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**Volume-9 Issue-5, January 2021, ISSN: 2277–3878 (Online)**

**Paper Title:** Enhanced Attendance Monitoring System using Biometric Fingerprint Recognition

**Abstract:** In this study, an enhanced attendance monitoring system using biometric fingerprint recognition in tracking and monitoring employees’ attendances for Callang National High School, District 04, San Manuel, Isabela was introduced. For most organizations, handling people is a daunting job in which it is very important to maintain an accurate record of attendance. Taking and maintaining the attendance of employee manually on a regular basis is a big activity that requires time. For this reason an effective system was designed. The system was designed and developed primarily to improve the monitoring of employees attendances and leave management through the use of biometric technology. It records the data of the employees, handles leave management, tracks employee attendance and encourages participation through fingerprint recognition. The system is equipped with a dashboard monitoring system that can be viewed by school heads to track the list of employees, early birds (employees who arrived early), on-leave staff, on-official business and a statistical graph of the monthly attendance rate of employees. Moreover, the system provides an auto-generated DTR for employees which saved time compared to the manual process. The innovation greatly affects the improvement of employees’ attendance through its automated attendance monitoring, leave management and report generated by the system. The impact of EAMS to the employees was identified through first quarter attendance report of SY 2028-2019 which served as a bases of comparison with the attendance rate of SY 2019-2020 when the system was implemented. The outcome shows that through the usage of the system, employees’ attendance has improved.

**Keywords:** Biometric System, Attendance Monitoring System, Fingerprint Recognition, Employees Attendance

**References:**

**Paper Title:** Modelling, Simulation and Control of Robotic Hand using Virtual Prototyping Technology

**Abstract:** Hand is one of the most important body parts of a human being that exhibits extremely complex motional behaviors. So, accurate design of a prosthetic hand with precise motion has been a very challenging job for researchers over a few decades. Moreover, selection of materials, actuators, sensors, etc. becomes tedious which prior knowledge of the probable outcomes of a particular design. This paper presents an organized procedure to design and solve the kinematics, dynamics and trajectory control problem of a robotic hand. Denavit- Hartenberg method was used for the kinematic analyses and Lagrange-Euler formulation applied on basic rotational mechanics was used for the dynamic analyses of the robotic hand. To reduce difficulty, three degrees of freedom has been assigned to each finger. MATLAB codes were written to develop the mathematical model and carry out the theoretical calculations. The results so obtained were verified with the actual simulation results of the design which were obtained from ADAMS and hence validating the design. Finally, a PID controller was implemented using ADAMS-MATLAB CO-SIMULATION technique, for controlling the hand, so as to achieve the desired motion. By the virtue of the results obtained the choice of materials, actuators, sensors, etc. becomes easier in case of the physical prototype which is the primal essence of virtual prototyping.

**Keywords:** Kinematics, Dynamics, Virtual Prototyping technology, PID Controller, Co-Simulation.

**References:**
research in electrical, electronics and instrumentation engineering, 6 (2017) 91-99.

Authors: Abdel Halim A. Zikry, Ashraf Y. Hassan, Wageeda I. Shaban, Sahar F. Abdel-Momen.

Paper Title: Performance Analysis of LDPC Decoding Techniques

Abstract: Low density parity checking codes (LDPC) are one of the most important issues in coding theory at present. LDPC-code are a type of linear-block LDPC-codes. Channel coding might be considered as the finest conversant and most potent components of cellular communications systems, that was employed for transmitting errors corrections imposed by noise, fading and interfering. LDPC-codes are advanced coding gain, i.e., new area in coding. The performances of LDPC-code are similar to the Shannon-limiting, this led to the usage of decoding in several applications in digital communications systems, like DVB-S2 and WLAN802.1I. This paper aims to know what is LDPC, what its application and introduce encoding algorithms that gives rise to a linear encoding time and also show that the regular and irregular LDPC performance and also introduce different methods for decoding LDPC. I discuss in detail LDPC decoding algorithm: bit flipping algorithm, as a type from hard decision belief propagation algorithm, sum product algorithm and minimum sum algorithm as examples from soft decision. I expect that at least some students or researchers involved in researching LDPC codes would find this paper helpful.

Keywords: Low Density Parity Check Code LDPC, Parity Check Matrix H

References:
5. B. Kurkosi, “Introduction to Low-Density Parity Check Codes.
8. X.-Y. Shih, H.-R. Chou, “Flexible design and implementation of QC-Based LDPC decoder architecture for on-line user-defined matrix downloading and efficient decoding”, Integration, the VLSI journal, 2019.

Authors: D Praveen Sam, R Shalini

Paper Title: Limitations and Advantages in Implementing MALL in the Tertiary ESL Classrooms: A Review

Abstract: Technology-assisted facilities have taken English Language Teaching (ELT) to a different level where Computer Assisted Language Learning (CALL) has become an indispensable feature of learning a language. Recently, in the current day context of ELT, both learners and teachers are experiencing a positive shift from CALL to another more efficient platform called Mobile Assisted Language Learning (MALL). This paper explores the fundamentals of MALL and its application in ELT. Moreover, it sheds light on the various advantages and limitations in implementing MALL devices like mobile phones, smartphones, kindles and so on in the regular as well as virtual classroom context. It discusses theories on technology-enabled learning and MALL. The primary focus of this paper is to shed light on the perspective of employing MALL in the language classes at the tertiary level.

Keywords: Computer Assisted Language Learning (CALL); Mobile Assisted Language Learning (MALL); Advantages and limitation of MALL; MALL theories; MALL methods

References:


Authors: K.S. Mahajan, Ulka Toro, R.V.Kulkarni

Paper Title: Hybridization of Machine Learning Techniques to Optimize Portfolio of Stock Market: Review of Literature from the Period 2005 to 2018

Abstract: In finance there has always been the problem of how to form portfolios to invest in a business. Progress on this problem we focus on some of the important applications such as Forecasting, Trading, Portfolio Selection and Management of Stock Market is considered as one of the fundamentals of the building block of developed countries. If number of investor’s increases then the economy of the country also increases and every investor invests to get good returns. But as stock market is uncertain and complicated the selection of good scripts are considered as one of the challenges in stock market field. So much work has been done in this field, The purpose of this study is to review research articles published from the period 2005 to 2018 and to find research gap for future work.

Keywords: Stock Market, Machine Learning Techniques, Fuzzy, Neural Network, Portfolio, BSE Stock Exchange, NSE Stock Exchange.

References:


10. Kuang YuHuang,Chuen-JuanJan(2010)‖, A hybrid model for stock market forecasting and portfolio selection based on ARX,


Authors: Chirayu Pranav Darji

Paper Title: IoT Based Sensor for Humidity and Temperature Measurement in Smart HVAC Systems

Abstract: The initials HVAC stand for Heating, Ventilation and Air Conditioning. They describe the functions of an HVAC system. This mechanical system’s design is primarily an attempt to take control of the environmental conditions inside the space of work by controlling and monitoring the temperature of a room through heating and cooling. It also controls the humidity level in that environment by controlling the movement and distribution of air inside the room. For determining the temperature and humidity, costly sensors are required. These sensors are the traditional mechanical sensors which can’t offer any additional services like cloud support, data storage, etc. Hence here I am proposing an IoT based sensor with cloud data storage using Arduino Uno development board, ESP8266 and Thingspeak cloud. This sensor is economical and supports automatic reading and controlling of the humidity and temperature and sends this data to a secured server and thus monitors and controls the temperature and humidity of the system.

Keywords: Arduino Uno, Humidity and temperature measurement, Internet of Things, Smart HVAC systems

References:


Authors: Ahmed Hassan Adel, Salama Abo-Zaid, Mahmoud Elwany

Paper Title: Harmonics Reduction using a Modified Controller for Doubly Fed Induction Generator

Abstract: This paper discusses a control system for the converter of doubly fed induction generator (DFIG) driven by wind energy. The converter of DFIG consists of two main parts; rotor side converter (RSC) and grid side converter (GSC). Two advanced control methods for GSC are presented here in this paper; vector control strategy based on pulse width modulation (PWM) and direct power control (DPC). DPC is based on switching table for voltage vector selection. In addition to grid voltage position, direct and quadrature current components are used here as inputs to the switching table instead of active and reactive powers respectively. This paper proposes a modified switching table for DPC to reduce ripples and total harmonic distortion (THD) of current produced by GSC. A Simulink model for 9 MW wind system based on DFIG is given in this paper. Simulation results are given for PWM, DPC and Proposed system for GSC. In view of THD calculations and simulation results a comparative study and conclusion are given in the end of this paper.

Keywords: DFIG, DPC, GSC, THD.

References:


Abstract: This study focuses on the performance evaluation of employees working in an organization with the use of predictive analysis and evaluates the research on the basis of primary data survey method. A questionnaire was used as a tool in the study and the responses of employees from a particular organization were taken and the analysis was done based upon those responses. The study also includes the literature review part where the previous studies done related to the use of predictive analysis in the performance evaluation of employees in an organization was used and the study further concludes with the decision and more innovative techniques of predictive analysis that can be used in future to evaluate employee performance.

Keywords: Decision, Predictive Analysis, Performance Evaluation, Employees, Organizations.

References:

Keywords:
- Performance
- Analytics
- Technology
- Organizations
- Significance

References:

Authors: Vishesh Gupta

Paper Title: The Significance of Predictive Analysis in Predicting the Performance of Members in the Organizations

Abstract: This study focuses on the performance evaluation of employees working in an organization with the use of predictive analysis and evaluates the research on the basis of primary data survey method. A questionnaire was used as a tool in the study and the responses of employees from a particular organization were taken and the analysis was done based upon those responses. The study also includes the literature review part where the previous studies done related to the use of predictive analysis in the performance evaluation of employees in an organization was used and the study further concludes with the decision and more innovative techniques of predictive analysis that can be used in future to evaluate employee performance.

Keywords: Decision, Predictive Analysis, Performance Evaluation, Employees, Organizations.

References:

Authors: R Srinivasan, T Paul Robert

Paper Title: Remaining Useful Life Prediction on Wind Turbine Gearbox

Abstract: This research proposes a methodology to estimate the reliability of gearbox using life data analysis and predict the Lifetime Use Estimation (LUE). Life data analysis involves collection of historical field replacements of gearbox and perform statistical analysis such as Weibull analysis to estimate the reliability. Remaining useful life is estimated by using Cumulative damage model and data-driven methods. The first approach is based on the physics of failure models of degradation and the second approach is based on the operational, environmental & loads data provided by the design team which is translated into a mathematical model that represent the behavior of the degradation. Data-driven method is used in this research, where the different performance data from components are exploited to model the degradation's behavior. LUE is used to make key business decisions such as planning of spares, service cost and increase availability of wind turbine. Gearbox is the heart of the wind turbine and it is made up of several stages of helical/planetary gears. Performance data is acquired separately for each of these stages and LUE is calculated individually. The individual LUE is then rolled up to estimate the overall Lifetime Use Estimation of gearbox. This will identify the weak link which is going to fail first and the failure mode which is driving the primary failure can be identified. Finally, corrective measures can be planned accordingly. The cumulated damage and LUE are estimated by using Inverse power law damage model along with Miner’s rule.

Keywords: Reliability, Gearbox, Remaining Useful Life(RUL), Inverse power law, Lifetime Use Estimation (LUE)

References:


Authors: Nitin Kumar Agrawal, Shaamshad Alam, Harshit Raghav

Paper Title: Osi Model: The Basics Structure of Network Communication

Abstract: In the present time, if we see around the world we can realize that information transfer through one place to another is very easy. A person lives in America easy do business with the person live far away from it. All this can be achieved by the phenomenon known as Networking. And the device through which the information are transferred are called interconnected device. As we know, in present time our need is not only transfer or sharing of information but in a secure way. So with the help of this we are not just transferring the information but in a secure manner To understand the whole phenomenon of this networking, the basic requirement is OSI LAYER Model. This is not just a model but a complete frame which gives us whole information of its working as well as link between them. So through this paper we give some basics concept building of OSI LAYER which help in understanding the Networking.

Keywords: Networking, OSI MODEL, Interconnected devices, Information.

References:


Applying Government Schemes in Rural Sectors Prediction System for Evaluation of Data Science Algorithm

Abstract: The administrative dispatches different aggressive projects attempting to make the nation more prosperous, yet what they bomb is in fruitful execution and coming to recipients. The fundamental explanation for this issue is the absence of mindfulness among rustic individuals. This paper is to give an answer for this uninforme circumstance. Through this framework the rustic understudies will be instructed such that they can become acquainted with about what are the different plans that are outfitted by the administration and what are the plans they are qualified for. On the off chance that the country understudies came to know and get mindful of the apparent multitude of legislative plans gave by the Government of India for the government assistance of the provincial understudies, at that point their life would venture into next level. At first this framework will investigate the accessible government plans in the instructive for the government assistance of country understudies. Next, the understudy's information (i.e.) name, age, station, occupation, annualincome,etc are accumulated. At that point; both the datasets are brought into the Anaconda Navigator. At that point, investigation and grouping dependent on networks (SC, ST, BC and MBC) of the understudies and the plans are performed. At that point utilizing the forecast calculations (Naïve Bayes, Random Forest and Support Vector Machine (SVM)) what are generally the plans the specific understudy is qualified for are anticipated. An investigation is made on the proficiency of the three calculations. The exactness of the three calculations is broke down and the effective calculation which creates the outcome with most elevated precision is at last used to play out the forecast of the plans that a specific understudy is qualified for. At long last, the anticipated plans utilized the most elevated effective calculation among the three calculations will be gotten back to the understudies. Hence, through this undertaking the rustic understudies will come to think about different recipient plans gave by government and they can use those plans for the improvement of the country environmental factors

Keywords: Prediction System, Naïve Bayes, Random Forest, Prediction Algorithm, Anaconda Navigator.

References:
1. Deepika Bansal, Rita Chhikara, Kavitha Khanna, Poonam Gupta: “Comparative Analysis of Various Machine Learning Algorithms for Detecting Dementia” © 2018 The Authors. Published by Elsevier Ltd.
Abstract: Stock market prediction is a long-time intriguing topic to researchers from different fields. Stock market data is extremely volatile and hence laborious to model. In particular, innumerable studies have been conducted to predict the movement of stock market using Machine Learning algorithms such as Regression Techniques, Time Series Forecasting, Indices Modelling, Natural Language Processing and more, but there is still room for improvement. Also, Option chain and Options have been the subjects that not many have ventured into, leading us to this subject. Mainly, NIFTY and BANKNIFTY Options account for 70% of total derivatives traded and much more turnover than all stocks combined. This research paper attempts to figure out the utility of Option chain in predicting the direction of movement in NIFTY. We have tried how different features from Option chain can be extracted, and the resulting problem can be solved using Machine Learning techniques and Deep Learning techniques.

Keywords: NIFTY Forecasting, Options, Option Chain, Stock Market Forecasting.

References:
3. https://dottututorials.net/lesson/option-chain-analysis/
6. https://catboost.ai/docs/concepts/python

Abstract: The traditional technologies, tools and procedures of any network cannot be protected from attackers due to the unchanged services and configurations of the networks. To get rid of the asymmetrical feature, Moving Target Defense technique constantly changes the platform conformation which reduces success ratio of the cyberattack. Users are faced with realness with the increase of continual, progressive, and smart attacks. However, the defenders often follow the attackers in taking suitable action to frustrate expected attackers. The moving target defense idea appeared as a preemptive protect mechanism aimed at preventing attacks. This paper conducts a comprehensive study to cover the following aspects of moving target defense, characteristics of target attacks and its limitation, classifications of defense types, major methodologies, promising defense solutions, assessment methods and applications of defense. Finally, we conclude the study and the future concern proposals. The purpose of the study is to give general directions of research regarding critical features of defense techniques to scholars seeking to improve proactive and adaptive moving target defense mechanisms.

Keywords: Survey, moving target defense, network security, Cyber Security.

References:
Authors: Prerna Priya, Ran Vijay Singh

Paper Title: Stabilization of Black cotton soil using Fly ash

Abstract: Expansive Black cotton clay soils are widely distributed worldwide, and are a significant damage to infrastructure and buildings. It is a common practice around the world to stabilize black cotton soil using fly ash to improve the strength of stabilized sub- base and sub grade soil. Soil stabilization is the improvement of strength or bearing capacity of soil by controlled compaction, proportioning or addition of suitable admixtures or stabilizers. The Black cotton soils are extremely hard when dry, but lose its strength fully when in wet condition. In monsoon they guzzle water and swell and in summer they shrink on evaporation of water from there. Because of its high Swelling and shrinkage characteristics the black cotton soils has been a challenge to the highway engineers. So in this research paper fly ash has been used to improve the various strength properties of natural black cotton soil. The objective of this research paper is to improve the engineering properties of black cotton soil by adding different percentage of fly ash by the weight of soil and make it suitable for construction. A series of standard Proctor tests (for calculation of MDD and OMC) and California Bearing Ratio (C.B.R) tests are conducted on both raw Black cotton soil and mixed soil with different percentages of fly ash (5%, 10%, 20%, 30%) by weight. A comparison between properties of raw black cotton soil, black cotton soil mixed with fly ash
are performed. It is found that the properties of black cotton soil mixed with fly ash are suitably enhanced.

Keywords: Soil stabilization, Fly ash, Standard proctor test.

References:

Abstract: Because of stiff competition, industries are in continuous pressure of producing high quality products. To do so, inevitably high quality cutting tools are required. Alumina (Al2O3) is a quality cutting tool that is used for high speed machining. It is a widely used tool for machining cast iron, hard steels and super alloys. Therefore, the present work has taken up to prepare an alumina cutting tool material. One of the greatest drawbacks of alumina cutting tool material is its low fracture toughness. In the present work, Graphene nanoplatelets (GNPs) are considered the reinforcement in the Al2O3ceramic matrix to not only improve the fracture toughness but also the other properties. The composites are fabricated by the powder metallurgy route where the powders of raw materials are essentially subjected to compaction and sintering. Once the Al2O3 composites are fabricated and their properties are tested for their density, hardness and fracture toughness. It is observed that the GNP reinforced composites have much better properties than those of the composites without GNP.

Keywords: Graphene nanoplatelets, Al2O3 cutting tool, powder metallurgy, properties testing

References:

Authors: Imad Assali, Amal Attiya

Paper Title: Preventing Visual Plagiarism in Design Programs in Higher Education Institutions: The Case of Ahlia University

Abstract: Recently, the persistent problem in art and design programs in Worldwide universities are visual plagiarism. The main core values of academic institutions in general and Ahlia University is to produce graduates with not only good knowledge but also good values and high academic reputation that encourages intellectual and moral development promoting the image of their universities. Therefore, Ahlia university invests its efforts to create policies and procedures for text-based assignments to control originality of students’ work while handing in assignments, reports, research proposals, and dissertations by using software technology like Turnitin. Conversely, little has been done focused on non-textual materials in art and design education. Besides, there are a plethora of articles when searching the Scopus database, about text-based academic misconduct with
a dearth of research devoted to visual plagiarism which often left to the experience of academic faculty. Therefore, the main purpose of this research is to shed light on students’ understanding of visual plagiarism issues and bridge the gap in visual work. Moreover, this research will develop a pedagogical policy that can be used by faculty to control academic dishonesty in visual arts. This research is conducting using two main methods. Firstly, it depended on reviewing different literature from journals, articles, and policies from different universities about plagiarism. Secondly, this research used qualitative and quantitative data. To collect qualitative data, an in-depth interview with the 15 academicians was conducted to triangulate with the students’ findings of reasons of visual plagiarism and prevention solutions. For the quantitative data, an online survey using the Google form survey was used to a sample of 54 students in the design program at Ahlia University and other universities in Bahrain. Finally, this research reveals that the lack of awareness among students in arts and design education about academic integrity leads to visual plagiarism.

**Keywords:** plagiarism; visual plagiarism; Academic misconduct; Academic integrity; Turnitin

**References:**

24. http://post.unx.uy/the-inspiration-behind-plagiarism-desc-
p

**Authors:** Mrunali D. Mahalle, Dinesh V. Rojatkar

**Paper Title:** Violence Content Detection Based on Audio using Extreme Learning Machine

**Abstract:** In this paper, we proposed an audio based visual violent scene detection system. As visual based approach has been widely used in identification of violent scenes from video data, audio-based approach; on the other hand, has not been explored as much as visual approach of the video data. In some applications such as video
surveillance, visual scenes can be absent because of environmental situations. Also, in many approaches different systems are proposed for movies and real time videos. Therefore, we practiced the audio approach of video data to decide whether a video scene is violent or not from movies and real time videos. For this purpose, we propose an Extreme Learning Machine (ELM) method to detect video scenes as “violent” or “non-violent” using two types of datasets Standardized Media Eval VSD-2014 and other is Customized dataset for the same classifier. After successful training and testing, 85.7% accuracy is achieved by ELM for VSD-2014 dataset and 88.89% for Customized dataset respectively.

**Keywords:** Violent Scene Detection (VSD), Audio Based System, Extreme Learning Machine (ELM), VSD-2014 Dataset, Customized dataset.

**References:**


12. https://maplelab.net/overview/amplitude envelope/#-text=Amplitude envelope refers to the distinguishing them from other sounds.(27/11/2020)


**Authors:** Thiagu, K

**Paper Title:** Techno-Stress Scale of Teacher Educators: Construction of the Tool

**Abstract:** The primary purpose of the research is to develop and standardize the scale of technostress of Teacher Educator. The researcher had developed the draft statements to measure teacher educators’ technostress based on the psychological experts’ interaction and some theoretical inputs. Thirty-six items have been constructed as a preliminary draft of the tool. The study sample was collected randomly from the 150 teacher educators of Kasaragod and Kannur Districts of Kerala. The item analysis was done through the ‘Cronbach’s Alpha’ and ‘Reliability and Validity’ of the research. This paper explains the procedure of technostress scale construction and standardization.

**Keywords:** Techno-Stress, Teacher Educators, Scale, Reliability and Validity.

**References:**


Abstract: The amount of data has risen significantly over the last few years, due to the popularity of some of the data generation sources like social media, electronic health records, sensors and online shopping sites. Analyzing, processing and storing this data is very prominent since it helps to uncover hidden patterns and unknown correlations. A big data analysis and prediction System is proposed in this context, which combines weather observations, health data and social media content in order to forecast the outbreaks of infectious diseases in a locality. Finding information about the determinants of disease outbreaks are required to reduce its effects on populations. An In-mapper combiner based MapReduce algorithm is used to calculate the mean of daily measurements of various climate parameters like temperature, atmospheric pressure, relative humidity, solar and wind. The climatic parameter that may leads to the outbreak of a disease is identified by finding the correlation between the parameters and disease incidence count. To evaluate how user’s tweeting patterns and sentiments matched with the outbreak of diseases, all tweets containing keywords related to diseases are collected using twitter streaming APIs and are analyzed and processed using Spark framework. The performance of proposed model is improved due to the presence of tweet processing. This indicates that the real-time analysis of social media data can provide more effective result rather than working on the historical data.

Keywords: Apache Spark , Hadoop MapReduce, KafKa, Spark MLlib

References:

Authors: Ansa Baiju, Linda Sara Mathew, Neethu Subash

Paper Title: Feature Based Method for Predicting Pharmacological Interaction

Abstract: Prediction of drug target interaction is an extrusive domain of drug discovery and repurposing of drugs. Most conventional studies are carried out in early years in the wet laboratory, but it is very expensive and time consuming. So nowadays, the use of machine learning techniques to predict drug target pairs. A new method of interaction targeting drugs is introduced in this paper. Use the Pseudo Position Specific Scoring Matrix (PsePSSM) is used to represent the target, which generate features that describe the original information of protein. The drug chemical structure information can be extracted through FP2 molecular fingerprint which describe the molecular structure information. Then a drug target interaction network is constructed using bipartite graph where in which each node represents a target or drug and each line indicates a drug target interaction. From the above stages, the data contains some noise and redundant data which have a negative impact on the prediction output. So, LASSO (Least Absolute Shrinkage and Selection Operator) method is handle it and reduce the dimension of the extracted feature information of original data. But drug target pair samples have some imbalanced, then cost-sensitive ensemble method is used to address the imbalanced problem

Authors: Juliet Johny, Linda Sara Mathew

Paper Title: A Framework for Forecasting Outbreak of Infectious Diseases Based on Climate Variability and Social Media Content

Abstract: The amount of data has risen significantly over the last few years, due to the popularity of some of the data generation sources like social media, electronic health records, sensors and online shopping sites. Analyzing, processing and storing this data is very prominent since it helps to uncover hidden patterns and unknown correlations. A big data analysis and prediction System is proposed in this context, which combines weather observations, health data and social media content in order to forecast the outbreaks of infectious diseases in a locality. Finding information about the determinants of disease outbreaks are required to reduce its effects on populations. An In-mapper combiner based MapReduce algorithm is used to calculate the mean of daily measurements of various climate parameters like temperature, atmospheric pressure, relative humidity, solar and wind. The climatic parameter that may leads to the outbreak of a disease is identified by finding the correlation between the parameters and disease incidence count. To evaluate how user’s tweeting patterns and sentiments matched with the outbreak of diseases, all tweets containing keywords related to diseases are collected using twitter streaming APIs and are analyzed and processed using Spark framework. The performance of proposed model is improved due to the presence of tweet processing. This indicates that the real-time analysis of social media data can provide more effective result rather than working on the historical data.

Keywords: Apache Spark , Hadoop MapReduce, KafKa, Spark MLlib
between positive and negative samples, and learns about the minority class by assigning higher costs and optimizing their cost error. Finally, the processed data is given as input to the extreme gradient boosting classifier algorithm for predicting new drug target interaction pairs. This method can significantly improve the prediction accuracy of drug target interaction.

**Keywords:** Drug Target Interaction, Lasso, Extreme gradient boosting classifier, Pseudo Position Specific Scoring Matrix

**References:**
6. Chihi.-Fong Tsai, Wei-Chao Lin, Ya-Han Hue, Guan-Ting Yao, “Under sampling class imbalanced datasets by combining clustering analysis and instance selection” (2019) 47-54.

**Authors:** Anna Joshy, Leya Elizabeth Sunny, Linda Sara Mathew

**Paper Title:** Optimal Predictive Model for Large Scale Classification

**Abstract:** Biosensors calculate the expression pattern of multi-ple genes in experimental work. A unique genomic chip is possible to produce levels of expression from multiple genes. The ability to interpret these high-dimensional samples fuels the creation of methods of automated analysis. Even though the existing methods undergo imbalanced problems and less classification accuracy over gene expression datasets. Therefore, a novel computational method has been developed in order to increase the classification performance of gene expression data and accurate disease prediction. By adding fuzzy memberships, we take into account the features of imbalanced data. Within our work, both the sample entropies and the expense for each class decide the fuzzy memberships in order to understand the different samples with various contributors to the judgment boundary. Thus, on imbalanced genomic datasets, the current proposed approach will result in more desirable classification outcomes. In addition, to build a new algorithm, we integrate the fuzzy memberships into current MKL. The results show that the proposed approach will tackle the imbalanced problem and achieve high accuracy rate.

**Keywords:** Biosensors, Imbalance problem, Fuzzy membership, Multiple kernel learning

**References:**
3. Xiaojun Chen, Joshua Z. Huang 2017,Subspace Weighted Co-Clustering of gene expression data, IEEE/ACM transaction on computational biology and bioinformatics

21. 130-133

Authors: Reshma M, Neena Thomas, Surekha Mariam Varghese

Paper Title: Dynamic Path Finding using Ant Colony Optimization

Abstract: Ant Colony Optimization (ACO) has been commonly applied in solving discrete optimization problems. This is an attempt to apply ACO in a dynamic environment for finding the optimal route. To create a dynamically changing scenario, in addition to distance, constraints such as air quality, congestion, user feedback, etc are also incorporated for deciding the optimal route. Max-Min Ant System (MMAS), an ACO algorithm is used to find the optimal path in this dynamic scenario. A local search parameter $\epsilon$ is also introduced in addition to $\rho$ to improve the exploration of unused paths. Adaptability was studied by dynamically changing the costs associated with different parameters.

Keywords: ACO, MMAS, BreezoMeter, Google Maps, Traffic Congestion

References:

Authors: Shirien K A, Neethu George, Surekha Mariam Varghese

Paper Title: Descriptive Answer Script Grading System using CNN-BiLSTM Network

Abstract: Descriptive answer script assessment and rating program is an automated framework to evaluate the answer scripts correctly. There are several classification schemes in which a piece of text is evaluated on the basis of spelling, semantics and meaning. But, lots of these aren’t successful. Some of the models available to rate the response scripts include Simple Long Short Term Memory (LSTM), Deep LSTM. In addition to that Convolution Neural Network and Bi-directional LSTM is considered here to refine the result. The model uses convolutional neural networks and bidirectional LSTM networks to learn local information of words and capture long-term dependency information of contexts on the Tensorflow and Keras deep learning framework. The embedding semantic representation of texts can be used for computing semantic similarities between pieces of texts and to grade them based on the similarity score. The experiment used methods for data optimization, such as data normalization and dropout, and tested the model on an Automated Student Evaluation Short Response Scoring, a commonly used public dataset. By comparing with the existing systems, the proposed model has achieved the state-of-the-art performance and achieves better results in the accuracy of the test dataset.

Keywords: Artificial Intelligence, Convolution Neural Networks, LSTM Networks, Machine Learning

References:
A. Pawar and V. Maglo, Calculating the similarity between words and sentences using a lexical database and corpus statistics, IEEE Transactions on Knowledge and data Engineering, February 2018.

Authors: Harrsheetha Sasikumar
Paper Title: DDoS Attack Detection and Classification using Machine Learning Models with Real-Time Dataset Created

Abstract: Distributed Denial of Service (DDoS) attack is one of the common attack that is predominant in the cyber world. DDoS attack poses a serious threat to the internet users and affects the availability of services to legitimate users. DDoS attack is characterized by the blocking a particular service by paralyzing the victim’s resources so that they cannot be used to legitimate purpose leading to server breakdown. DDoS uses networked devices into remotely controlled bots and generates attack. The proposed system detects the DDoS attack and malware with high detection accuracy using machine learning algorithms. The real time traffic is generated using virtual instances running in a private cloud. The DDoS attack is detected by considering the various SNMP parameters and classifying using machine learning technique like bagging, boosting and ensemble models. Also, the various types of malware on the networked devices are prevented from being used as a bot for DDoS attack generation.

Keywords: Attacks, Intrusion Detection, Malware Detection, Machine Learning Models.

References:

Authors: Jaymar C. Recolizado, Marifel Grace C. Kummer
Paper Title: Giddy Ion Reloaded: Desktop Manager, Optimizer with Multi Utility Tool

Abstract: The performance of our computer is vital in fulfilling the task of the user. The paper presents a solution for maintaining the performance of the computer specifically computers with Windows operating systems. In this article, the fundamental difference and problem of the Windows operating system are defined which roots in the architectural design of using single configuration storage. The security hole of windows authentication, the exploitation of Microsoft EFS, and the acquisition of password hashes from Microsoft SAM are also discussed. Various existing utility software is evaluated to investigate if they meet the user define criteria. This paper also proposes a user-level implementation of the AES 256 encryption algorithm for securing user files and a Network Blocking algorithm based on ARP Spoofing techniques that provide a user-level network monitoring capability. The proposed application is called “Giddy-ION Reloaded” which consists of four
main modules; machine information acquisition and monitoring, machine optimization, machine cleaning, and tools module that is divided into submodule; encryption and decryption, network monitoring, desktop management, network optimization/ control, and task automation. The testing was conducted with the participants coming from a computer college, continuing education trainer/faculty, and various IT experts. The response from these groups was statistically treated and analyzed, where the Giddy ION rank top and shows promising results. The study is limited to windows machines with 64-bit support architecture. The developed application is ready for implementation and deployment as evidenced by its high overall performance rating as evaluated by the participants against the ISO 25010 standards.

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

References:

Authors: Sheikh Ahmed Hossain

Paper Title: Fuzzy Multi Criterion Decision Making Method to Analyze Performance of Banking Sector

Abstract: Performance evaluation of any financial institution is extremely important to look after the health and prospect of the institution. In many research of performance evaluation analysis of banking sectors, several ratio parameters are used mostly in statistical analysis. Designing effective and comprehensive model for evaluation process of financial matters in banking sector is complex due to multiple criteria and parameters, mostly uncertain in nature. This paper presents a comprehensive process considering several financial criteria of several alternatives on the basis of several expert’s (decision maker’s) opinion and subjective judgment. Importance of representation is presented in fuzzy scale. We used fuzzy AHP-preference programming (FPP) to obtain priority weights associated with each criteria and compromise ranking method (VIKOR) considering Market Capital, Net Sales, Net Profit, Total Assets, and Other Income in ranking alternatives. A case study involving ten active Indian Public Sector Unit (PSU) banking industries is undertaken to illustrate the feasibility of the suggested approach. A sensitivity analysis is also carried out for checking the method reliability.

Keywords: Fuzzy AHP; MCDM; FPP, Banking Stocks; Ranking by Adjustment Method (RAM).

References:

Authors: Ankur Arun Kulkarni

Paper Title: Strength and Durability of Polystyrene Concrete

Abstract: Now a day the construction is having rapid pace, and it has increased the requirement of raw material of construction especially coarse aggregate. In order to conserve the natural resources, use of plastic waste as partial replacement of natural aggregate in production of concrete will be a right step. This research paper discusses about the study and experimental work of “Polystyrene Concrete”, comprising of polystyrene waste shredded aggregates. Polystyrene concrete is a type of concrete, produced from a mixture of cement, sand and expanded polystyrene aggregate (EPS or UEPS aggregates). Thermoplastic polymeric material which is in the beginning in the solid form (UEPS) and it can be expanded by the use of steam and an expansive agent is called as Polystyrene. The polystyrene waste shredded to size of coarse and fine aggregate is used to replace 40% of natural aggregates. Nine trial mixes with varying proportion of these three types of polystyrene waste shredded aggregates and water-cement ratio are used. The workability of the fresh concrete mix as well as compressive strength of concrete at 28 days was obtained. This study has revealed that the polystyrene waste can be effectively used for production of resilient light weight concrete. The polystyrene concrete is best suited material for non-load bearing resilient concrete structures such as partition walls and facades.

Keywords: polystyrene, concrete, light-weight, resilience, recycled plastic, conservation, impact

References:

Authors: S. Sarmah, S.K. Sarma, M. Rahman

Paper Title: An Intelligent Method for Bandwidth Utilization in IEEE 802.11e Wireless LAN

Abstract: IEEE 802.11 Wireless LAN, popularly known as WiFi, has become the admired source of internet connectivity for most of the offices as well as organizations. Due to the rapid growth of multimedia data and VoIP and also to provide better quality of service (QoS), bandwidth and management of bandwidth have become important factors in 802.11 wireless LAN. In 802.11 wireless LAN, Enhanced Distributed Coordination Access (EDCA) mechanism provides QoS with service differentiation by setting different priority to different traffic types. Some of the available methods provide priority based on user category also. In this paper we have proposed an intelligent bandwidth management technique based on the user priority value, traffic priority value and the bandwidth requirement value. By combining these three values, a new metric called request weight value is calculated. Based on this request weight value, dynamically bandwidth is allocated to the users. From the simulation results, we have seen that the proposed method performs well in proper utilization of bandwidth among the available users.

Keywords: Bandwidth, IEEE 802.11, Traffic sent, Traffic received, Load, Throughput, Delay

References:
1. Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications Amendment 8 (2005), Medium Access Control (MAC) Quality of Service Enhancements, IEEE Std. 802.11e.
2. J. Y. Lee and H.S. Lee, A performance analysis model for IEEE 802.11e EDCA under saturation condition, IEEE.
August 2019.
10. R. Arora. Voice Over IP (VoIP) and Standards and Protocols and Standards, arora@cis.oheio-state.edu accessed on 21st August 2019.
11. G.M. Khan, R. Arshad, A. M. Sahibzada, F. Ullah, “Intelligent Bandwidth Estimation for Variable Bit Rate Traffic”

Authors: Jitendra Prasad Upadhyay, Priti Raj Adhikari

Paper Title: Impact of Corporate Citizenship Activities on the Financial Performance of the Nepalese Life Insurance Companies

Abstract: Corporate Citizen Activities (CCA) is essential for any organization to attract and retain customers, and to beat the competition. CCA are the indirect and intangible assets of organizations and their response is a key indicator to achieve organizational goals. This paper attempts to examine the impact of corporate citizenship activities on the financial performance of Nepalese insurance companies. Descriptive and causal-comparative research designs are used to estimate the relationship of financial performance, the ROA and the NI (dependent variables) with independent variables (economic responsibilities, legal responsibilities, ethical responsibilities, and discretionary responsibilities). Data are collected from 325 respondents of 19 life insurance companies through structured questionnaires where the questionnaire was distributed to 500 respondents (the response rate is 65 per cent). Descriptive statistics, correlation, and multiple regression models are used to analyze the data. It is found that legal responsibility and discretionary responsibility are the major factors in determining the financial performance of insurance companies in Nepal. CCA helps to boost up the return in terms of profit.

Keywords: Financial performance, economic responsibilities, legal responsibilities, ethical responsibilities, discretionary responsibilities

Paper Type: Research paper

References:
Authors: A. Sangeetha, R. Rajakumari

Paper Title: Classification of Building Images using Fractal Features

Abstract: Cracks in concrete buildings may show the total extent of damage or problems of greater magnitude. Causes of cracks depend on the nature of the crack and the type of structure. Crack classification is an approach to using machine learning algorithms to find a particular type of crack. The image is preprocessed by image smoothing and removes noise using a Gaussian filter, whereas the Sobel edge detection method is used to detect the edges. By using k-means clustering, the image segmentation is carried out to identify the Region of Interest. Fractal dimension is an efficient measure for complex objects. Fractal features like fractal dimension, average, and lacunarity are calculated using a differential box-counting algorithm. The classification of the crack classifies the crack based on the characteristics derived from the crack area.

Keywords: crack classification; segmentation; narrow fractal features

References:
10. Dapeng Qi1, Yun Liu1, Qingyi Gu, Fengxia Zheng An algorithm to detect the crack in the tunnel based on the image processing J. Comput., 26 (3) (2015).

Authors: Nisha T P, Linda Sara Mathew

Paper Title: A Novel Method for Drug Repositioning Based on Heterogeneous Network

Abstract: Drug repositioning is a compelling technique to find new signs for existing medications. Despite the fact that few exploration have attempted to improve the precision of repositioning by joining information from more than one assets and various levels, it is as yet appealing to additionally review how to effectively abuse significant information for drug repositioning. As contrasted and the customary medication improvement from particle to item, drug repositioning is additional time and worth effective, quickening drug revelation technique. Medication repositioning methods might be ordered as both sicknesses based or drug-based. In this study at, propose an effective strategy, by means of utilizing Adverse Drug Reactions (ADRs) in light of the fact that the middle of the road, a heterogeneous wellbeing network containing drugs, infections, proteins and ADRs is constructed. The repositioning procedure dependent on ADR is equipped for profiling drugs related phenotypic information and can accordingly aid the resulting drugs utilize the disclosure of new recuperating.

Keywords: Adverse drug reaction, Drug repositioning, Heterogeneous network mining, Link prediction, Phenotype

References:
A University or educational institute generally receives a bulk of complaints posted by students every day. The issues relate to their academics or any issues related to their education or related to exams etc., because of these bulk of complaints received from the students every day, makes it difficult for the university to sort out them and classify them and send them to their respective departments for resolving the issues. In this project, we work on classifying these complaints based on the classes or departments they belong to, using. By using TF-IDF (term frequency-inverse document frequency) it finds terms which are more related to a specific document by converting to vectors. By capturing some keywords in the complaints, adding some weight to the keywords and using different Machine Learning classification’s we are classifying the complaint based on these keywords. This classification makes the works easier for the university and saves time which is used to sort them and gives better service for the students. Now they can directly send the complaints to the respective departments with ease.

**Keywords:** Classification, Complaints, Departments, Machine Learning, TF-IDF (term frequency-inverse document frequency), Vectors.

**References:**
1. Joao Filgueiras * et al. Barbossa*, Gil Rocha *, Henrique Lopes Cardoso*, Luís Paulo Reis* , Joao Pedro Machado *+ , Ana Maria Oliveira,Complaint Analysis and Classification for Economic and Food Safety,*Laboratorio de Intelig ´ encia Artificial e C ´ i encia

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**Authors:** S Nithish Kumar, M. Sai Subhakar, S Sumanth Reddy, K Veeresh, Venkataramana N

**Paper Title:** Students Query Classification System
Computadores (LIACC) Faculdade deEngenharia daUniversidade do Porto Rua Dr. Roberto Frias, s/n, 4200-465 Porto, Portugal.


Koray Balci -Department of Computer Engineering, Boğaziçi University, Istanbul, Turkey
Albert Ali Salah -Department of Computer Engineering, Boğaziçi University, Istanbul, Turkey


Mrs Sujata Khedkar a, Dr. Subhash Shinde: Deep Learning and Ensemble Approach for Praise or Complaint Classification, sh Shinde, Pratik, E,Computer Engineering Department, LTCE, Koparkhairane, Navi Mumbai, 400050.India, Dr. Subhash Shinde, Professor, Computer Engineering Department, LTCE, Koparkhairane, Navi Mumbai, 400709.India.


Imam Cholissodin, Maya Kurniawati, Indriati, Issa Arwani Informatics Department, PTLIK, Brawijaya University, Malang, Indonesia.Classification of Campus E-Complaint Documents using Directed Acyclic Graph Multi-Class SVM Based on Analytic Hierarchy Process 2014.


Authors: Devashee A. Joshi

Paper Title: COVID-19 Infodemic: Analysis of the Spread and Reach of Misinformation

Abstract: During the COVID-19 pandemic, the circulation of misinformation and fake news has generated lot of fact discrepancies and scientific oversights. Our research aims to comprehensively assess the spread of misinformation regarding COVID-19 and analyze its reach across demographic parameters like age group, gender and country of residence. Data Analysis has been performed using various open-source technologies like Python, Tableau, R Studio by generating diverse visual plots and Word Clouds. For experimental purposes, we considered India and USA as countries of focus and the data was collected accordingly. Furthermore, an independent, original Survey has been designed and conducted to trace the reach of viral, verbatim misinformation articles in both the countries. We studied the misinformation data across parameters like – misinformation types, motives and medium of spread. Our research proved to be of practical relevance, and it is gauged to be beneficial to strategize mitigation measures required to be enforced in not just COVID-19 pandemic like situations but also in various other fields where the misinformation problem persists.

Keywords: misinformation, COVID-19 misinformation, fake news, disinformation, survey analytics, big-data analytics, visual analytics

References:
Abstract: A novel distribution using Poisson-Generating family of distribution with parent distribution as shifted Gompertz distribution called Poisson shifted Gompertz distribution has been introduced. The estimation of unknown parameters is carried out via established methods including Maximum likelihood estimation (MLE). R software is applied for computational purposes. The application of the proposed model has been illustrated considering a real set of data and investigated the goodness-of-fit attained by the Poisson shifted Gompertz model through different graphical methods and test statistics where better fit was observed for the set of real data.

Keywords: Estimation method, LSE, MLE, Poisson- Generating family, Shifted Gompertz distribution

References:

Authors: Ujwala W. Wasekar, R. K. Bathla

Paper Title: Machine Learning for Diabetic Retinopathy Detection using Image Processing

Abstract: The disorder of Diabetic Retinopathy (DR), a complication of Diabetes that may lead to blindness if not treated at an early stage, is diagnosed by evaluating the retina images of eye. However, the manual grading of images for identifying the seriousness of DR disease requires many resources and it also takes a lot of time. Automated systems give accurate results along with saving time. Ophthalmologists may find it useful in reducing their workload. Proposed work presents the method to correctly identify the lesions and classify DR images efficiently. Blood leaking out of veins form features such as exudates, microaneurysms and
haemorrhages, on retina. Image processing techniques assist in DR detection. Median filtering is used on gray scale converted image to reduce noise. The features of the pre-processed images are extracted by textural feature analysis. Optic disc (OD) segmentation methodology is implemented for the removal of OD. Blood vessels are extracted using haar wavelet filters. KNN classifier is applied for classifying retinal image into diseased or healthy. The proposed algorithm is executed in MATLAB software and analyze results with regard to certain parameters such as accuracy, sensitivity, and specificity. The outcomes prove the superiority of the new method with sensitivity of 92.6%, specificity of 87.56% and accuracy of 95% on Diaretdb1 database.

**Keywords:** Classification, Diabetic Retinopathy, KNN, Lesions, Optic Disk segmentation

**References:**


8. Shailesh Kumar, Basant Kumar, “Diabetic Retinopathy Detection by Extracting Area and Number of Microaneurysm from Colour Fundus Image”, 2018, 5th International Conference on Signal Processing and Integer rated Networks (SPIN)


18. Qilei Chen, Xinzi Sun, Ning Zhang, Yu Cao, Benyuan Liu, “Mini Lesions Detection on Diabetic Retinopathy Images via Large Scale CNN Features”, 2019, IEEE 31st International Conference on Tools with Artificial Intelligence (ICTAI)


22. Vasima Khan, Deepshika Patel, Tariq Azhar Meena, Rajesh Shukla, “Application of deep learning techniques for automating the detection of diabetic retinopathy in retinal fundus photographs”, 2020, 2nd International Conference on Data, Engineering and Applications (IDEA)


Abstract: The main objective of this research is to use AES 256 GCM encryption and decryption of a web application system database called Accounting Information System (AIS) for achieving more privacy and security in a cloud environment. A cloud environment provides many services such as software, platform, and infrastructure. AIS can use the cloud to store data to achieve accounting with more performance, efficiency, convenience, and cost reduction. On the other hand, cloud environment is not secure because data is kept away from the organization. This paper focuses on how we deal with secure sensitive data such as accounting data AIS web application at web level encryption by using AES 256 GCM encryption to store data as encrypted data at cloud in a secure manner? Accounting Information System (AIS) has very sensitive data and its need to be more secure and safely in cloud because it’s not saved at local servers but at another cloud service provider. The storage of encryption and decryption keys are stored in locations and devices different from those in which the database is stored in the cloud for ensuring more safety.

Keywords: Accounting Information System (AIS), AES 256 GCM, Cloud Services, Database Cryptography

References:
4. V. Goyal, O. Pandey, A. Sahai, and B. Waters, “Attribute-based encryption for fine-grained access control of encrypted data.”.
5. J. Bethencourt, A. Sahai, and B. Waters, “Ciphertext-policy attribute-based encryption.”.

Authors: Alameen Eltoum Mohamed Abdalrahman

Paper Title: A Cloud Database based on AES 256 GCM Encryption Through Devolving Web application

Abstract: The main objective of this research is to use AES 256 GCM encryption and decryption of a web application system database called Accounting Information System (AIS) for achieving more privacy and security in a cloud environment. A cloud environment provides many services such as software, platform, and infrastructure. AIS can use the cloud to store data to achieve accounting with more performance, efficiency, convenience, and cost reduction. On the other hand, cloud environment is not secure because data is kept away from the organization. This paper focuses on how we deal with secure sensitive data such as accounting data AIS web application at web level encryption by using AES 256 GCM encryption to store data as encrypted data at cloud in a secure manner? Accounting Information System (AIS) has very sensitive data and its need to be more secure and safely in cloud because it’s not saved at local servers but at another cloud service provider. The storage of encryption and decryption keys are stored in locations and devices different from those in which the database is stored in the cloud for ensuring more safety.

Keywords: Accounting Information System (AIS), AES 256 GCM, Cloud Services, Database Cryptography

References:
4. V. Goyal, O. Pandey, A. Sahai, and B. Waters, “Attribute-based encryption for fine-grained access control of encrypted data.”.
5. J. Bethencourt, A. Sahai, and B. Waters, “Ciphertext-policy attribute-based encryption.”.

Authors: Khaled S. AlRasheed, Siti Fauziah Toha, Hazleen Anuar, Yose Fachmi Buys

Paper Title: Maximum Power Point Tracking using Light Dependent Resistor and DC motor for Solar Photovoltaic System in Kuwait

Abstract: In this paper a Maximum Power point (MPP) tracking system is developed using dual-axis DC motor feedback tracking control system. An efficient and accurate DC motor system is used to increase the system efficiency.
efficiency and reduces the solar cell system cost. The suggested automated DC motor control system based on the photovoltaic (PV) modules operated with the μ-controller. This servo system will track the sun rays in order to get MPP during the day using direct radiation. A photometric cell is used to sensor the direct sun radiation and to feed a signal to the μ microcontroller and then select the DC motor mechanism to deliver optimum energy. The proposed system is demonstrated through simulation results. Finally, using the proposed system based on microcontroller, the system will be more efficient, minimum cost, and maximum power transfer is obtained.

**Keywords:** DC moto, LDR, MPPT, μ-controller, Photovoltaic

**References:**

**Authors:** Axetha Menam, K. Sunil Kumar, P. Rupa

**Paper Title:** Flexural and Shear Behavior of Beams Reinforced with GFRP Rebars

**Abstract:** A new inexperienced constructing material is glass fibre reinforced polymer (GFRP) rebar. GFRP rebars are non-corrosive, non-conductive, light-weight substances and have an excessive longitudinal tensile capacity that is beneficial for use in civil infrastructure applications. In this analysis, the overall performance of GFRP rebar-reinforced concrete beams was assessed. Full scale exams had been conducted underneath four-point bending on eight one hundred fifty x 250 x 1500 mm beams to inspect the influence of GFRP specimens reinforced through both GFRP or metal rebars with flexural reinforcement ratios (pf) ranging from 0.53 to 1.45 times the balanced ratio (qf). In phrases of crack pattern, load deflection behaviour, load strain conduct and peak capacity, the check facts used to be analysed to decide the flexure and shear conduct of GFRP RC beams. The find out about confirmed that the ultimate load capacity of beams is immediately proportional to the flexural reinforcement ratio, and for steel bolstered specimens, cracking moments had been greater, relative to GFRP. For GFRP RC beams, the peak carrying ability is extra than steel beams. GFRP beams confirmed greater deflections than bolstered beams of steel. The findings additionally confirmed that the building of GFRP bolstered beams in concrete with GFRP stirrups can be influenced by means of shear failures. The reinforcement ratio and shear design of GFRP bolstered concrete beams is affected by way of their behaviour.

**Keywords:** GFRP Rebar; Steel Rebar; Flexure; Shear; Deflection; GFRP stirrups.

**References:**
4. ACI Committee 440, “Guide for the design and construction of structural concrete reinforced with FRP bars” Farmington Hills (MI): American Concrete Institute, 2006.

Authors: Rohan Yashraj Gupta, Satya Sai Mudigonda, Pallav Kumar Baruah

Paper Title: TGANs with Machine Learning Models in Automobile Insurance Fraud Detection and Comparative Study with Other Data Imbalance Techniques

Abstract: A data-driven Fraud detection model for insurance business can be seen as a two-phase method. Phase I is data-preprocessing of a given dataset, in which, handling class imbalance is a major challenge. Phase II is that of classification using Machine Learning models. It is important to comprehend if there is any influence of the technique used in Phase I on the efficiency of the model used for Phase II. A natural query that intrigues one is whether there is a golden combination of a technique in Phase I and a specific model in Phase II for assured best performance of a Fraud Detection Model.In this work, we study a few techniques for handling data imbalance issue namely, SMOTE, MWMOTE, ADASYN and TGAN in combination with various classifier models like Random Forest (RF), Decision Trees (DT), Support Vector Machines (SVM), LightGBM, XGBoost and Gradient Boosting Machines (GBM). The study is conducted on a dataset for motor vehicle insurance fraud detection. We present a comparison of various combinations of data imbalance technique and classifier models. It is observed that the combination of TGAN in Phase I and GBM in Phase II gives the best performance. This combination performs best in terms of important metrics such as false positive rate, precision and specificity. We obtained the lowest false positive rate of 0.0011 and precision of 0.9988 which minimizes the most critical risk for the insurance company of falsely classifying a non-fraud claim as a fraud. Finally, the specificity of 0.9989 indicates that the model was also very good at predicting the non-fraudulent claim.

Keywords: Fraud Detection, Data Imbalance Techniques, Insurance Fraud, Machine Learning, Synthetic Data Generation, Class Imbalance.

References:

6. A. Bodaghi and B. Teimourpour, “The detection of professional fraud in automobile insurance using social network analysis.”
Conference on Data Science and Business Analytics (ICDSBA), 2018, pp. 528–531, doi: 10.1109/ICDSBA.2018.00104.


Authors: Akanksha Gupta, Ravindra Prapat Narwaria, Madhav Singh

Paper Title: Review on Deep Learning Handwritten Digit Recognition using Convolutional Neural Network

Abstract: In this digital world, everything including documents, notes is kept in digital form. The requirement of converting these digital documents into processed information is in demand. This process is called as Handwritten digit recognition (HDR). The digital scan document is processed and classified to identify the handwritten words into digital text so that it can be used to keep it in the documents format means in computerized font so that everybody can read it properly. In this paper, it is discussed that classifiers like KNN, SVM, CNN are used for HDR. These classifiers are trained with some predefined dataset and then used to process any digital scan document into computer document format. The scanned document is passed through four different stages for recognition where image is pre-processed, segmented and then recognized by classifier. MNIST dataset is used for training purpose. Complete CNN classifier is discussed in this paper. It is found that CNN is very accurate for HDR but still there is a scope to improve the performance in terms of accuracy, complexity and timing.

Keywords: Handwritten digit recognition (HDR), Deep learning, Convolutional Neural Networking (CNN), Artificial Neural Network (ANN), Object Character Recognition (OCR), Modified National Institute of Standards and Technology (MNIST), SVM (Support Vector Machine), KNN (K nearest Neighbors), Rectified
Linear Unit(ReLU), NN (Neural Networks).

References:

Authors: Rekha Sharma, R. N. Yadav

Paper Title: Effect of Admixing Fly Ash on Cementing Characteristics of Magnesium Oxychloride Cement

Abstract: Investigations pertaining to the effect of admixing different amounts of fly ash on setting characteristics and compressive strength of magnesium oxychloride cement has been carried out in this paper. For this purpose, two different dry mix compositions (1:0 and 1:1) of magnesia and dolomite were prepared and 20\% and 30\% of magnesium hydroxide were added to them in dry mixtures. The dry mixtures were then cured with 24\% Be concentration of magnesium chloride gauging solution. It was observed that initial and final setting times of cement blocks tend to increase with increasing amount of fly ash in dry mix. MOC cement blocks of 1:1 composition admixed with fly ash displayed good cementing characteristics.

Keywords: Compressive strength, fly ash, Gauging solution, Inert filler, MOC, Setting time.

References:

248-253
Authors: R. Rohith, S. P. Syed Ibrahim

Paper Title: Screening of chest X-Rays for Tuberculosis using Deep Convolutional Neural Network

Abstract: Tuberculosis is a life-threatening disease that mainly affects underdeveloped as well as developing nations. While lethal it is often resistive to antibiotics and the safest way to treat a patient is to detect the disease’s presence as soon as possible. Various techniques have been developed to diagnose tuberculosis and radiography of the chest is one of such methods that works well for over a decade. Though an effective method still the success depends on the medical officer who examines the chest X-rays. Thus this paper proposes an approach for detecting X-ray abnormalities using deep learning. The systems output is assessed on two open datasets and accuracy of 84 percent is achieved.

Keywords: Image augmentation, deep learning, radiography

References:
1. jaeger, s., karargyris, a., antani, s., & thoma, g. (2012, august). detecting tuberculosis in radiographs using combined lung masks. in 2012 annual international conference of the ieee engineering in medicine and biology society (pp. 4978-4981). ieee.
2. jaeger, s., karargyris, a., antani, s., & thoma, g. (2012, august). detecting tuberculosis in radiographs using combined lung masks. in 2012 annual international conference of the ieee engineering in medicine and biology society (pp. 4978-4981). ieee.
3. hogeweg, l., mol, c., de jong, p. a., dawson, r., ayles, h., & van ginneken, b. (2010, september). fusion of local and global detection systems to detect tuberculosis in chest radiographs. in international conference on medical image computing and computer-assisted intervention (pp. 650-657). springer, berlin, heidelberg.
5. karargyris, a., siegelman, j., tziortzi, d., jaeger, s., candemir, s., xue, z., ... & thoma, g. r. (2016). combination of texture and shape features to detect pulmonary abnormalities in digital chest x-rays. international journal of computer assisted radiology and surgery, 11(1), 99-106.
9. szegedy, c., liu, w., jia, y., sermanet, p., reed, s., anguelov, d., ... & rabinovich, a. (2015). going deeper with convolutions. in proceedings of the ieee conference on computer vision and pattern recognition (pp. 1-9).

Authors: Bhavya R, Geetha K S

Paper Title: Multiple Detection and Tracking of Multi Class Vehicles using Locality Sensitive Histogram

Abstract: Multiple object detection and tracking in a cluttered background is most important in vision-based applications. In this paper, the goal is to develop a classifier that detects and tracks multiple objects thereby ensuring robustness and accuracy. Locality Sensitive Histogram feature extraction is used, which adds contributions from all the pixels in an image. These features extracted are trained using decision tree classifier which performs with an accuracy of 97%. Experimental results demonstrate the objects tracked and detected under different scale and pose variations. Evaluation and comparison of the proposed method with various other techniques is performed using performance parameters. Results depict that the proposed technique outperforms with increased accuracy and is the top performer.

Keywords: Decision tree, Detection, Locality Sensitive Histogram, Tracking

References:
The Role of Social Networks in the Formation of Social Lifestyle Changes Caused by the Covid-19

Abstract: Today, the outbreak of the coronavirus has become a major global crisis and has affected many countries. One of the consequences of the spread of this virus is the creation of social panic and rapid changes in people's lifestyles, which the social networks are noticing. The impact of social media, which plays an effective role even in people's lifestyles, is being examined in the Covid-19 Pandemic. The purpose of this paper is to investigate the role of social networks in lifestyle changes in the coronavirus pandemic period. The present research is quantitative in terms of approach and in terms of type and nature, it is a descriptive survey. The data collection tool was assumed to be the Twitter social network. A total of 100,000 cases have been investigated based on the support vector machine (SVM) method and its results have been compared with decision tree and naive Bayes methods. Data processing is done using Python software. The trained model of SVM has a success rate on accuracy as near to 97% and also has 92% in the F1 score. The results show that social networks have about a 30% effect on lifestyle changes and stress during the pandemic periods. In order to form logical and desirable behaviors instead of dramatic behaviors such as fear and social stress in the use of social networks, social agents have their priority in organizing information and knowledge and informing the target community about the constructive and harmful cases of these networks and place different social roles and activities in society. Accordingly, providing the right news and information through trusted and responsible channels and platforms can play an important role in the proper management of society.

Keywords: Classification, Covid-19, Social networks, Support vector machine.

References:
From Prediction of the Improvement of the Quality towards an Equitable Sharing of the Cost of the Improvement between Business Processes

Abstract: In this work we have developed a quality approach for the quality assessment of data related to the business process for quality projects, this approach uses the cost of the implementation of quality combined with the impact of quality broken down into the benefit and efficiency of data. Shapley value helps us choose the business processes that will collaborate to reduce the cost of improvement. Deep learning helps us calculate the quality values for any dimension based on history of previous improvements. To reach our goal, we used the cost-benefit approach (ACB) and the cost-effective approach (ACE) to extract the impact and cost factors then using a multi-optimization algorithm. Objective we will minimize the cost and maximize the impact for each business process and the deep learning introduced will complement our approach to learn from the previous improvements after validation of the processes which will be chosen as well as the values calculated after improvement. The importance of this research lies in the use of impact factor and the cost of the quality evaluation which represent the basis of any improvement, our approach uses generic multi-objective optimization algorithms which will help choose the minimum value of each business process before the improvement, adding a layer of predicting and estimating the quality value of the data generated by the business process before the improvement even, while the value of shapley has aim to minimize the cost of quality projects during fission and merger of companies and even within a company composed of several departments to have the lowest possible total cost to help companies manage the portfolios of quality.

Keywords: Artificial neural network, data quality assessment, data quality improvement, deep learning, prediction of improvement in data completeness shapley value.

References:


Authors: Yamanappa Doddamani, Ravindra R Malagi, U C Kapale

Paper Title: Multi-Kernel Learning based Sugar Industry Load Forecasting

Abstract: Sugar industry which plans for power usage from Bagasse also needs the load forecasting carried out using the energy audit data. The stochastic nature of the load demand of the sugar industry needs to be forecasted in advance for the assuring uninterrupted power delivery to the industry. The manual energy audit data obtained from the sugar industry for a period of time is obtained and trained on a regression based on MultiKernel Learning (MKL). The Support Vector Regression (SVR) formulation is applied with the MultiKernel topology and the performance parameters including the Absolute Error (MAE), Mean Absolute Percentage Error (MAPE) is observed in the implementation. The algorithm is the Multi Kernel Support Vector Regression algorithm using the Python based toolbox.

Keywords: MultiKernel Learning, Support Vector Regression, Load Forecasting, Sugar Industry Energy Audit

References:
1. Kriengkrai Assawamartbunleel et al., “Specific Energy Consumption of Sugar Cane Mills in Thailand”, CHEMICAL ENGINEERING TRANSACTIONS, The Italian Association of Chemical Engineering, VOL. 70, 2018
7. R. Weron, Modeling and Forecasting Electricity Loads and Prices. John Wiley & Sons Ltd, dec 2006.


Authors: Markel Grace Capili-Kummer, Maria Leodevina Corpuz-Batugal

Paper Title: Dynamic Alumni Monitoring with Decision Support System

Abstract: The present study focuses on gathering a real-time data on the employability of graduates. The web-based Dynamic Alumni Monitoring with Decision Support System is developed and linked to the institution’s website to gather alumni information. To realize the objective of this study, the agile method research design process is utilized. The agile methodology is a project management technique in software development process. The system has the capacity to monitor the graduates. It provides alumni verifications and confirmation after the pre-registration. The system has a platform in maintaining alumni data and notifications to periodically update the graduates’ profiles anytime and anywhere. The system has the capacity to make updates concerning alumni activities of the University. These are sent through their registered email addresses. Likewise, the system generates important reports needed by the school and its administrators.

Keywords: Alumni, Alumni Monitoring System, Employability Skills, Decision Support System, Graduate Employability

References:
17. In-text reference: (Coetzee, Ferreira, & Potgieter, 2015)

Authors: B Mallikarjuna, K N Ravi, V Muralidhara, N Vasudev

Paper Title: FEM Based Electric Potential Distribution Analysis of Porcelain Insulator using MATLAB PDE tool
Abstract: In high voltage transmission porcelain materials are important one. To mount the transmission line on a transmission tower we need an insulation material. Many literatures deal about the silicon and rubber-based insulators. In this paper the porcelain is modelled as FEM model using the PDE tool and electric potential distribution is analyzed. The PDE tool come in handy to draw the shape of the insulator. In this paper the straight shed and alternate shed insulators are analyzed with the MATLAB PDE tool and results are analyzed. then using some random water droplets in the insulator, the impact is observed.

Keywords: Porcelain Insulator, Partial Differential Equation, Finite Element Method, Potential Distribution Analysis

References:

Authors: Sanjay Shekar N C, Hemalatha H N

Paper Title: Land use and Land Cover Characteristics using Bhuvan and MODIS Satellite Data

Abstract: Understanding vegetation characteristics is essential for watershed modeling, like in the prediction of streamflow and evapotranspiration (AET) estimation. So, the present study was taken to analyze the Land use/Land cover characteristics in a Sub-humid tropical river basin which is originating in the forested part of Western Ghats mountain ranges using the Moderate Resolution Imaging Spectroradiometer (MODIS) and Bhuvan satellite data as inputs for the algorithm. All the fourteen LU/LC characteristics present in the Hemavathi basin (5427 km2) were analyzed in the basin using satellite data which is located in Karnataka, India. Land Surface Reflectance (LSR) and Land Surface Temperature (LST) were the two data products used as input to map the pixel-wise variations in albedo, the fraction of vegetation (FV) and Land Surface Temperature (LST). It was found from the rainfall data that the year 2019 experienced higher rainfall than the average and 2012 very low rainfall than the normal. Parameters considered in this study Albedo, LST and FV are susceptible to wetness and temperature conditions. Variations in albedo and LST were similar in that both values in the summer of the year 2012 and 2013 are high than winter due to the high temperature and less wetness from all the LU/LC classes. Similarly, FV variations show opposite trends that values in the summer of 2019 and 2012 are low than in
winter, which is due to the high temperature and less wetness. The results and discussions show that significant realistic variations in albedo, LST and FV with respect to all LU/LC classes. All the LU/LC classes characteristics in this study show significant variations with respect to wetness and temperature conditions, so the methodology proposed in this study can be used in regional monitoring of LU/LC classes in a convenient and cost-effective manner.

Keywords: LU/LC characteristics, MODIS, land surface temperature, land surface reflectance, fraction of vegetation, albedo.

References:

Authors: Dahlia Fernandez, Aini Aman

Paper Title: The Influence of Robotic Process Automation (RPA) towards Employee Acceptance

Abstract: There are various organizations that have automated the technology used in accounting and financial services to increase productivity and optimize operating costs. Among the automation technology transformations used in accounting and financial services is Robotic Process Automation (RPA). However, not all technological transformations are positive because they may cause fear among employees due to changes in the work process. Hence, the aim of this study is to understand the influence of RPA towards employee acceptance in the finance and accounting unit. This study uses an in-depth case study approach in one of the largest oil and gas company in the world. The result of the study showed that RPA technology has significant influences on employee acceptance. The results are discussed according to five elements which are threatening job opportunities, changes in the scope of work, adaptation to technology, career advancement, work-life balance, and job satisfaction. The results showed that employees must adapt with the changes due to the new technology implementation and embrace it positively because at the end of the day, new automation will always appear. Furthermore, the changes that take place must be openly accepted in order to maintain the reputation of their profession as well as the achievements of the organization.

Keywords: Robotic Process Automation, automation technology, finance, accounting, technophobe

References:
Mechanical Properties and Durability of PET waste Aggregates in Roof Tiles Production.

Abstract: Managing plastic waste is a global challenge that challenges the protection of our ecosystem due to its high rate of generation and its non-biodegradability. PWs must, however, be carefully handled to mitigate the emissions involved with their incineration and dumping into landfills. Plastic waste can be recycled into new usable building materials. In this analysis, shredded PET waste aggregate from a recycling center was heated at 230 0C and used as a binding aggregate incomplete replacement of cement with river sand to produce floor tiles. The properties of the aggregate materials and roof tiles (including their distribution of particle size, silt, clay and dust content, relative density, water absorption, porosity, flexural and compressive strength) were tested on different PET waste: sand mixing ratio, 100%, 90%, 70%, 50%, and 30%. Results revealed that the tiles produced by 30% PET and 70% river sand (3:7) achieved higher density, flexural and compressive strength than the other percentages of the mixture. The compressive strength of the tiles produced with 30 percent PET waste composition was greater than that of cement concrete (at 28 days of curing) for residential buildings. As a result other percentages of the mixture. The compressive strength of the tiles produced with 30 percent PET waste composition was greater than that of cement concrete (at 28 days of curing) for residential buildings. As a result other percentages of the mixture. The compressive strength of the tiles produced with 30 percent PET waste composition was greater than that of cement concrete (at 28 days of curing) for residential buildings. As a result other percentages of the mixture. 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The compressive strength of the tiles produced with 30 percent PET waste composition was greater than that of cement concrete (at 28 days of curing) for residual...
Abstract: Most refrigerating systems are driven by an internal combustion engine that increased the conventional vehicle's oil consumption and tailpipe emissions. The solar-assisted refrigerating electric vehicle (SAREV) system powered by a hybrid energy mode has been designed. The hybrid energy (solar + grid) was incorporated into this vehicle rooftop to charge the battery bank. In this study, the integrated system was driven by a hybrid energy mode that reducing the wastage and deterioration during temporary storage and transportation in different areas. The performance of the integrated system was tested under different operating conditions. The effect of load variation on maximum speed and travelling distance of vehicle was analyzed. The battery bank charging and discharge performance were studied with and without solar energy. The refrigerator was consuming 116 Wh energy per day to maintain a -12 oC lower temperature on the no-load condition at the higher thermostat position. The refrigerator was run continuously for 4-6 days on battery bank energy and 7-10 days on the full load condition of hybrid energy. The vehicle was travelling at a maximum of 23 km/h speed on full load condition. The vehicle needed torque 14-16 N-m at the initial phase for each load condition. Torque demand was decreasing with the increasing speed of the vehicle. The full-charged battery bank's initial voltage was $51.04\, V$, and the cut-off voltage was $46.51\, V$. The vehicle was covering a distance of 62.4 km with the battery bank alone at full load condition. It was travelling 68.3 km distance with hybrid energy mode. The vehicle's integrated system was the best in maintaining battery performance, power contribution capability, and drive range enhancement.

Keywords: Photovoltaic (PV) module, Maximum power point tracking, Refrigerated electric vehicle (REV) performance, Energy consumption.

52. References:

Abstract: Incremental industrialization and urbanization is the cause of enhanced energy use as it increases the building of new lines and more inductive loads. As a result, the transmission system losses increased, and the magnitudes of voltage profile values deviated from the stated value, resulting in increased cost of active power generation. To mitigate these issues, adequate reactive power compensation in the transmission line and bus systems should be done. Reactive power is regulated by the proper position of the Flexible AC Transmission System (FACTS). Unified Power Flow Controller (UPFC) is a voltage converter system that increases the voltage profile and reduces loss. In this paper, the optimal power flow solution is considered using a FACTS device based on Multi Population Modified Jaya (MPMJ) optimization algorithm. Using the Analytical Hierarchy Process (AHP) system, the optimal position of the UPFC device is determined by considering the most useful objective function provided by priorities and weighting factors. Therefore, on the standard IEEE-57 bus test system, the proposed MPMJ optimization algorithm is implemented with UPFC for optimal fuel cost values of generation, real power loss, voltage deviation and sum of squared voltage stability index. The result obtained by the proposed algorithm is contrasted with the recent literature algorithm.

Keywords: Analytical Hierarchy Process, Meta-heuristic algorithm, MPMJ, Optimal Power Flow, UPFC


