normative Base of the or•ganizational and technical system “Technical Regulation in Building” by minimizing the number of regulations on the same issue and achieving consistency between normative. The paper's scientific novelty of is to apply the model of artificial intelligence to the solution of the problem of semantic analysis of documents contained in electronic bases of normative documentation of the system of technical regulation in building. The capability of artificial neural networks of the ImegNet category to solve the problem of semantic analysis text documents of Building Normative Base is proved. Further researches will focus on formulating the Text Information Analysis System knowledge base and adapting the Deep Structured Semantic Model to the task of assessing the degree of closeness between a Semantic Request and a Semantic Document. The results can be used to improve other workflow systems.

Keywords: building norms, collision, semantic analysis, artificial neural network, text information.

References:


2015.

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<tr>
<th>Authors:</th>
<th>P. Lakshmi Supriya, P.Ram Kishore Kumar Reddy</th>
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<td>Paper Title:</td>
<td>Fire-Fly Algorithm Based ANN Classification of Power Transformer Faults</td>
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<td>Abstract:</td>
<td>Monitoring and estimating the states of the transformer during faulted phase condition is essential to continuity of supply. Varied techniques are proposed for faulted phase detection to improve condition assessment. In this paper, we propose a novel method to detect and classify power transformer faults using wavelet transform Multi Resolution Analysis (MRA) as feature extracted parameter vector and Fire-Fly Algorithm (FFA) based Artificial Neural network training as classification method. The observed Dissolved Gas Analysis (DGA) waveform data is analyzed with wavelet transforms (WT) to identify abnormalities which is supported by MRA. In MRA, the current, voltage and temperature of winding and oil are decomposed into high and low frequency components. The magnitude of components, signifies the feature vector, gives a detection criteria. After detecting feature vector, dominant coefficients of WT can be used to train the ANN with FFA based learning algorithm. Different types of faults are created on transformer such as Single Line-Ground (SLG), Line-Line (LL), Double Line-Ground LLG, Three phase fault (LLLG) for the analysis using WT and ANN. The detection and classification of the fault signal are executed and examined in different winding location and different fault conditions. Finally, the presented precise model recognizes the faults based on performance metrics with high classification accuracy for various classes.</td>
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<td>Keywords:</td>
<td>Artificial Neural networks, Dissolved Gas Analysis, Fire-Fly Algorithm, Multi resolution Analysis</td>
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<th>Authors:</th>
<th>Riya Jain, Neeta Pandey</th>
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<tr>
<td>Paper Title:</td>
<td>Realization of Various Topologies of Adders Based on H-Dycml</td>
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<tr>
<td>Abstract:</td>
<td>Power consumption minimization in a circuit becomes imperative with growth in demands of portable goods. However, at the same time, its speed limits the performance of a system. Therefore, there is a need of choosing optimum circuit architecture that takes into account the both conflicting parameters, that is, power dissipation and speed. Arithmetic unit is one of the vital components of portable goods and out of all arithmetic operations, adders are the most commonly used. To address the issue of high power dissipation, low-power designing styles are becoming prominent now-a-days. Hybrid Dynamic Current Mode Logic is high-speed, low-power designing style that has been recently proposed in literature. Therefore, this paper presents the comparison between performances of various topologies of adders that are implemented using a high-speed, low-power designing style: Hybrid-Dynamic Current Mode Logic (H-DyCML). All the circuits are realized in Cadence Virtuoso using 180nm CMOS technology parameter. Various performance parameters are evaluated such as: Delay, Power, Power-Delay Product, and hardware utilization. It is found that carry look-ahead adder out-stands other adders in terms of overall performance.</td>
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<td>Keywords:</td>
<td>Ripple Carry Adder, Carry Skip Adder, Carry Look-Ahead Adder, Carry Save Adder, Carry Select Adder, H-DyCML</td>
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Authors: Fazil N, V Venkataraman, Madeva Nagaral

Paper Title: Mechanical Behavior of AA2124 Alloy with 12 wt. % of B4C Particulates Reinforced Composites

Abstract: In the current investigation, the mechanical properties of AA2124-12 wt. % of B4C composites were displayed. The composites containing 12 wt. % of B4C in AA2124 alloy were synthesized by liquid metallurgy method. For the composites, fortification particles were preheated to a temperature of 400˚C and afterward added in ventures of two into the vortex of liquid AA2124 alloy compound to improve the wettability and dispersion. Microstructural examination was carried out by SEM. Mechanical properties of as cast AA2124 alloy and AA2124-12 wt. % of B4C composites were evaluated as per ASTM standards. Microstructural characterization by SEM confirmed the distribution and presence of micro boron carbide particles in the AA2124 alloy matrix. The hardness, ultimate strength, yield strength and bending behaviour of AA2124 alloy enhanced with the incorporation of 12 wt. % of micro B4C particles. Further, ductility of AA2124 alloy decreased with the presence of B4C particles. Tensile fractography were studied on the tested samples to know the various fractured mechanisms.

Keywords: AA2124 Alloy, B4C particles, Mechanical Behavior, Fractography.

References:


Authors: P. Sneha, K. Vijaya Krishna Varma, S.R. Shiva Kumar, B.V.R. Ravi Kumar, M. Venkata Ramana

Paper Title: Effect of Skewness during Friction Stir Welding of Dissimilar Aluminium Alloys EN AA 5083-H116 and EN AA 6082-T6 Including Fracture Observations

Abstract: The corrosive resistant aluminium-magnesium alloy AA 5083-H116 and aluminium-silicon alloy AA 6082-T6 is widely used in ship building, marine and various structural applications. FSW is an emerging solid state joining process suitable for joining the aluminium alloys with minimized formation of weld defects like cracks, porosity etc. compared to other fusion welding processes. This research work presents FSW of EN AA 5083-H116 and EN AA 6082-T6 using skew tool pin profile with the consideration of influential process parameters like tool rotational speed of 710 and 900 rpm at constant traverse speed of 16 mm/min. Radiographic inspection has been performed for evaluating the weldments soundness. From the radiographic results it has been found that at higher rpm i.e at 900 rpm the occurrence of lack of fusion is more compared to the weldment fabricated at 710 rpm. Tensile properties and fractural observations were carried out on the weldments. It has been noted that good mechanical properties were observed with the weldment fabricated at 710 rpm with high tensile strength of 160 MPa. From the fractural observations it has been observed that all the specimens are prone to ductile fracture, besides shear lips were observed at specimens fabricated at 900 rpm.
Abstract: Remote sensing and GIS based vegetation monitoring offers lot of potential for ecosystem studies. This study utilized freely available moderate resolution Landsat images to quantify the changes in vegetation dynamics in Dibru-Saikhowa national park, India. A wide range of vegetation indices and temperature indices such as normalized difference vegetation index (NDVI), land surface temperature (LST), vegetation condition index (VCI), temperature condition index (TCI) and vegetation health index (VHI) was utilized for the purpose of the study. Results reveal that the study area has gone through changes in vegetation and temperature pattern affecting the land surface balances. The maximum NDVI value for the year 1996 was recorded between 0.5-0.8 whereas the maximum LST values ranged between 12.40°C-34.85°C. In 2019, the maximum NDVI values reduced to the range of 0.14-0.6 while LST increased to 18.95°C-38.91°C. Consequently, the VHI classes showed a negative trend. In 1996, healthy vegetation covered a total area of 14564.6 ha which reduced to 9872.1 ha in 2019. Conversely, the no vegetation class showed a significant positive trend from 951.3 ha to 3015.99. Such alteration in vegetation dynamics in the study area is affecting the local climate and regional ecosystem services and require instant attention of conservationist and policy makers.

Keywords: Lst, Ndvi , Tci , Vci, Vegetation Dynamics, Vhi.

Reference:


Abstract: Low standards of air quality are amongst the greatest in ranks of risks to public health as well as the risks to climatic conditions. A substantial amount of costs and efficiency misfortunes are identified with poor indoor air quality. Air quality is extraordinarily troublesome for plenty to gauge or sense; therefore, the general population can't say whether air quality is undesirable. In the interim, the vast majority of the predominant air quality action gadgets are intended for experts; It is expensive and on the far side the compass of normal clients. Throughout this paper, associate degree robot application based mostly real-time AQI. A cost effective wireless sensor network system for indoor air quality monitoring applications. The Portable Air Quality Detector for Personal Health Monitoring is created, which could be handily used for private body space micro-climate watching and conjointly useful for individuals suffering from metabolic bother by unceasingly watching the parameters that are harmful. The detector node is enforced with a most well-priced small gas-sensors.

Keywords: Arduino, Bluetooth, Sensors, Android, Air Quality, Real-time AQI.

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Authors: Shivang Agarwal, Abhinav Banerjee, Abirami G

Paper Title: Portable Air Quality Detector for Personal Health Monitoring

Abstract: PC Networks and Internet has become acclaimed these days since it fulfills individuals with varying needs by giving assortment of perfect service. Computer Networks have reformed our utilization of PC. Debits, Purchasing from e-commerce and many other needful activities performed by a single click from our homes. In spite of the fact that it is an aid right now, likewise has its own dangers what's more, shortcomings as well. Enterprises need toussle to give security to their systems and in reality not conceivable to offer a cent percent security because of the immaterial knowledge of hackers meddling into the network. This paper gives the idea of honeypots for securing the network of the different organizations which might not have custom intrusion detection system or firewalls. The proposed model shows the different techniques utilized by hackers and makes a log of all hackers exercises. Hence utilizing this log, the network can be kept from assailants.

Keywords: Honeypot, Network, Intrusion, Honeynet.

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Authors: D. Rajesh, M.I. Thariq Hussan, B. Sri Vastav

Paper Title: Network Protection using Honeypots


Keywords: Hackers exercises. Hence utilizing this log, the network can be kept from assailants. Honeypots for securing the network of the different organizations which might not have custom intrusion detection system. This paper gives the idea of honeypots for securing the network of the different organizations which might not have custom intrusion detection system or firewalls. The proposed model shows the different techniques utilized by hackers and makes a log of all hackers exercises. Hence utilizing this log, the network can be kept from assailants.
Abstract: Prediction of diseases is one of the challenging tasks in healthcare domain. Conventionally the heart diseases were diagnosed by experienced medical professional and cardiologist with the help of medical and clinical tests. With conventional method even experienced medical professional struggled to predict the disease with sufficient accuracy. In addition, manually analysing and extracting useful knowledge from the archived disease data becomes time consuming as well as infeasible. The advent of machine learning techniques enables the prediction of various diseases in healthcare domain. Machine learning algorithms are trained to learn from the existing historical data and prediction models are being created to predict the unknown raw data. For the past two decades, machine learning techniques are extensively employed for disease prediction. Despite the capability of machine algorithm on learning from huge historical data which is stored in data mart and data warehouses using traditional database technologies such as Oracle OnLine Analytical Processing (OLAP). The conventional database technologies suffer from the limitation that they cannot handle huge data or unstructured data or data that comes with speed. In this context, big data tools and technologies play a major role in storing and facilitating the processing of huge data. In this paper, an approach is proposed for prediction of heart diseases using Support Vector Algorithm in Spark environment. Support Vector Machine algorithm is basically a binary classifier which classifies both linear and non-linear input data. It transforms the non-linear data into hyper plan with the help of different kernel functions. Spark is a distributed big data processing platform which has a unique feature of keeping and processing a huge data in memory. The proposed approach is tested with a benchmark dataset from UCI repository and results are discussed.

Keywords: Support Vector Machine for Heart disease machine; Spark MLLib for heart disease prediction; big data for disease prediction; machine learning algorithms for disease prediction.

References:

Authors: M. Prashanthi Reddy, T. Uma Devi

Paper Title: Prediction of Diagnosing Chronic Kidney Disease using Machine Learning: Classification Algorithms

Abstract: Chronic Kidney Disease is a very dangerous health problem that has been spreading as well as growing due to diversification in life style such as food habits, changes in the atmosphere, etc. The branch of biosciences has progressive to a bigger extent and has bring out huge amounts of data from Electronic Health Records. The primary aim of this paper is to classify using various Classification techniques like Logistic Regression (LR), K-Nearest Neighbor (KNN) Classifier, Decision Tree Classifier Tree, Random Forest Classifier, Support Vector Machine (SVM), and SGD Classifier. According to the health statistics of India 63538 cases has been registered on chronic renal disorder. Average age of men and women susceptible to renal disorders occurs within the range of 48 to 70 years.

Keywords: Chronic kidney Disease, logistic Regression, K-Nearest Neighbor, Support vector machine (SVM).

References:
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Authors: V. Priyankaselvi, R. Sivakami

Paper Title: Strong Authentication using Encrypted Negative Password

Abstract: Passwords are mostly employed in every place within the world. Nowadays maintaining password is extremely difficult. Because Passwords could also be leaked from weak systems. passwords that are given by a human is easy to identified and cracked. Initially password given by a user’s often select weak passwords and it can be reused. Unauthorized person may enter into the login process and they hacked a Password very easily. Passwords are usually in the kind of hashed passwords. During this work it develops a Secured Smart lock using Strong Authentication. it’s a raspberry pi connected to the Wi-Fi, a camera, a key pad system and a lock system. the house owner can give access to the guest by IoT. He can even send the One-time password to the guest mobile to enter the house. The owner can view the one that is before of the door using the camera.

Keywords: Authentication, IoT, Password, Smart lock

References:
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Clustered of Multidimensional Big Data using Enhanced K-Mean Algorithm

Abstract: One of the basic issues with K-means clustering is that it just merges to nearby optimum which is simpler than comprehending for worldwide optima however can prompt less ideal union. This is especially valid for enormous information as the underlying focuses assume a significant job on the exhibition of this calculation. The paper proposes a novel K-means clustering algorithm which presents a technique to discover advanced area of beginning focuses and introductory number of bunches. This outcome in getting last arrangement of bunches means clustering algorithm which presents a technique to discover advanced area of beginning focuses and introductory number of bunches. This outcome in getting last arrangement of bunches.

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Authors: Jagdish Kushwah, Shailesh Jallore, R.S.Thakur

Keywords: Artificial Intelligence, Big Data, Cloud Computing, K-means, MapReduce; R.
This article makes a humble attempt to iterate on the need of quantifying the value of data based on their accuracy. The article is an opinion paper that weaves around the philosophies of accounting, data science and tries to mimic the value web model from management science, for understanding the methods of quantifying the data. A thorough review of the literature and existing regulatory framework is done to derive the insights for the article. The paper helps Chief Information Officers, Chief Financial Officers and Chief Technical Officers to understand and value the information used in the business however does not restrict itself to the strategic information systems vested with these apex authorities. The paper believes that the value for data is generated from the moment it enters into the information system or the manual records maintained and gets enriched with each and every additional transaction. Once a value is attached, the policies to manage and govern the information would automatically fall in place.

Keywords: Data as an Asset, Data Ownership, Data Privacy, Data Supply Chain.

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In this paper, a study is performed for designing of Solar Rooftop photovoltaic system for factory complex. The detail design analysis for the accurate design is presented. The suitability of proposed plant is analyzed using PVsyst software. Taking consideration of proposed design, 300 KW solar rooftop photovoltaic plant is installed. The data monitoring of installed solar plant is an essential part for accessing efficiency of plant with respect to estimated capacity. In this paper, implemented IOT model for cloud based data monitoring system is presented. The presented data analysis of this paper is helpful for commercial analysis of solar photovoltaic project.

**Keywords:** Rooftop Photovoltaic System; Renewable Energy System; PVsyst, Grid Connected PV System, Solar, Energy Analysis, IOT, Data Monitoring.

**References:**


Authors: Inapanuri Aditya Hemanth Kumar, Anne Jagadeesh, Malla. Praaveen, Isukapatala Brijesh

Paper Title: Multifunctional Rendering Swarm Robot

Abstract: Multifunctional Rendering Swarm robot make a huge impact in this present busy world . This robot works perfectly as an surveillance robot as well as an personal assisting robot for household purposes and most of the work that carried on is swarm mechanism of the personal assisting robots. This have dual mechanism for moment such as mecanum wheel as well as Klann mechanism to the six legs to overcome the hard terrain landscapes in particular house surroundings , with and arm mechanism to pick and place of assigned objects. This robot can be controlled by voice as well as limited hand gestures to perform tasks which use text to speech and speech to text, Convolution Neural Networking (CNN) respectively . This robot have a 3600 night vision camera for surveillance at night times through OpenCV . This will be doing parallel jobs such as talking to you as an assistant , cleaning house , and many more . as the advancement in the world is not up-to the real time applications, this helps in interfacing future and present situations to get updated. As swarm robots, this will be updating its status to the fellow robots and assigning particular task to divide and do faster which depends on deep learning and artificial intelligence. All this can be acknowledged an assistant , cleaning house , and many more . as the advancement in the world is not up-to the real time applications, this helps in interfacing future and present situations to get updated. As swarm robots, this will be updating its status to the fellow robots and assigning particular task to divide and do faster which depends on deep learning and artificial intelligence. All this can be acknowledged and examined by any nominee of the user who are at distant places in case of any emergency and respond as a speech modulation talk back , digital display available for commands display or any work been processed, time consuming smart work is been done through this robot. This is also equipped with the sanitizer for the people hygiene and safety. This robots can also be used in military, schools, software industries and many more industries.

Keywords: Klann Mechanism, Macanum wheel, Night Vision Camera, Surveillance Robot, Swarm Robot.

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Authors: Preshanth A.R., Rufus Samuel, B. Vasudevan

Paper Title: Water Monitoring System using Unmanned Surface Vehicle

Abstract: In today’s world where climate activists focus more on large water bodies like seas and oceans, many smaller water bodies which lie neglected are also being contaminated. These smaller bodies also affect the groundwater, which gets unnoticed. The system checks parameters such as turbidity, temperature and pH levels. In addition to these monitoring, the depth of the water is measured to check whether any unnoticed large dumping/deposition had occurred. It is integrated on a USV so that human intervention is minimized. This system aims to provide continuous quality surveillance of water in places where large scale monitoring is not feasible.
with the help of LoRa Communication which ensures low energy consumption and easier to implement compared to IoT technology. It can be implemented in rural as well as urban water bodies to check whether the quality of water has deviated from regular levels due to any external factors.

**Keywords:** LoRa, USV, Water monitoring.

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**Authors:** Si-Huy Ngo, Trong-Phuoc Huynh

**Paper Title:** Recycling of Vietnam Coal Bottom ASH in Eco-Friendly Brick Production

**Abstract:** This study is conducted with the main purpose of recycling the Vietnam coal bottom ash (BA) in the production of eco-friendly construction bricks. BA was used as a fine aggregate to replace stone powder in the brick mixtures. Six brick mixtures with stone powder/BA ratios of 100/0, 70/30, 50/50, 30/70, 15/85, 0/100 were used for the preparation of brick samples. Performance and microstructure of the finished bricks were tested through the tests of compressive strength (CS), ultrasonic pulse velocity (UPV), electrical resistance (ER), thermal conductivity (TC), and scanning electron microscopy (SEM). The results show that the 28-day brick samples incorporating 0 – 100% BA had the values of CS, UPV, ER, and TC in the ranges of 16.1 – 61.3 MPa, 3469 – 4208 m/s, 20.2 – 54.6 kΩ.cm, and 0.75 – 2.2 W/mK, respectively. The SEM observation shows that the increase in the number of void and pore with different sizes was found with the increase in BA content, resulting in the less dense microstructure that adversely affected the quality of the brick samples. However, all brick samples produced in this study had properties conforming to requirements by the official Vietnamese standard and are classified as grade M15.0 or higher. The results of this study further demonstrated the great potential of recycling the Vietnam BA in the production of bricks for real practice.

**Keywords:** Coal bottom ash, eco-friendly brick, compressive strength, ultrasonic pulse velocity, electrical resistance, thermal conductivity, SEM observation.

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**Authors:** V.Yamini Anoosha, Kushal D Gowda, Saathvik Bhat, Manjunath Sagar, Vijay Jaya Vignesh

**Paper Title:** Computational Analysis and Optimization of Boxwing Aircraft for Reducing Induced Drag

**Abstract:** The paper describes the importance of reducing induced drag built up due to tip vortices which is caused by the lift produced by the aircraft wings. In this paper the effectiveness of boxwing is improved by reducing the induced drag on the boxwing. With this the practicability of boxwing rises to new level. The airfoil
impact on the boxwing is studied and different airfoils are selected accordingly. Supercritical airfoils are analyzed and its importance is applied to boxwing as their practicality is observed. Here the effect of different supercritical airfoils when used for the front wing, aft wing and winglet according to their functionality are analyzed in the paper using sophisticated software. Then by selecting a specified commercial aircraft we can check the normal conventional wing computational results comparing the same aircraft with boxwing configuration on it. By this comparison we can determine by what percentage we would decrease the induced drag with the usage of boxwing configuration. The following work is done to ensure that the boxwing is applied into practical aircrafts such commercial aircrafts hence we have used a commercial aircraft as the base to determine boxwing effectiveness in a commercial perspective also. With the results of this paper one can decrease the induced drag to an extent where the uses of the boxwing in commercial aircrafts will exceed that of the conventional winged aircrafts. In future, its application to military aircraft can also be deduced as supercritical airfoils are also being used in fighter jets.

Keywords: airfoil impact on the boxwing.

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Authors: G.Pranavi, M.Pranava Brunda, P.Jashwanth, V.Naga Chaitanya, D.Rajeswara Rao

Paper Title: Semantic Image to Image Translation using Machine Learning Algorithms

Abstract: In semantic image-to-image translation, the goal will be to learn mapping between an input image and the output image. A model of semantic image to image translation problem using Cycle GAN algorithm is proposed. Given a set of paired or unpaired images a transformation is learned to translate the input image into the specified domain. The dataset considered is cityscape dataset. In the cityscape dataset, the semantic images are converted into photographic images. Here a Generative Adversarial Network algorithm called Cycle GAN algorithm with cycle consistency loss is used. The cycle GAN algorithm can be used to transform the semantic image into a photographic or real image. The cycle consistency loss compares the real image and the output image of the second generator and gives the loss functions. In this paper, the model shows that by considering more training time we get the accurate results and the image quality will be improved. The model can be used when images from one domain needs to be converted into another domain inorder to obtain high quality of images.

Keywords: Cycle GAN, Cycle consistency loss, Semantic, Translation.

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4. Feng Xiong, Qianqian Wang, Quanxue Gao, “CONSISTENT EMBEDDED GAN FOR IMAGE-TO-IMAGE TRANSLATION”,IEEE Access, Volume 4, PP: 1-11, IEEE 2018

Authors: A.Nagesh

Paper Title: Suspend

Authors: 1973-1976

Paper Title: Suspend

Authors: 1977-1982
### Paper Title: Language Identification based on Support Vector Machine using GMM Super vectors

**Abstract:** This paper proposes a novel approach that combines the power of generative Gaussian mixture models (GMM) and discriminative support vector machines (SVM). The main objective this paper is to incorporating the GMM super vectors based on SVM classifier for language identification (LID) task. The GMM based LID system to capture all the variations present in phonotactic constraints imposed by the language requires large amount of training data. The Gaussian mixture model (GMM)- universal background model (UBM) modeling require less amount of training data. In GMM-UBM LID system, a language model is created by maximum a posterior (MAP) adaptation of the means of the universal background model (UBM). Here the GMM super vectors are created by concatenating the means of the adapted mixture components from UBM. Then these super vectors are applied to a SVM for classification purpose. In this paper, the performance of GMM-UBM LID system based on SVM is compared with the conventional GMM LID system. Form the performance analysis it is found that GMM-UBM LID system based on SVM is performed well when compared to GMM based LID system.

**Keywords:** Language Identification, Gaussian Mixture Model, Support Vector Machine, Universal Background Model.

**References:**


### Paper Title: Experimental Flexural Behavior of Composite Beam using Cold Formed Hollow Square Section

**Abstract:** Structural hollow sections have excellent properties for resisting static loads, with regard to buckling, bi-axial bending and torsion. Structural hollow sections are generally used for truss components, considering greater stiffness and lateral strength. A square hollow section truss has about two third of surface area of same size I section. Hollow section truss may have smaller members as a result of higher structural efficiency. Construction of composite beam commonly includes I section. This paper deals with comparison of commonly used hot rolled or welded I composite section with cold formed hollow RHS and SHS composite section with respect to flexure and shear. Flexural tests were conducted to evaluate the structural behavior of the proposed composite beams. Two different steel sections were used for this study with nominal concrete strength of 30 MPa. The composite beams were tested under concentrated two points loading. The test results were plotted and compared with analytical results. The mid span deflections and slip were recorded for both composite beams. Buckling modes for both composite beams were identified. comparisons have been carried out between predicted beam strength as provided by Eurocode –4 and experimental test results. Sectional properties are checked for cold formed hollow square section using EN 1993-1-3.

**Keywords:** flexural strength, Shear strength, deflection, slip, buckling modes.

**References:**


### Paper Title: A Novel Integrated Strict Verification of Smart Contracts on Blockchain

**Abstract:** Blockchain is an evolving technology which helps in keeping records and process transactions in decentralized manner. Blockchain is considered as safest medium because of its decentralized nature and many protocols, algorithms which it follows to make sure that transaction are immutable. Blockchain concept basically uses BZT theorem, this is considered as one of secured algorithm to predict secure results. however formal
verification approach for the smart contract is still the best way to perform verification. In our paper, we have depicted various algorithm according to which we can verify the smart contract in best possible way.

Keywords: Smart Contracts, Blockchain, Formal Verification, BZT (Byzantine Fault Tolerance).

References:

Authors: Prathyusha Kanakam, ASN Chakravarthy

Paper Title: Future Internet for Service Oriented Applications

Abstract: As with growing internet, the objects in the system need to implant with the external environment. Every object is resided in distinct place and works in an interoperable way. This process of Smart living which involves various smart devices – Smart phones, Sensors, Actuators, Radio Frequency Identification (RFID) tags, etc., evolving in this modern era is coined as Future Internet or Internet of Things (IOT). This IOT associated with distinguished services and visions through which it can be identified among various domains. A distributed intelligence needs to be employed to the application specific machine in order to serve the human perception for the sake of smart forensics. This paper explores and interprets the next generation internet, its components, standards and services along with their applications in diversified fields. Authors provide a systematic exploration of existing IoT products in the marketplace and highlights several possibly meaningful research objectives and drifts.

Keywords: Future Internet, Internet of things, IOT Integrals, IOT Standards, RFID.

References:

Authors: N.Susmitha, T.Revanth, S.AnveshReddy, P.SobhaRani

Paper Title: Performance Analysis of Induction Motor using Ansys

Abstract: Squirrel cage induction motors are useful in constant speed and variable frequency drives applications because they are self starting and have high overload capacity. Though they are self starting, their design limits corresponding to torque should be large to meet the actual load conditions. To get optimum performance of motor, it needs unique design characteristics. Design of machines is a time consuming process. Proper methods are required for designing. ANSYS software is being used in recent times for designing electrical machines. In this paper, RMXprt tool box is used to design induction motor and its performance is analyzed using ANSYS Maxwell. In RMxpert, the induction motor's geometric model is designed and analyzed .In this model the machine rating is of 1100W with a rated speed of 1450 rpm and with rated voltage of 330V. With the help of this design, squirrel cage induction motor performance in terms of torque, power, efficiency, voltage and current can be analyzed for any rating.

Keywords: ANSYS, Induction motor (IM), Performance, Squirrel cage induction motor (SCIM).

References:
Prashanth M V, Vijaya Kumar M V, Chandrashekar M Patil

**Mobility Aware Deep Q-Reinforcement Learning Model for Building Efficient Agriculture Autonomous Robots**

**Abstract:** In recent years the research has shown that modern farms may be helpful in producing the higher amount of yields along with superior quality. Moreover, this might also help in being least dependent about the labor force. Management of digital farming and site-specific precision are few solutions, which depends on the sensor technology. Moreover, the field data collection is the best only with feasible utilization of agriculture robots (AR). For improving agriculture productivity the sensor are placed across land (geographically), these sensor sends information to multiple robots for carrying certain task such as soughing, harvesting etc. This manuscript conducted survey of various industrial robots model for agriculture environment. Using industrial robots for agricultural purpose is practically not a viable option due to complex environment. Cognitive architecture that exhibits human cognitive thinking is used for learning dynamic and complex environment with good result. In recent times, Society of Mind Cognitive Architecture (SMCA) has proposed using multi-agent and (MA) and Reinforcement learning (RL) technique. However, it is generally difficult to solve Markov decision process (MDP) problem. Thus, cannot be used under dynamic mobility and complex nature of agriculture environment. This is because MDP has many variables. For overcoming research issues, this work present mobility aware Deep Q-Reinforcement Learning (MADQRL) cognitive learning method for Society of Mind Cognitive Architecture by combining both RL and DL technique. The MADQRL are utilized for controlling mobility and communication power of robots according to dynamic environment prerequisite. Experiment outcome shows the proposed MADQRL method attain better performance than existing cognitive learning method considering memory efficiency, learning efficiency, and energy utilization.

**Keywords:** Agriculture, Autonomous robot, Artificial intelligence, Cognitive architecture, Deep learning technique, Mobility management, Reinforcement learning, Wireless communication.

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Raja Shekar P, Prasad K. M., Narla V. K., Bhuvanavijaya R.

**Thermal Radiation Effect on Entropy in Hydromagnetic Peristaltic Flow of a Jeffrey Nanofluid Through an Unsymmetrical Channel**

**Abstract:** The present work focuses on the thermal radiation effect in Hydro Magnetic peristaltic pumping of Jeffrey nano fluid in an unsymmetrical channel. The present work looks at the radiation effect, magnetic field, Brownian motion, thermophoresis, and buoyancy forces. Well established high wavelength and tiny Reynolds number assumptions are invoked. The exact solution for the velocity, concentration, temperature has been evaluated. It has been observed that temperature is reducing with increasing of Radiation parameter.
Keywords: Brownian motion, Buoyancy forces, Nanofluid, Peristaltic transport.; Thermal radiation, Thermophoresis.

References:

Authors: Komal Kashyap, K. Subhadrak, Peshimam Md Nadeem, B. Dandy Sabarish

Paper Title: An Efficient Detection System of Plant Leaf Disease to Provide Better Remedy

Abstract: Machine learning is the one of the leading studies in Artificial Intelligence to extend research irressistibly or give the edification to a particular task to implement a scenario. The role of machine learning is to deduce the format of the data, make it feasible to design models that can be easily understood and apply them. This application could also be done in the field of agriculture in detecting the crop diseases. Plant diseases caused by microorganisms lead to serious reaping loss all-around. The most frequently affected diseases to plants are bacterial Canker, Blank knot, Brown Rot, Anthracnose, Apple Scarb etc. The prototype framework in this research model is for predicting and identifying the plant disease and provides remedies that can be used as protective measures against the disease. The implementation of the model described in this paper incorporates dense neural networks (DNN) Algorithm which is the sub part of Convolutional Neural Network (ConvNet/CNN). To build the model we have used TensorFlow DNN models.

Keywords: CNN,DNN,Machnec Learning, Plant disease detection. Abbreviations: CNN-Convolutional Neural Networks, DNN-Dense Neural Networks

References:
2. Savita N. Ghawat et al., Detection and classification of plant leaf diseases using image processing techniques: a review (2014)
Abstract: The paper represents a batch appearance Geo/G/1 queueing structure with Geometric distribution numerous working arrival model is analysis. The organization distribution is inferred by utilizing the Markov chain process, different execution measures including expected organization size are determined. The distribution of the system states observed that such specific points is in reality indistinguishable with the distribution of the system states noticed at an capricious point on the continuous time domain. This is because an capricious point on the continuous time space falls somewhere in the halfway of a slot with probability 1. The organization state noticed at such a point is equivalent to that noticed immediately after the preceding slot boundary.

Keywords: Time averages, transmission line, signals, network, transportation, system states.

References:

Abstract: Communication is the main channel for the people to interact with each other, every day we see many people who are facing challenges like deaf, dumb, facing the difficulty to interact with others. Due to birth defects, injuries and oral disorders, there has been a dramatic increase in the number of deaf and deaf victims in recent years. As they are unable to communicate with normal people, they must rely on some kind of visual communication. Formerly developed techniques are all sensors based and they didn’t give the general solution and were not economical. One of the main paradigms that we focus on is to endeavour the linking between the Sign Language medium with the Standard English Language and thus providing the communication between the two communities in a seamless experience. This project is developed in such a way to allow two-way communication between the one who knows the sign language (deaf and dumb) and the one who doesn’t (rest). Our project uses camera to take images of different gestures and image processing technique is used to recognise gestures and give audio and text as an output. On the other hand, for the reply our project will also process speech to give back Sign language gestures as a reply to complete two-way communication.

Keywords: Speech to Text , HSV(Hue Saturation Value) Model;CNN (convolutional neural network); Image Conversion.

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Authors: Diriha Kajela Geleta, Mukdeep Singh Manshahia

Paper Title: Teacher Learning based Optimization Algorithm for Optimal Sizing of Hybrid Wind and Solar Renewable Energy System

Abstract: In this paper the Teacher Learning process Based Optimization (TLBO) algorithm was employed in order to optimize wind and solar hybrid energy. Minimizing total annual cost, by determining appropriate numbers components to satisfy the desired load based on the given constraints is the main concern of this research. The algorithm was recently innovated random search meta heuristic algorithm. When it was signed the actual of process learning in a class was simulated. The result has shown that TLBO could be applied to optimize hybrid system. It was concluded that, the algorithm converges to optimal solution with relatively good convergence rate.

Keywords: Hybrid Renewable Energy, Optimization, Nature Inspired Algorithm, Teaching Learning Based Optimization Algorithm.

References:

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Authors: A. Balamurugan, N. Govthum, U. Atchara, M. Kannan, R. Bharani Prasad

Paper Title: Surveillance using Face Recognition in Smart Cities

Abstract: In this project safe city demonstrates how the security in India can be increased with the help of video surveillance using facial recognition. In the Aadhar Card database, the Indian Government has stored fingerprint and iris details of every civilian in India. But the Indian Government is only using the Fingerprint details in the voting system to avoid fake votes. With the help of this project any person roaming in the city limit can be easily identified by the help of this system.
monitored. This will be a very useful technology for the Police Department of India to track the criminals and to reduce crime rate. Whenever a person or criminal is needed to be traced, the photo of the target is uploaded into the software. The uploaded photo will be cross-checked by the software with the videos captured from the surveillance cameras. It will then identify the person based on the percentage of accuracy to be matched. In the past 5 years Indian Government have made many cities into smart cities. But now it’s time to build safe cities for India.

Keywords: Eigenface, Face Recognition, TensorFlow, Computer Vision, Surveillance, Machine Learning

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Authors: Deepak Kumar Sharma, Samar Wazir, Tabrez Nafis, Amit Kumar

Paper Title: Mining Frequent Itemsets Over Uncertain Database using Matrix

Abstract: In the area of data mining for finding frequent itemset from huge database, there exist a lot of algorithms, out of all Apriori algorithm is the base of all algorithms. In Apriori algorithm each itemsets existential probability is examined with a given support count, if it is greater or equal then these itemsets are known as frequent itemsets. In this paper matrix technology has been introduced over Apriori algorithm which reduces execution time and computational complexity for finding frequent itemset from uncertain transactional database. In the modern era, volume of data is increasing exponentially and highly optimized algorithm is needed for processing such a large amount of data in less time. The proposed algorithm can be used in the field of data mining for retrieving frequent itemset from a large volume of database by taking very less computation complexity.

Keywords: Certain Transactional Database, Uncertain Transaction Dataset, existential probability, Matrix, Data mining, machine learning.

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Authors: P. Tammayi, R. Sri Harshini, Mahitha, Venkata Vara Prasad Padyala, K.V.D Kiran

Paper Title: Scrutinizing and Appraising the Usages of Cryptographic API

Abstract: Developing and maintaining an appropriate series of safety regulations that balance the abuse of cryptographic APIs is a daunting task as cryptographic APIs are continually changing with new primeval and cryptographic settings, rendering current versions balanced. We are proposing a new approach to eliminating security patches from thousands of code changes in order to resolve this challenge. Our approach involves (i) detecting program modifications that sometimes cause security fixes, (ii) an abstraction that filters trivial code changes (such as refactoring), and (iii) a cluster analysis that recognizes similarities between semantic program modifications and helps to obtain safety laws. We used our approach to the Java Crypto API and demonstrated that it is effective: (i) effectively filter changes in non-modification code (more than 99% of all changes) without removing them from our abstraction, and (ii) over 80 percent of code changes are security fixes that define security rules. We have established 13 rules, including new ones, based on our findings, that are not supported by existing security checks. CCS COCEPTS: Security and privacy → Systems security; Cryptanalysis and other attacks; Software security engineering;

Keywords: Security, Misuse of Cryptography.

References:

Abstract: Stock market consists of various buyers and sellers. The stock market value is dynamic. It means the stock market value is changed day by day. Actually stock has been represented as shares. The owner of the share may be an individual or group of peoples. In this current economic condition stock market value prediction is the critical task because the data is dynamic. Stock market prediction means to find the future value of the stock on a financial exchange. The expected prediction output to be accurate, efficient and robust value. Traditionally the stock values are predicted by using stock related news. But it does not provide a better result. Wrong prediction of stock value leads to heavy loss. Machine learning concepts play a very important role in various domains. It is also used to predict the stock market value with the help of collected data. This paper describes about stock market value prediction using machine learning SVM (Support Vector Machine) technique. This proposed concept is implemented by python programming language. This machine learning concept produces better prediction result compared with other machine learning techniques.

Keywords: Stock Market, Prediction, Machine Learning, Features, Preprocessing.

References:


Authors: S. Nandhini, V. Hima Bindu, Sanjit Yadav, Rajan Singh

Paper Title: A Road Mishaps Analysis using Decision Tree and Random Forest Algorithms

Abstract: AI (ML) is the investigation of calculations and factual models that PC frameworks use to play out a particular activity without utilizing guidelines and depending on designs. It is communicated as subset of man-made brainpower. In this, the sample data is split into test set and the training set. Major drawback for the deaths in world is recorded by the road accidents. Most of the deaths are occurred in the middle-income countries. These studies result in finding the major factors for road accidents using decision tree and random forests. Decision tree is a choice help device that is a like a tree model which contains just control explanations. Random forest corrects the decision tree for overfitting to their training set. In this, the decision tree and the random forest algorithms are used to find the severity and the factors for the road-accidents using driver’s personal information. Results conclude that the possibilities for the road accidents using the machine learning algorithms.

Keywords: Data Pre-processing, Feature Extraction, Feature Selection, Random forest, Decision tree, Test set, Training set.

References:

**Authors:** Salina Adinarayana, E Ilavarasan

**Paper Title:** A Three Stage Summarization Framework for Product Recommendation from Opinion Tweets

**Abstract:** This paper presents a three stage framework for feature-based rank of opinions around target product and features in a collection of product review tweets as twitter corpus. The main stages of the framework are discussed and presented the analysis of the sentiment with respect to features of the digital camera sales in ecommerce sites.

**Keywords:** framework, target product.

**References:**


**Authors:** Monica Khanore, Srija Unnikrishnan

**Paper Title:** Convergence and BER Approximation of HIC Detector for DS-CDMA System in Rayleigh Fading Multipath Environment

**Abstract:** In this paper we present mathematic analysis and implementation of hybrid interference canceller (HIC) for direct sequence-code division multiple access (DS-CDMA) system in multipath environment over Rayleigh channel. The HIC detector is examined for convergence. The bit error rate (BER) for the system is obtained using Simplified Improved Gaussian Approximation (SIGA). Using this expression, BER is plotted for the Rayleigh channel having exponentially decaying power delay profile (PDP) as well as flat PDP. The theoretical results are compared with the simulated system results.

**Keywords:** DS-CDMA, PDP, MAI, Multipath fading, SIGA, Convergence.

**References:**
References:


### Abstract

The category of liquids is in high demand because of the substantial increase in thermal efficiency as well as other nano fluid properties. During this study, the numerical assessment of nano fluids, such as CuO and ZnO, is considered to explore the nucleate boiling characteristics. Critical improvement of the heat flux during the boiling of the adopted nano fluids at specific VOF levels has been visualized. Computational findings show that thermal properties of nano fluids such as heat transfer coefficient, surface heat flux, bubble frequency increase with the maximum concentration of nano fluids. The results show a similar trend with the literature. ZnO nano fluid delivers better results after a time period of 1 s, especially in comparison to CuO and other nano fluids due to higher thermal conductivity.

### Keywords

- Nucleate boiling
- Heat flux
- Nano fluids
- Bubble frequency

### References


Authors: Susmita Bala, Biplab Bag, P. P. Sarkar, Sushanta Sarkar

Paper Title: Double F Shaped Dual Broadband Monopole Antenna for Application in Communication Field

Abstract: A printed dual broadband monopole antenna has been presented here for WLAN and WiMAX applications. The antenna is designed with the help of simulation software HFSS and proposed antenna is fabricated to verify the simulated results with the measured results. The patch of the proposed antenna consists of two identical metallic structures which are like English letter “E” and are placed face to face to each other. Now, the lower arms of E-shaped structures are connected together with a rectangular microstrip transmission line of length 15 mm and width 3.06 mm to form the proposed patch. The proposed “E” shape patch is printed on FR4 substrate of height 1.6 mm, relative permittivity εr= 4.4, and loss tangent 0.02. The ground plane of the proposed antenna consists of partial rectangular metal at opposite side of the patch. The proposed antenna achieves dual band characteristics using the proposed structure. The measured results show that the proposed structure covers the transmission bands from 2.45 GHz to 3.66 GHz with center frequency of 3.0 GHz and from 4.16 GHz to 5.94 GHz with center frequency of 5.37 GHz. There is a good improvement matching between measurement result and computer simulated results. The measured percentage bandwidths have been obtained by 39.1 % and 35.24 %, respectively. The peak gain (measured) at 3 GHz and 5.37 GHz resonant frequencies are 3 dBi and 4 dBi, respectively. The peak gain (measured) at 3 GHz and 5.37 GHz resonant frequencies are 3 dBi and 4 dBi, respectively. This proposed antenna also exhibits with monopole like E-Plane and H-plane co-polarization radiation pattern at two center frequencies. The obtained bands are useful for WLAN and WiMAX applications.

Keywords: Dual band, gain, monopole, radiation pattern.

References:


Abstract: Cardiovascular disease (CVD) is the most common cause of mortality worldwide, including in most Western countries and Asian countries such as Malaysia. Reports by The Department of Statistics Malaysia highlighted that ischaemic heart diseases and cerebrovascular disease, which are a few of CVD, was the principal cause of death in 2016 and 2017. At the same time, big data is a part of Malaysia’s fast-growing technology and has grown prominently in the six Malaysian government’s public sector clustering which are profiling, social, economy, transportation, education, and also in healthcare. This paper focuses on healthcare big data, which is a prime example of how the three Vs of data, velocity (speed of generation of data), variety, and volume, are an innate aspect of the data it produces. Most healthcare data analytics has been conducted in the United States and Europe, however there were some studies in Canada and very little in Asia. This study will be conducted in Selangor, Malaysia focusing on white-collar workers among the Selangor healthy community. Interviews will be held within medical practitioner or healthcare provider in order to collected information. The information available from the National Cardiovascular Database (NCVD) published reports will be used to conduct the data analysis experiments which will lead towards the identification of CVD risk factors. The results obtained show that data crawling of social media data can be used as a means towards healthcare big data analytics. This will hence aid in the Malaysian healthcare integration process and aid the Malaysian government to provide better healthcare for the overall Malaysian healthy community and society.

Keywords: Cardiovascular Disease, Malaysia CVD Prevalence, Healthcare Big Data Analytics, Social Media Data Crawling.

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Authors: K. Udayakumar, N.P. Subiramaniyan

Paper Title: Monitoring and Intelligible Alert System to control Water Quality in Reverse Osmosis Plants

Abstract: The classification of drinking water quality severity from RO production plant needs appropriate methods to provide intelligible alert to the operators who involve to carry out remedial action in pace with the production. The proposed technique finds more relevance to detect instantly the quality variations in plant through efficient classification system and drives to reduce the cumbersome of operators. In this paper, it is proposed a SVM based classification method to detect drinking water quality attributes temporally and then precisely classifying severity condition in order to correct quality derivations. A different control scheme is experimented to detect quality variables like pH, TDS, ORP and EC and to support production system. Thus this contributes an automated diagnosis of water quality in RO plant. For classification, SVM is trained with data obtained around 8 plants from West and North of Chennai region. This is demonstrated specifically for a top-level classification job on Quality. On the features extracted from 1280 data, the SVM is trained and achieves a sensitivity of 85% and an accuracy of 90%.

Keywords: pH, Total Dissolved Solids (TDS), Oxidation-Reduction Potential (ORP), Electrical Conductivity (EC), Reverse Osmosis (RO), Support Vector Machines (SVM).

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Authors: Swati Vithal Khidse, Santosh S. Lomte
Paper Title: Secured Access and Security Issues of Maintenance for Cloud Database
Abstract: Users are using the cloud database services for storing their important data in order to utilize cloud services. Data confidentiality remains one of the main concerns and the major barrier to the development of cloud services. But at the same time users also think about whether there data is in secured hands and how it is protected from the outside world? In order to make sure users that there data is in safe hands, cloud database are using more secured mechanism for accessing the cloud database. In order to achieve the goal of security we are using AES and honey encryption (HE) algorithm for strong authorization. Before authorization we need to have authentication of the users. We are using keystroke dynamics as a biometrics authentication and second one as color code authentication. Cloud databases should also be properly maintained from security point of view. For the different levels of the cloud database we have find out the security issues which provide help in maintenance of cloud database. By implementing these issues the security of the cloud database will be more increased.

Keywords: Honey Encryption, AES, Cloud Database

References:
Authors: Ebtessam A. Mohamed, Naglaa Moussa Balabel

Paper Title: Control the Activity of Erwinia Amylovora Bacterium by Magnetic Field

Abstract: We study the effect of promoting low magnetic field exposure on antimicrobial activity against Erwinia amylovora (E. Amylovora) bacterium. For this purpose, we treated E. amylovora at 28°C with two intensities (0.2T and 0.5T) of the magnetic field for one hour to see the intensity of bacterial growth inhibition. Bacterial growth was measured in experimental samples. The results indicate that exposure to E. amylovora to 0.2T and 0.5T for 1 hour reduced bacterial growth. Dielectric relaxation studies of treated and untreated alive bacterium showed changes of the surface charge distribution of the bacterium which indicates changes in the receptor properties and hence cell communications. A vivo study was conducted to test the pathogenicity of both control and exposure E. amylovora samples on healthy plants of tomato. Symptoms caused by pathological effect were more high in tomato plants injected with un-exposed bacteria, compared to bacteria treated with the magnetic field. E. amylovora, which was exposed to a magnetic field for an hour, adjusted its cellular activity, slowing the rate of growth and affecting microbial pathogenicity. The effect was higher at 0.5 T than 0.2 T. We concluded that magnetic field formation is a promising technique for treating this type of bacteria.

Keywords: Magnetic field, bacterium, Dielectric relaxation, E. amylovora

References:

Authors: Ratih Kartika Dewi, Yuita Arum Sari, Agus Wahyu Widodo, Faishal Pradiptha Astungkoro, Nurul Ilmi Muhiilah Aziz

Paper Title: Testing for Recommendation Method in M-Health Sports Venue Recommendation System

Abstract: Exercising can make the body produce more endorphins so people with regular exercise are more resistant to stress than those who have little physical activity. We can get a recommendation of the sport venue in search engine, but it can’t accommodate personal preference. The mobile application for sports venue recommendations (M-health) with specific attribute weighing that can accommodate user preference for a specific attribute can be implemented with the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)
algorithm. TOPSIS was chosen as a recommendation algorithm because it has a relatively low level of algorithm complexity, so it is suitable to apply in mobile devices. To test the recommendations that are processed with TOPSIS, correlation testing is done as an alternative test besides accuracy. In general, the system takes the user's location coordinates and then recommends a Futsal court based on location, price and the number of courts. First, the user is inquired to enter the weights for each criterion. Then the user gets a recommendation for a Futsal court according to the user's current location. If the user wants detailed information about the desired futsal location, the user can click on one of the futsal places and then the detail page will be appear. After seeing the details of the selected futsal place, users can view the map to go to the relevant sports venue from the user's current location. Testing the recommendation system was based on correlation testing to see the correlation between the recommendations built by the system compared to the user's preference choices. Correlation testing was carried out to verify whether there was a relationship between the results of the TOPSIS recommendation and the user's preference of sport venue. The correlation between them shows a positive correlation with a value of 0.770769231.

**Keywords:** Mobile recommender system, TOPSIS, M-health, test of correlation.

**References:**


**Authors:** Kulkarni Sheetal V., S. Poornapushpakala

**Paper Title:** CT and MRI Neuroimages for Assorted Brain Diseases

**Abstract:** In medical analysis, Neuroimages take part in a very imperative role for diagnosing the various Brain disorders. This paper focuses on various Neuroimages such as CT, MRI, of Brain which are used as focal point for range of brain diseases and it is valuable for the early detection of brain diseases. This review enlightens the researcher to identify the symptom’s of brain disorder from Neuroimages. Also, this survey is a platform for the researcher to begin the work in the area of Neuroimage disease solutions. Till date, the research has been done on any one type of Neuroimages and their various methodologies. Significance of this work is to focus the collection of various brain diseases information. This paper covers the discussion and methodologies implemented in recent research in neuro diseases. It focus towards the identification neuro diseases in the field of medical image analysis.

**Keywords:** CT, MRI, Brain Disorder, Neuroimage.

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Authors: Zainidinov Khakimzhan Nasiriddinovich, Sharibaev Nosir Yusupjanovich, Juraev Sherzod Sobirjonovich

Paper Title: Processing the Cardio Signals of Wavelet Function

Abstract: A method for processing and analyzing ECG signals based on wavelet transform in an electrocardiography system is proposed. The ECG spectrum is arranged in a series of Gaussian delta functions. A method of vector representation of data in binary codes is proposed. This method allows you to detect minor changes in subsequent studies.

Keywords: ECG signal, wavelet transform, delta function, series expansion..

Authors: P. Vineetha, L. Padma Sree, M. Rama Devi

Paper Title: Development of Text to Speech Conversion System for Low Vision and Blind People

Abstract: Around the world 285 million individuals are found to be visually challenged out of 7.4 billion populations found in a survey made by World Health Organization. These people face many problems but the major problem is reading. It is observed that they cannot read the text which is not written in braille. In the thought process of supporting them, here is a framework proposed for the visually challenged people which can perform content recognition and produce voice yield. This can assist the visually challenged people with reading any printed content and convey in speech output. A camera is utilized to capture the content from the printed content and the captured picture experiences progression of picture pre-preprocessing steps to get the content of the picture and expels the background. Characters are identified utilizing Tesseract-Optical Character recognition (OCR). The identified script is then changed into voice, utilizing open source speech synthesizer (TTS). Finally, the speech output is heard by the earphones.

Keywords: Embedded Processor, Tesseract OCR, Speech Synthesis (TTS).

References:


Authors: Eko Nugroho Julianto, Ulfatun Ni mah

Paper Title: The Water Distribution System Performance in Sekar Gading Residence

Abstract: Water distribution systems are built to meet the water needs of a city or community. The management of water distribution can be conducted by government agencies as well as independently as in Sekar Gading Residence. The aim of this study was to determine the performance of water network service managed by Sekar Gading Residence Service by analyzing the performance of network service to network ability in fulfilling minimum requirement of customer from water discharge side. The result of debit analysis from water meter showed that the reliability level was 70%. While, the system can be considered to be satisfactory if the minimum reliability level of 80% is fulfilled. Therefore, the water management system would be n failing condition about 2.94 months, and with very failure rate varying between 14.29% to 71.43% deficit. The conclusion of this study is the performance of clean water network service in Sekar Gading Housing was not up to the optimal solution.

Keywords: Evaluation; performance; reliability; resiliency; vulnerability; water distribution.

References:

Performance of the Semarang Container Terminal

Abstract: The number of container boxes handled at the container terminal dynamically fluctuates as a function of a number of parameters. The most prominent variables influencing are the Economics’ National Program, the location and trading characteristics of the terminal, and the land use programs of hinterlands. Further, it is one terminal could serve more than one quay simultaneously. This research was conducted in order to determine the optimal performance of container terminals, along with the utilities to the increase in container terminal services Semarang. The results are expected to reveal the existing problems related to the services of a container terminal, especially regarding the following matters: review and develop performance indicators container terminals that is optimized especially for Semarang container terminal (TPKS), knowing the performance level of the container terminal at TPKS utility, and knowing the number of containers optimal service units, ranging from dock to yard container based on the rate of arrival of containers in TPKS. The research methodology used in this study is as follows: conducting a literature study/library, in order to obtain an overview of problems faced by the Semarang container terminal (TPKS), data collection related to the performance of container terminal, processing and analyzing research data to obtain a technical description of the various parameters needed in evaluating the Container Terminal Performance Indicators, Optimal Value of the service unit loading and unloading containers, ships and goods flow forecasting, producing Container Terminal Performance Indicators, formulate conclusions and recommendations from the results obtained in the performance evaluation process and service optimization Container Terminal loading and unloading of containers. The container terminal performance is an important indicator to evaluate the operational continuity and smoothness, in fulfilling its major function in serving the transportation mechanism of goods. One method to evaluate the container terminal performance is to observe the service level and utility of this terminal. From the evaluation’s results, a program to improve and to enhance the service levels for the future could be designed. The methodological approach accessed in this research work includes BOR (Berth Occupancy Ratio) data collecting, data processing and analysis using multiple methods, and producing a conclusion. The results are also to typical research topics. The study yielded in a BOR for the period till 2015 based on a BOR mooring of 34 - 45 percent. The benefits of this research can be used to improve container terminal performance.

Keywords: Container terminal performance, BOR

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Deterministic Modelling of Hydraulic Static Pile Driver Productivity for Rectangular and Triangular Shaped Piles in Silty Soil

Abstract: Various piles driving equipment can be used for piling in building projects. In densely populated urban area, more environmentally friendly pile driving equipment, such as hydraulic static pile driver (HSPD) is therefore needed. There are important factors influence the HSPD productivity that are implied in treatment of pile in soil, such as soil type, driven pile size, piling depth, and cycle time. While some methods are available to estimate construction productivity, each method has limitations, such as unreliable prediction and difficult

Authors: Joko Y.E. Warsito, Jati D.U. Hatmoko, Rusdi H. Ataf

Paper Title: Deterministic Modelling of Hydraulic Static Pile Driver Productivity for Rectangular and Triangular Shaped Piles in Silty Soil

Abstract: Various piles driving equipment can be used for piling in building projects. In densely populated urban area, more environmentally friendly pile driving equipment, such as hydraulic static pile driver (HSPD) is therefore needed. There are important factors influence the HSPD productivity that are implied in treatment of pile in soil, such as soil type, driven pile size, piling depth, and cycle time. While some methods are available to estimate construction productivity, each method has limitations, such as unreliable prediction and difficult
Solid waste is a waste generated every day. The amount of solid waste generation depends on the total area of housing and services, the area of the places, and activities. The increase in population, housing and services in the area has resulted in the generation of solid waste. The solid waste should be disposed of to prevent the spread of disease and to keep the environment clean. Normally, solid waste will be disposed of in landfill sites.

Keywords: Productivity; HSPD; piles; deterministic; chart

References:


Authors: Khairul Nizam Abdul Maulud, Nurul Amera Nazman, Muhammad Amartur Rahman

Paper Title: Disposal Sites Determination for the Purpose of Solid Waste Management Optimize by using Geographic Information System (Gis)

Abstract: Solid waste is a waste generated every day. The amount of solid waste generation depends on the total area of housing and services, the area of the places, and activities. The increase in population, housing and services in the area has resulted in the generation of solid waste. The solid waste should be disposed of to prevent the spread of disease and to keep the environment clean. Normally, solid waste will be disposed of in landfill sites. In
four districts in Negeri Sembilan that is Jelebu, Kempol, Kuala Pilah and Tampin, the existing landfill in these areas have reached semi-critical status and the capacity is about to reach the maximum level. Therefore, this study was undertaken to propose the most ideal and effective new solid waste landfill based on the distribution of housing in an area using the Geographic Information System (GIS). GIS serves as a hardware device that stores information and databases of the area and analyzes data to produce the output required by the user. In addition, this study was conducted to investigate and determine the criteria and weighting factors taken into account in determining the location of landfill sites. In addition, this study also conducted to identify the optimization of disposal of solid waste and the type of new landfill proposed. Some analyzes such as Analysis Geoprocessing, Model Builder, OD Cost Matrix, Network Analyst and Service Area has been carried out to obtain an ideal location to serve as a solid waste disposal site. Based on the analysis, the new landfill can cover 242 of housing areas within 25 kilometers from the landfill compared to the existing landfill that only covered 165 of housing areas only. Finally, the siting of the landfill using GIS application is the best system in helping the user to determine the new landfill in such a fastest way.

**Keywords:** GIS, Landfill, Spatial Analysis, Landfill, Waste Management

**References:**


**398.** Suspend

**Authors:** S.Jambulingam, K.Jothiswari, M.Poongodi, S.Rajeswari

**Paper Title:** A Performance of a Novel Three Port Converter for Solar PV Storage Systems

**Abstract:** This research work is generally emphasize to show and estimate the performance of a three port converter by connecting a a battery port, PV port, and also load port all collectively connect in a power system then a original three port converter named bidirectional buck with buck boost converter is projected. The chief advantage of the proposed converter topology is the one-stage power conversion which improve the overall success of the converter. The presentation of the proposed system is simulated in MATLAB and its efficiency based on overall module count, losses and competency is evaluated. Finally to validate the performance of the proposed converter, it is compared with other conservative converters and the evaluation results confirm the dynamic performance of the proposed system. The comparison of various power converters with MPPT technique are made and the simulation result proves the necessity of a suitable converter to be accepted for tracking the highest PowerPoint in solar PV systems.

**Keywords:** PV Powered Storage systems, Bidirectional Power Flow Management, Performance Analysis, Single Stage Power Conversion, Three Port Converter, Maximum power point.

**References:**

Abstract: ACL is one of most common knee injury in sports person which increases as the participation in sports increases. People participating in basketball, football, hockey and athletics generally faces more weight bearing on hip, knee and ankle which is directly breaking of muscular tissues of ACL. After this it is mandatory to rehabilitate and back to the field for sport person at same pre-injury stage. But it requires mental and physical strength to recover from ACL tear and proper treatment needs health management. In a growing age of Information Technology the use of computer and its applications are extensively used in almost all areas. The main objective of this paper is to check the use of expert system or the use of any computerized equipment while diagnosis Anterior Cruciate Ligament injury. There are many techniques and machines to predict the knee injury grade like machine learning techniques are best for the results.

Keywords: Anterior Cruciate Ligament, Rehabilitation, Knee Injury, Expert system, Treatment.

References:

Abstract: This system is aimed toward developing a central recruitment process system for the HR Group for an organization. This system is fully supported by recruiting a candidate for a job supported their performance within the interview and their test scores are analyzed to predict their basic salary once a year. Some features of this system are getting to be creating vacancies for candidates, storing application data, and Scheduling interviews, Interview process initiation, storing Interview results for the candidate and eventually Hiring of the candidate. Reports could even be required to be generated for the use of the HR group. This project “Hiring Dataset Analysis” could also be a web application during which the candidate details store by admin then attends the drive. Supported the results of the qualification the job seekers are getting to be shortlisted. For freshers, the drive is getting to be conducted at some venue after the shortlisting of the chosen candidate. The tiny print of the particular company drive, venue & Date of the examination are getting to be made available to them through the online site. Functionality and Features of the candidate profile, posting new recruitment programs by company, publishing new carrier guidance placement programs by Admin, Viewing Resumes by company, Viewing payment by candidate, Company profile management.

Keywords: Salary prediction, e-Recruitment, Job Market, Machine Learning, K-means clustering.

References:


Authors: Ashok Kumar S, Santhosh V, Saranyadevi S, Vikranth Krishna E

Paper Title: Prediction of Job Applicant Salary and Designation using Machine Learning

Abstract: This paper presents a similar to the mention above. Concept of natural language processing is known and most popular domain of machine learning and natural language processing. An algorithm is developed to understand the opinion of an entity similar to human beings. This researchfining article presents a similar to the mention above. Concept of natural language processing is considered for text representation. Later novel word embedding model is proposed for effective classification of the data. TF-IDF and Common BoW representation models were considered for representation of text data. Importance of these models are discussed in the respective sections. The proposed is testing using IMDB datasets. 50% training and 50% testing with three random shuffling of the datasets are used for evaluation of the model.

Keywords: Salary prediction, e-Recruitment, Job Market, Machine Learning, K-means clustering.

References:

Authors: Krunal Vaghela, Amit Lathigara, Paresh Tanna

Paper Title: QoS Aware Resource Scheduling and Performance Assessment of Heuristics for Processing Jobs on Cloud

Abstract: Cloud computing or in other words, shared computing is a unique way of sharing resources via the Internet. It combines and extends features of parallel processing, grid computing, and distributed computing. Cloud Computing environments provide a competent way to schedule and process various jobs on remote machines. Rather than relying on local machines, Cloud users access services remotely via high-speed networks. Various users submitting jobs to be processed to Cloud would expect Quality of Service (QoS). So, currently, many researchers are proposing various heuristics that provide QoS to cloud users. The job scheduler is responsible for scheduling various jobs to its best-matched resource to achieve desired QoS. There are Service Level Agreements (SLAs) between Cloud Service Providers (CSPs) and Cloud users, which need to be followed by both the parties. Benefits would be affected in case of not complying with SLAs. In this paper various SLAs like Hard SLA, Best Effort SLA and Soft SLA are proposed. Jobs with required QoS parameters like Reliability, Execution Time and Priority are submitted to the scheduler. QoS of resources is determined by parameters like Reliability, Job Completion Time and the Cost of the resource. Schedulers then assign the Job to the best-matched resource according to specified SLA. Simulation is performed for First Fit and Best Fit heuristic approaches. Performances of both the heuristic approaches are evaluated with performance parameters like Average Resource Utilization (ARU), Success Rate of Jobs (SR) and Total Completion Time (TCT). This research work is useful for various organizations that provide various Cloud services to users who seek different levels of QoS for various applications.

Keywords: Average Resource Utilization (ARU), Best Fit (BF), First Fit (FF), Success Rate of Jobs (SR), Total Completion Time (TCT)

References:


Abstract: India being a democracy, that too world's largest, still conduct its elections using either Secret Ballot Voting or Electronic Voting Machines (EVM) both of which involve high costs, manual labor and are inefficient. So, the system must be optimized to be made efficient which would not leave room for unwanted means of voting. The current system requires the physical presence of every individual which is inconvenient to many people. This paper focuses on a system that uses faces to unlock the voting system just like in your phone and does not require physical presence to cast a vote as the traditional system does. The process is time-consuming as well. The entirely web-based system enables people to cast their votes from anywhere in the world. Using detection of face decreases the chance of duplicitous a vote and those who are registered prior to the election and are recognized by the system will be allowed to vote. Just like fingerprints, every face also has unique features like the distance between the eyes and eyebrows that remain unchanged with growing age which makes the system more secure. Hence, the approach makes the system the best way to vote.

Keywords: Online voting system, Smart voting, Voting, Face detection, Face recognition, Haar cascade.

References:
Abstract: Automatic Generation Control of two area multi unit interconnected thermal power system with dynamic participation of Doubly Fed Induction Generator based on the wind turbines. In this work two areas consisting of three unequal turbines both areas are connected to the DFIG based wind turbine. Area 1 consisting of three non reheat turbines with Doubly Fed Induction Generator based on wind turbine and area2 consisting of three non reheat turbines with Doubly Fed Induction Generator based on wind turbine and two areas interconnected by tie line. Two different controllers are used, namely PID and cascaded PD-PI controllers. The controllers effectively tuned by hybridization algorithm. 1% step load disturbance is applied in area 1 for analyzing the dynamic performance. The performance of two area multi-unit power system is done in MATLAB/SIMILINK software. The dynamic response of the considered system is compared in terms of undershoots, overshoot and settling times.

Keywords: Automatic Generation Control(AGC); Proportional Integral Derivative(PID) and cascaded PD-PI controllers; Doubly Fed Induction Generator based wind turbine(DFIG).

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Authors: P.Venkatesh , S.Upender Rao, T.Suneel

Paper Title: Frequency Regulation in Multi Area Power System Optimized By Firefly Swarm Hybridization Algorithm

Abstract: Rapid growth in the use of cloud base service comes up with so many challenges. Service providers of cloud base service looking for the best solution to these challenges. Users of service sends the request for a particular task so at a time number of request sends by different users for different task, this all task need to be complete in a particular time is one of the biggest challenges in cloud computing It is defined as a workflow scheduling. Parallel other key points are better utilization of resources, reduce make span time, energy-saving and many more consider as QoS parameters. Researchers conduct so many Qos parameter oriented research to make it efficient The aim of this review paper is to provide systemic review and better understating of ongoing research on different approaches and service providers always looking for better solutions of challenges to maintain service level.

Keywords: Workflow scheduling, Load balancing, Make span, Resource utilization, Qos parameters.

References:

Abstract: Thin film capacitor using Aluminium (Dielectric-Barium Titanate) and pelletized Copper, MnO2 (Dielectric-BaTiO3) capacitors as substrates were constructed. The objective of this research was to develop a capacitor having high capacitance and dielectric strength. The attention was focused on the high dielectric strength of BaTiO3 and high capacitance of MnO2, so that we can develop a good capacitor. The dependence of stacked and single forms of above capacitors with respect to various electrical parameters were analysed using LCR meter. On the basis of graphs plotted for various electrical parameters such as impedance, quality factor, dissipation factor, conductance, series and parallel capacitance were analysed from the above graphs. By analysing the comparison between Aluminium (Dielectric-Barium Titanate) single and stacked forms the conclusion that I arrived was that stacked form is more preferable over single forms. Taking consideration of copper, MnO2 (Dielectric-BaTiO3) capacitor stacked forms were found to be better than single forms. Thus it was clear that the stacked form of Aluminium (Dielectric-Barium Titanate) and stacked forms of copper, MnO2 (Dielectric-BaTiO3) capacitor is more preferable while using as capacitors. Although a variety of renewable energy technologies as well as new storage devices have been developed, they have not reached widespread use. Therefore, there is a strong need of development of improved methods for storing energy when it is available and retrieving when it is needed. The ability to store energy when it is produced is an essential waypoint on the road to turning alternative energy into regular energy. This problem of storage can be solved by supercapacitor. It is an emerging technology when it is produced is an essential waypoint on the road to turning alternative energy into regular energy. This problem of storage can be solved by supercapacitor. It is an emerging technology

Keywords: Super capacitor, Fabrication, Dielectric, Dissipation factor.

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Abstract: A Similarity measure is a main process in the text processing method. we have proposed a new method of similarity measure which improved the performance of the K-NN method. The proposed measure extended the accuracy of the text classification method. we have implemented proposed method with Amazon dataset and we observed the effectiveness of proposed similarity measure is increase the accuracy of the similarity between set of documents in a corpus. The end result display performance achieved by way of the proposed measure is higher than that obtained by others.

Keywords: Similarity Measure, Text Classification, Text Processing, KNN

References:
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<th>Authors: Sayeda Umera Almas, Puttegowda D</th>
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<td><strong>Paper Title:</strong> Five Factor Model of Personality Trait Analysis on Twitter Data using Benchmark Classifier</td>
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<td><strong>Abstract:</strong> Health and wealth of the society is directly proportional to the activities conducted based on healthy personality traits of the citizens and their social behavior’s. Hence, the diagnosis and its preventive measures play a very important role and may be challenge for medical and engineering domains. The proposed paper is trying to analyze the personality traits based on Five Factor Model by processing the twitter dataset. The classification models are trying to give number of solutions corresponding to large amount of data (Big data). Classification technique may predict the personality qualities of the user based on their interaction with the system. This diagnosis may support the society in bringing up healthy environment for better lifestyle of everybody.</td>
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<td><strong>Keywords:</strong> Personality traits, Classification models, Twitter data analysis, Natural Language Processing</td>
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<td>10. <a href="https://ipip.org/newMultipleconstructs.htm">https://ipip.org/newMultipleconstructs.htm</a>, accessed on 03.01.2020</td>
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<th>Authors: Syed Salim, Madhu B K</th>
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<td><strong>Paper Title:</strong> Web Interaction based Business Sentiment Analysis using Benchmark Classifier</td>
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<td><strong>Abstract:</strong> Success of the business activities may showcase positive progress or developments of the country. These successes involve huge efforts with respect to analysis of the market, target customers, environment, availability of the resources and many more. Analysis would incur both the time and initial investment. Hence, most of the new business initiatives usually drop at the beginning stage. The proposed paper is trying to provide a solution to these cases by involving technological aspects and data from social media’s. Social media has provided a platform for the internet users to share their views and opinions on some of the components. These could be the resources to generate an analytical report for new or existing business strategies.</td>
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<td><strong>Keywords:</strong> Sentiment Analysis, Machine Learning, Classification, Natural Language Processing</td>
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<td><strong>References:</strong></td>
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Abstract: The article proposes an analytical model of the functioning of the data transmission system, taking into account the influence of short-term interruptions in messages and the recovery of information distorted by cyber-attacks. The model uses the Laplace-Stieltjes transform and the Lagrange multiplier method. This helps determine the performance of switching nodes, the throughput of communication channels and their total cost in a communication system.

Keywords: model, data transmission system, cyberattack, mathematical expectation, throughput, communication channels.

References:


Keywords: Internet of Things, Energy Auditing, Cloud Computing, Sugar Industry, Process Control

References:

Authors: Subba Rao Gogulamudi, Vital Kumar Pinnela, Lakshmi Sai Tejaswi Pathuri, RamTeja Borra

Paper Title: Handwritten Digit Recognition by using Pattern Recognition & Consensus Clustering

Abstract: In Big Data, Pattern Recognition and Consensus Clustering procedures have developing significance to the scholastic and expert networks. Today there is an extraordinary worry for ordering the information, as information in wrong classification implies incorrect data, which thus results wastage of resources and hurting the association. Example acknowledgment (PR) helps in maintaining a strategic distance from poor order of information by recognizing the right structure of information in dataset. Perceiving an example is the computerized procedure of finding the specific match and regularities of information, which is firmly identified with Artificial Intelligence and Machine Learning. PR goes about as an essential advance to give bunching since it examinations the structure and vector estimation of every character in dataset. Accord Clustering (CC) additionally called as bunching gatherings, assumes a critical job in arranging and keep up in any sort of information. This is a strategy that joins different bunching answers forget steady, precise and novel outcomes. Right now, actualize PR and CC strategies; we use MNIST dataset which is an enormous database of transcribed digits that is regularly utilized for preparing different frameworks in the field of Machine Learning.

Keywords: Consensus Clustering, Pattern recognition, MNIST Dataset, Handwritten digit recognition.

References:

1. https://www.journals.elsevier.com/pattern-recognition