PROCEEDINGS OF INTERNATIONAL E-CONFERENCE ON RECENT TRENDS IN MATERIAL SCIENCE, BIO- SCIENCE AND INFORMATION TECHNOLOGY

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1. A Simple New Method for Purifying Grain Size by Pulse Laser Ablation

Mr M.Moshe

Princeton Institute of Engineering & Technology for women

Abstract

We present a new method to prepare collide with fine grain or (quantum dots) in solutions by changing the function of laser used, between ablation and irradiation by this can be obtained changing the location of the focal plane of the focusing lens and hence changing the fluence, which leads to the fragmentation of the large grains to smaller grains size. Repeating the changing process several times can lead to obtaining quantum dots or very small grain size.

2. Design and Fabrication Sensors for Toxic Gases Using PLD

Mrs. N.Vidya

Princeton Institute of Engineering & Technology for women

Abstract

The surface morphology of the deposits, studied by scanning lepton (SEM) and atomic force (AFM) microscopes, has uniform distributions of grains within the films and grains area unit within the Nanocrystalline dimensions AFM analysis evidenced the presence of spherical silver particles on the catalyst surface and provided quantitative surface parameters as form dimension, surface roughness and mean particle diameter. In this work a new approach was manufactured sensors for poison gases (CO, H2) that effects on the quality of life. The sensitivity toward (CO, H2) poison gases has been measured under 10 ppm concentrations. SnO2 doped with 15 % Ag noble metal has a big sensitivity and increase in the sensing current for poison gases (CO, H2). The thermal annealing effect of the sensitivity thin films SnO2 doped with 15 % Ag to the poison gases has been studied

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3. Predicting of Asymptotic Properties of Magnetic Lens Using Analytical Potential Function

Dr. Rajeev Srivasthava

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Abstract

The theoretical computer research completed to depict a combination enhancement strategy of even attractive focal points with the guide of numerical examination techniques, where a specific scientific form for the axial scalar potential was proposed to be a target task. This feature has an optimization parameter which is the pole piece radius (R) that its influence on the asymptote properties was investigated. Using the simulation in Matlab, the electron beam trajectory was specified and magnetic lens pole piece shape has been reconstructed. Results have clearly shown that this lens can be reconstructed with projector focal properties. Moreover, the outcomes clearly show that there is a great capacity for delivering a regular attractive field for the bending free twofold pole piece projector focal points to be utilized later in the electron microscope.

4. Adaptive Method for Landsat ETM+ Gap Filling Using Successive Temporal Images

Mrs. P.Jyothi

Princeton Institute of Engineering & Technology for women

Abstract

Systematic fact gaps on retrieved imagery were imposed by failure of the (SLC) on ETM+ leading to elimination of potential to provide spatially continuous fields. While a number of algorithms were developed for filling these gaps, the majority of the suggested algorithms can only be applied on fairly homogeneous areas. The retrieving band aspect and element may be

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challenging if they are utilized to heterogeneous landscapes. In this study, we adopted the criterion of correlation between satellite images to determine spatially match between images. Three different multi temporal images were used in filling the gaps in a period not exceeding 48 days, and two algorithms are presented. In the first algorithm, we got one image free of gaps, when using three images of different times, for a period not exceeding 48 days, while in the second algorithm, we got images free of gaps within a period of time not exceeding 16 days depending on the images resulting from the first algorithm. Simulated and true SLC-off ETM+ bands have been used to examine the performance of the proposed method via comparing with the original data so as to examine the resulting bands from the first and the second algorithms which are based on the correlation model. The statistical reviews indicate that in the proposed methods we can get better values of un-scanned pixels accurately, specifically in target images (vegetation, soil and water).

5. Studying Effect of Temperature on Electron Transport Parameter and Coefficients in CF3I Mixture with N2O

Mrs D.Anuradha

Princeton Institute of Engineering & Technology for women

Abstract

In this study, the electron transport coefficients in CF3I gas and their mix with N2O are calculated by using two-term approximation of Boltzmann equation (BEq) in the E / N extent of (100 - 700) Td for the first time. This work also examines the effect of temperature change on these parameters, including the electron mean energy (ϵM), density normalized mobility (μN), longitudinal diffusion coefficient (NDL), ionization (α/N) and attachment coefficients (η/N).To our knowledge, no previous work has studied electron transport parameters and coefficients of these mixtures. The concentration of N2O in the mixture is ranged from 20% to 80% and the gas temperature range is 300-3500 K under 1atm. Our analysis explores that for concentrations below 20%, of electron transport parameters and coefficients be comparatively approaches to pure CF3I values. In contrast, the effect of adding N2O in the mixture increases the ionization coefficients, while the attachment coefficient decreases because CF3I is more electronically than

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N2O and the properties of CF3I gas dominate the mixture. As it seems clear the dependence of electron transport coefficients on the temperature of mixture.

6. Investigation and Prepared of Cu2ZnSnS4 Compound Films as a Gas Sensor by Pulse Laser Deposition

Mrs G.Sushmitha

Princeton Institute of Engineering & Technology for women

Abstract

The prepared samples of thin-film by laser ablation method were achieved. Powders of (CZTS) and then compressing by approximately 3 tons in Pellets form. The samples were vaporized using the Nd-YAG laser with different laser energies (400mJ, 500mJ, 600mJ, 700mJ, 800mJ) and number of pulses (300) pulse, frequency (6Hz) and wavelength (1064) nm obtained the plasma aura in10-5mbar pressure. Results are shown using gas sensor system study the sensitivity of Cu2ZnSnS4 compound films prepared, that all samples are working, and the best operating temperature ranges from 150-250 Co, and the sensitivity decreases at temperatures above 200 Co, The CZTS are good sensors for the sensor design of gas (NO2). Sensitivity reactions of films with gas (NO2) decrease with increasing of temperature and laser energy. In general, the response time as well as recovery time decrease to increase temperature, at other words, when the temperature increases, the sensor's response increases. It turned out that there is a relationship between the laser energy and granular size from side, and the granular size and sensitivity from another side whereas, the decreases the granular size, the more sensitive the sample is and vice versa.

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7. A Systematic Review Of Fuzzy Logic Approach In Different Areas Of Sports

Mrs .N.salma sulthana

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Abstract

The fuzzy logic theory, which is a subset of logical analysis, enables the efficient implementation of approximate, ambiguous, unclear, dynamic, prolonged, and, at the same time, more realistic conditions that are more like the actual physical world and human thought. the current work was motivated by the absence of applications in the athletic domains, prior study on (AI) artificial intelligence in sports, and the useful number of interdisciplinary solutions, including fuzzy-logic approaches. All relevant studies were categorized according to the names of the publishers, the year of publication, the main goal of the study, system suggestions and output values, and finally comments that offered insightful information about the research that was cited in numerous publications to conduct a systematic review. Following that, the many results of Fuzzy logic Evaluation in Sports were examined. This study's findings revealed the usefulness of the fuzzy logic technique in assessing sports performance accuracy. Even though the authors utilized a few data mining techniques, the accuracy of these methods was lower than that of the adaptive neural fuzzy method. This method is useful for recognizing and describing aspects of degree of truth and uncertainty. Overall, this chapter describes an acceptable platform for detecting research gaps in the subject of fuzzy logic approach in physical education for additional studies or study.

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8. Effect of Doping different Percentages of Lithium Fluoride on Some Optical Characteristics of Poly-Methyl Methacrylate Polymer

Mr. V.Srikanth

Princeton Institute of Engineering & Technology for women

Abstract

This study implements the optical characteristics of Poly-Methyl methacrylate (PMMA) polymer before and after doping different percentages of Lithium Fluoride (LiF). Where the specimens were formulated as disk shape with diameter of (2.5 cm) and thickness of (0.148 cm) using Thermal pressing technology. The absorbance and reflectivity spectra were recorded in addition to their coefficients at range (300-1100) nm. Also, the study has included the determination of refraction and real and imaginary part of dielectric constant coefficients.

9. On a new application ofFourier series by Borel's method

Mr .S.Chandrabhanu

Princeton Institute of Engineering & Technology for women

Abstract

In this research paper, we have introduced a new application of Fourier series associated with Borel integral method. Further, a new and well known arbitrary results has been obtained by applying main result. Considering some suitable conditions of a previous known and famous results has been obtained which validates the current findings. This work is motivated by the famous work of R. Mohanty [7].

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10. "Speech Audio Quality Verification with Audio Data Processing using Artificial Intelligence and Machine Learning"

Mrs M.Alekhya

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Abstract

Hateful speech is presently of broad and current interest within the realm ofsocial media. The obscurity and suppleness afforded by the web made it simple for enjoyer to speak in an aggressive manner. And asquantity ofon-line hate speech is increasing, ways that mechanicallydetect hate speech is incredibly a lot of needed. Moreover, these issues havealso been attracting the tongue process and MachineLearning communities a great deal. Therefore, the target l of this paper is to appear at howeverNatural Language process applies in detective work hate speech. any a lot of, this paper conjointly applies a current technique during this field on a dataset. As neural network approaches outperforms existing ways for text classification issues, a deep learning model has been introduced, namelythe Convolutional Neural Network. This classifier assigns every tweet toone of the classes of a Twitter dataset: hate, offensive language, and neither.The performance of this model has been tested mistreatment the accuracy, as wellas viewing the exactitude, recall and F-score. The ultimate model resulted in an accuracy of 92%, exactitude of 92%, recall of 91% and a F-measure 91%.However, once viewing every category singly, it ought to be noted that alot of hate tweets are misclassified. Therefore, it's counseled tofurther analyze the predictions and errors, specified a lot of insight is gainedon the misclassification

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11. Highly accurate support vector machine-based missing data prediction for bulk data processing

Mr.B.Krishnamurthy

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Abstract

Nowadays, digital data processing plays an important role in various significant fields such as biomedical, marketing, data analytics, machine learning, etc. Bulk data collection and processing are complex tasks due to the complexity of collection and manipulation. Also, from bulk data, there is a lot of probability of losing the data due to improper collection. Missing data prediction can be performed manually and automatically. Manual data prediction is possible for databases with a small size but complex in cases of the larger database. This paper proposed a novel technique based on the Support Vector Machine (SVM) to predict the lost data from a bulk dataset automatically. This paper uses various algorithms to get the similarity between the users and the contents. Here it uses City Block distance (CBD) metrics, Root Mean Square Error (RMSE), Pearson Coefficient Measurement (PCM), and Cosine Similarity Measurement (CSM). This paper is validated using the Movie Lens dataset, and it produces promising performances. Compared to the system's performance with the other existing methods among all methods, it has better performance.

12. Effect of Nonlinear Dispersion Fiber Length and Input Power on Raman Scattering

Mrs.P.Amulya

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Abstract

The increasing demand for information transmission makes the problem of establishing a laser system is operating in C-band (1530-1565nm) wavelength region is a significant task, which attracts a lot of researchers' attention lately. In this paper, the ability to produce signals of multi

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wavelengths using a single light source was adopted to employ the Raman scattering effect for establishing Raman shift configuration-based multi-wavelength fiber lasers, which is not currently addressed in available schemes. This is what prompted to simulate the performance of C-band multi-wavelength produced by Raman fiber laser that utilizing fiber Bragg grating (FBG) to amplify pumped power and also utilizing the single-mode fiber (SMF) as the nonlinear gain medium. The proposed laser system is designed by OptiSystem software. The resulted maximum output power was 22.07dB at Wavelength Division Multiplexing (WDM) of 23.01dB input power. The achieved multi-wavelength that generated by Bragg grating and SMF was containing six Stokes and anti-Stokes, they are: 1548.51nm, 1549, 31nm, 1550.116nm, 1550.91nm, 1551.72nm, and 1552.52nm, in which the resulted computed efficiency of the system was raised up to 80.23% at input power 20 dB and dispersion fiber length of 0.2 km.

13. Assessment of Laser Effects on the Structure and Electrical Properties of the Compound Bi2-xAgxSr2Ca2Cu3O10+δ Superconducting

Dr.V.Murali Krishna

Princeton Institute of Engineering & Technology for women

Abstract

This research contains preparing the superconducting compound Bi2-xAgxSr2Ca2Cu3O10+δ and studying its structural and electrical characteristics. The samples were prepared using the solid-state method in two stages, and different concentrations of x were (x= 0.2,0.4,0.6,0.8) replaced instead of bismuth Bi. Then, using a hydraulic press 9 ton/cm2 and sintering with a temperature of 850°C, the samples were pressed. Next, x-ray diffraction is used to study the structural properties. The study of these samples was presented in different proportions of x values, where x = 0.4 is the best compensation ratio of x. A critical temperature of 1400C and the Tetragonal structure was got. After that, the effect of laser nidinium _ yak (Nd: YAG laser) was used on the compositional. It was found that the temperature value increased, so we got the best critical temperature, which is 142 0C.

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14. Overview of Abdominal Wall Hernias and Laparoscopic Transabdominal Retro Muscular (TARM) Repair

Dr.Rajeev Srivasthava

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Abstract

The anterolateral muscles of abdomen act as a strong barrier enclosing the abdominal viscera, maintaining the intra-abdominal pressure, and assisting in respiration.A protrusion of a viscus or portion of a viscus through a hole in the abdominal wall is known as an external hernia. The two main categories are aetiology and location. Primary ventral hernias can occur (umbilical, epigastric, Spigelian, obturator, or lumbar hernias). Ventral wall hernias are often treated surgically, either through an open repair through a skin incision or through a laparoscopic procedure (herniotomy, herniorrhaphy, or hernioplasty). Due to the risks associated with intraperitonealonlay mesh repair for ventral hernias, open Rives-Stoppa surgery is preferred over sublay mesh implantation (ORS). Using a polypropylene mesh (PPM) with sublay, midline closure, and the addition of posterior component separation (PCS) by transversusabdominis release, a low-cost laparoscopic trans-abdominal repair was required (TAR). Therefore, the aim of the present study to review abdominal wall hernias managed using laparoscopic transabdominal retro muscular (TARM) repair.

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15. The Investigation Of Adaptive Behavior And Locus Of Control On Women Sme's Entrepreneurship In The Mids Of Pandemic Era : The Mediating Role Of Entrepreneurship Orientation.

Dr.A.Krishna murthy

Princeton Institute of Engineering & Technology for women

Abstract

All business actors have been compelled to adjust to these changes by the dynamics of the business environment, as well as the advancement of technology and information. In addition, the COVID-19 pandemic epidemic has compelled business people to take a fresh look at how their organizations run. Identify the variables that affect the business performance of SME's Women business actors by examining the impact of adaptive behavior and locus of control on business performance through the use of entrepreneurial orientation as an intervening variable. Research Design, Data, and Methodology: Data collection in this study was carried out by distributing questionnaires to 94 Women Entrepreneurs in South Sulawesi as a respondent. Partial Least Square (PLS) analysis was used as data analysis. Result: This study indicates that adaptive behavior has not directly effect on SMES performance but it will be significant effect if mediated by entrepreneurship orientation, locus of control has a significant effect to SME's Performance both directly or indirectly by mediation of entrepreneurship orientation. Entrepreneurship orientation has a positive and significant effect on SME's Performance, Conclusion: SME's Performance will be influenced by various factors including the influence of individual factors such as adaptive behavior and locus of control. These two factors affect the entrepreneurial orientation and have consequences for improving performance

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16. Design A Secure Authentication Protocol For Blockchain Based Sharing Of Electronic Health Records

Mr M.Moshe

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Abstract

The Internet has become increasingly important to our daily lives during the past decade. Modern communication technology has improved the efficiency of online services including e-banking, e-rail, and e-health. Not only the Electronic Health Record (EHR) possess immense value, but also implies a lot of privacy. One important strategy for raising the standard of medical care and lowering costs is the sharing of health data. The only way to maintain the privacy of health information is to keep it encrypted, but this compromises search usefulness and flexibility. This paper presents a Secure Authentication Protocol for BlockChain Based Sharing of Electronic Health Records. The described method provides two key advantages with the use of blockchain technology. It is truly decentralized and independent from a single point of failure since it was first free from a reliable authority. Second, as a result of the workload being split among the blockchain network's consensus nodes, it is also computationally efficient. A constant key generation execution time and a linearly increasing file size-dependent encryption time were both obtained by the described approach.Blockchain, Electronic Health Record (EHR), personal privacy, health data, Cloud computing.

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17. A Novel Low-Power High-Speed Cmos Comparator For Precise Applications

Mrs N.Vidya

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Abstract

The process of converting analogue signals to digital signals widely uses comparators. Comparators are the fundamental components of many types of ADC (Analog to Digital Converters). In order to improve their performance, many structures have been presented. Performance of a comparator is strongly affected by powers, delayed, offsets, and noises. A novel Low-Power High-Speed CMOS (Complementary Metal Oxide Semiconductor) Comparator for Precise Applications is presented in this analysis. The decision stage and hold stage are the two stages that make up this dynamic comparator for Complementary Metal Oxide Semiconductors (CMOS). Three different phases are used to operate the comparator. Which maintains the results of an evaluation for a defined time interval, reset is the initial phase, decision or evaluation is the second phase and hold is the third. Energy efficiency can be increased while overall power usage is decreased. The length of time that the presented comparator is in a low state is important. The 16.1 version of 18nm technology will be used to build this comparator's design, which will result in a significant improvement in power and delay. According to the results, the provided comparator performs better than the NMOS (N-channel Metal Oxide Semiconductor) and PMOS (P-channel Metal Oxide Semiconductor) comparators in terms of power dissipation and time delay.

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18. Performance Optimization of Cooperative Decode-and-forward Relaying Hysteresis Switching-based Hybrid FSO/RF Transmission

Mrs P.Jyothi

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Abstract

In this study, we present a hybrid free-space optics (FSO)/ radio-frequency (RF) system with low complexity and high performance, switching between FSO and RF links is enabled by time hysteresis (TH). The hybrid system transmits data through an FSO link when the instantaneous signal-to-noise ratio (SNR) at the FSO receiver end is higher than the predefined threshold SNR. The transmission switches over the RF link if the SNR drops below the predetermined threshold value. We took into consideration multi-input-multi-output (MIMO) transmitter and receiver approach to make sure the proposed model would provide improved spatial diversity. We added cooperative communication employing the decode-and-forward (DF) relaying approach to increase the effectiveness of long-distance transmission. For receiver reconstruction, the majority logic combining (MLC) algorithm has been used due to its simplicity and vigorous signal detection capabilities. The outcomes of the proposed model under various atmospheric turbulence (AT) regimes as well as pointing errors (PE) values with a generalized Malaga (M) distribution are validated using the Monte-Carlo simulation. Average symbol error rate (SER), bit error rate (BER), outage probability, secrecy rate, ergodic channel capacity, and link quality are key performance indices (KPI) used to analyse the effectiveness of the proposed system. According to the results, the suggested switching strategy for DF hybrid systems significantly improves performance when compared to single-hop (SH) scheme assisted hybrid systems, single RF as well as single FSO systems. In the region with lower SNR, the proposed system attains an average SER of 10-7.

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19. Evaluation of novel topoisomerase II inhibitors as anti-cancer agents through advanced computational strategies.

Mrs D.A nuradha

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Abstract

Over the past ten years, there have been a surprising number of advancements in the discovery of anticancer drugs. The development of selective topoisomerase II inhibitors has been a constant endeavour for more than 30 years. Eukaryotic cells require the enzyme DNA topoisomerase II to function. The DNA helix's topology is altered. The enzyme has a biological advantage, but it also has a pharmacological benefit because many anticancer drugs choose to target it. We have improved the benzazole moiety by employing molecular modelling studies in an effort to generate effective and harmless anti-neoplastic medicines. Results of 2D and 3D QSAR experiments for a series of 23 compounds are presented in this study. Results of 2D and 3D QSAR investigations for a series of 23 compounds including 5, 6-substituted-2-(2,4-disubstituted phenyl)-H-Benzazole derivatives are presented in this work. Using the partial least squares approach and principle component analysis, 2D QSAR experiments generated significantly effective prediction models with high cross-validated r2 values of 0.7308 & 0.8443, respectively. Using the SA-KNN approach, 3D QSAR studies generated r2 of 0.7647 and q2 of 0.5551. Molecular modelling studies, such as 2D, 3D QSAR and docking studies, were carried out to gain detailed insights of the steric, electrostatic, and hydrophobic features required around the benzazole pharmacophore in order to better understand the relationship between structure and biological activity and to optimise the pharmacophore for design for New Chemical Entities (NCEs) with the better selectivity and subsequently better potency. In order to ensure the Drug like pharmacokinetic profile of the designed NCEs with the aid of Schrodinger Inc. software, docking and ADME properties of benzazole analogues were examined. Results were found to be comparable with standards and indicated that benzazole analogues have good binding affinity for topoisomerase II enzyme at ATP binding site using 1zxm pdb. Adenosine nucleotide triphoshete

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was reported to bind more selectively in the active binding pocket of 1ZXM enzyme and was compared to marketed medication Novobiocin in 4 out of 20 constructed NCEs.

20. Dynamic Energy Retaining nodes in Wireless Sensor Network

Mrs.N.Salma Sulthana

Princeton Institute of Engineering & Technology for women

Abstract

sensor node in a wireless sensor network lost its energy and goes to dead state due to high transmission rate, high sensing interval rate, and acting as an intermediate node. Network lifetime will be minimized very quickly. To improve energy efficiency of a node in network, and to save a node from dead state, we proposed a DERN algorithm. This algorithm will saves node's energy and avoid the node's dead state. Based on the energy level, a node will change its behaviour and control its interval rate also. If energy of a node goes below a certain specified threshold level then that node will change its role from intermediate node to leaf node and adjust its interval rate. Energy level is intimated to neighbour by means of status table.

21. Basics of Replica Control Management in Distributed Data

N.Soumya

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Abstract

A replicated database system is a distributed system in which each site stores a copy of the database (full replication) or parts of the database (partial replication). Data access is done via transactions. A transaction represents a logical unit of read and write operations. Two important components of a replicated database system are concurrency control and replica control. Concurrency control isolates concurrent transactions with conflicting operations, while replica control coordinates the access to the different copies. This Paper provides an informal

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introduction to database replication along with an overview of the advantages and disadvantages of traditional solutions. In particular, we elaborate on the main drawbacks of these solutions to be able to distinguish between inherent and avoidable limitations. This leads us to the key concepts behind the approach proposed in this dissertation which eliminate the avoidable and alleviate the inherent limitations of traditional solutions.

22. Detecting Malware Infected Machines with Digital Forensic Analysis

Arun Naik

Princeton Institute of Engineering & Technology for women

Abstract

The majority of significant intimidation on the Internet is malware which means malicious software. The Third-party (or attacker) will install the malware software program on the machine without the awareness of the owner to steal their private data. Day-by-Day the third party launches new malware, which leads to a great challenge to the malware detectors. Man-in-the-Browser (MB) attack is one of the special attacks in Man-in-the-Middle (MM), which targets the Internet backing customers. This work examined forensic analysis of Random Access Memory (RAM) and Volatile data infected machines. By using open source tools, the activities of the malware, the cause of the attacks and time periods are identified.

23. Distinguishing Agro - Based Impediments Using DL System and Outlier Integration

N.Sravani

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Abstract

Smart agriculture is being implemented to minimise farmers' time consumption and make it more cost-effective. The autoencoder in smart farming uses a homogeneous set of features to detect

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anomalies within agricultural fields. Anomaly detection with deep learning establishes smart farming, where it predicts the vast amount of data. Machine learning extracts the massive amount of context information. As the population increases, food becomes scarce. A high level of agricultural production is sustained with a regression algorithm that improves diversification. To determine the complexity of the behavior, the pattern type must not exhibit the expected set of behaviours. To detect the aberrant set of behaviours, anomaly detection is used. Monitor all the agricultural data and livestock regions using different collection procedures.

24. Evaluating One-Dimensional Definite Integrals using Excel-Based Monte Carlo Simulation Method

Susheel Kumar

Princeton Institute of Engineering & Technology for women

Abstract

Integration is a crucial mathematical operation utilized frequently in problem-solving. An expectation value of a continuous random variable x is defined by the integration where p(x) is the probability density function of x. To estimate an integration precisely, numerical approximation approaches are utilized. In this paper, we will describe a straightforward approximation approach called Monte Carlo (MC) Integration. The MC method is a numerical method for solving mathematical problems that uses random variables to solve them. It is based on the use of random sampling and statistical modeling to estimate mathematical functions and simulate the operations of complex systems. In this paper, we will tackle the problem of calculating one-dimensional definite integrals, using the Excel-based MC simulation method to aid prospective MC users and help them understand the fundamental aspects of MC simulation. The implementation steps for MC simulation are explained and various technical descriptions are presented in detail for implementing MC method. Overall, the based MC simulation method can be applied to the calculation of the definite integral without restriction and with a high level of efficiency.

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25. Infant Brain Mri Abnormalities Detection Using Deep Learning

G.Ashwini Reddy

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Abstract

Magnetic Resonance Imaging (MRI) is considered as a critical tool for the medical investigation of brain. The defect of congenital brain has distinct set of symptoms and impairments which are difficult to identify and classify with the MRI images. Studies has revealed that the rate of women with the infants of abnormal brain in increasing at a high rate. Early identification of the symptoms can help in precise diagnosis of the brain defect and helps to carry out with the effective treatment plan. The literature survey has shown the segmentation of adult brain and not infants of month's year old. In this proposed system, steps of processes are proposed for infant brain classification which uses deep learning technique. The significant contribution of this proposed system is to diagnosis the defective brain at the early stage on the infant's brain development. The proposed system has four phase of pre- processing (filtering noise), enhancement, Feature extraction, CNN based segmentation and classification using the trained network. The constructed algorithm does the gray level conversion of the test image selected. In pre- processing stage, removal of noise takes place and it is followed by the image enhancement using Histogram equalization filter and IM filtering. Gray Level Co-Occurrence Matrix (GLCM) function extracts the feature from the filtered image output. Convolution Neural Network (CNN) does the classification, detection and the segmentation of the image using the trained datasets. The Deep learning based classification and segmentation can improve the prediction accuracy and reduce generalization errors. The all the test image results is updated in a web page with the time stamp using an IoT module for the accurate patience's survey reporting and other further future analysis. Our future work aims at transfer learning method in which the algorithm concentrates on automatically solving different problems from the knowledge gained while solving the previous set of problems and also improving the output efficiency using more disenable data sets.

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26. Iot Alert Observation of Prohibited Deforestation Regions with Drone Surveillance

D.Chinni

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Abstract

In terms of the environment, deforestation causes biodiversity loss as well as climatic change, which harms natural ecosystems. It causes conflicts over land and other resources, which mainly damage communities globally. Due to degradation in forest exploitation, it becomes vulnerable in terms of land diversity, which tends to release excessive carbon dioxide and also cause greenhouse gases. Mainly, forest loss and degradation cause a total of 10% gross damage, which leads to global warming. This technique allows management or an authorized individual to identify the location of the trafficking via GPS as well as the manner in which it is done, including such tree-cutting, fires, or the intense heat in the forest as it is indeed difficult to stop illegal trafficking of trees. Bots in green establishment of effective forest management and surveillance can benefit greatly from IoT. Collecting and using basic forestry data presents various challenges for emerging economies. To respond effectively to areas and make better judgments, person who is in charge of maintaining forests and ecological issues can benefit from data about daily forestry, burned zone evaluation, and forest infraction monitoring. When individuals are unable to provide assistance, the proposed system has a low-tech, IOT-based structure to detect illegal tree trafficking. IoT technology with sensors, which is effective and affordable, monitors human behavior, fires inside the forest, and illicit deforestation.

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27. Predictive Analysis and Screening Diagnosis of HDD Storage Deterioration Using Smart MI Strategies

N.Soumya

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Abstract

Data centres are predominantly increasing in complexity as the hard discs get older. Due to the continuous monitoring in computers, it can reduce the efficiency of the control over security. In this proposed approach, artificial intelligence with machine learning is used to predict the potential features in the disk. Statistical tests over compatibility determine the detection of hard disc features. Due to those improper ways of handling the system, proactive failure occurs. To analyse those different signs of hard disc failure, different techniques are utilized. These warning signs are recognised and detected to identify the early detection of the failure in the hard disk. Potential data losses destroy the hard disc files using the malware or virus-infected files. These data crashes fail up until the boot process, where they get corrupted. Firmware is a type of corruption that can make data unreadable and damage its integrity. The system halts the process due to electronic failure and a power surge. The AI is used to predict the failure over the hard drive model for identifying the exact precision. The HDD will overheat due to the high consumption of energy and overheating due to the maximum range. To avoid such disruption, failure is analysed using AI and machine learning. The comparative results are analysed and recognised to predict HDD failure using AI and MI methodologies. An external hard drive has to be checked and monitored based on the failure statistics report. Using the SVM, random forest, and nave Bayes classifier, we analyse the test parameters with accuracy and obtain approximate results.

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28. Optimized Sequence to Sequence Model for Summarizing Unstructured Text

A.Sravani

Princeton Institute of Engineering & Technology for women

Abstract

Because of the exponential growth of textual information, automatic summarization has emerged as a crucial answer. Redundancy, coherence, co-reference, and semantic links between words and sentences are only a few examples of concerns that might be prioritised to strengthen the essential of a summary. In this research, we examine how improving semantic links between words and sentences can help bring about a more accurate generated summary. The suggested technique generates summaries of texts using a pre-existing deep learning model based on a Seq-to-Seq LSTM encoder decoder. Sentence summaries and dictionaries are mapped against one another to see how close they are conceptually. The suggested method was tested on the CNN/Daily-Mail dataset, which is available for public use and contains unstructured text describing news items. Using ROUGE scores (ROUGE-1, ROUGE-2, and ROUGE-L), we evaluate how well our system performs in comparison to the current gold standard for extractive text summarization. With the SeqtoSeq model, the proposed approach produced a 42.74 percent Rouge-1 score, a 12.46 percent Rouge-2 score, and a 43.01 percent Rouge-L score.

29. Design A Novel Machine Learning Algorithm For School Student Behavior Predictors

M.Lalitha

Princeton Institute of Engineering & Technology for women

Abstract

The goal of educational institutions is to predict the success of its students, which is an important area of study. Predicting student success can assist professors in preventing students from dropping out before final examinations, identifying those who require additional assistance, and

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improving the school's rating and reputation, among other things. The purpose of educational data mining using machine learning approaches is to create a model capable of detecting and investigating relevant hidden patterns in educational situations. The training dataset for supervised machine learning algorithms can be represented by a student's demographics, academic history, and behavioural characteristics. It was our goal to examine the performance of a variety of machine learning algorithms such as the, Support Vector Machine, the LSTM, the Sequential Minimal Optimization. Logistic regression classifier is the most reliable predictor of precise school student Behavior Predictors, according to the results of the study.

30. Role of Test case Prioritization in Regression Testing

Dr.Arul Dalton

Princeton Institute of Engineering & Technology for women

Abstract

Building up the software product is a basic in now days;Test case prioritization could be a software system.Programming advancement lifecycle has stages like coding, prerequisites, testing, planning and organization in this half of the time will be devoured by the testing stage strategy. That takes a look acting technique that finds a perfect ordering of test cases for regression testing, so take a look alters will acquire the most advantage of their test suite, though the testing method is stop at some capricious purpose. The various procedures to play out the relapse test are choice of test cases, organizing the current test cases, reset all and so on This paper planned a cost-cognizant protocol approach for object-oriented software system that uses path-based integration testing the new method, proposed right now, improved outcome than the current ones. The examination of the viability of the proposed approach is finished with other prioritization and non-prioritization orderings. The consequence of the proposed approach shows values and being enforced as regression testing approach for experiment.Additionally, this report presentation is assessed and it is seen that the ability of the proposed strategy beats different calculations by upgrading the deficiency recognition rate.Programming testing is a financially savvy stage. Testing stage will be done at different levels with various types of the tests for

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recognizing the imperfections dependent on the client requirements.one of the major and significant test was the relapse test. This test will be performed subsequent to adding the extra functionalities to the current programming. Experiment helps in improving the viability of relapse testing by organizing the experiments so that the most gainful that can possibly distinguish the more number of flaws are executed first. Past work and existing prioritization procedures, however identifies issues, yet there is a need of improved strategies to upgrade the procedure of relapse testing by improving the issue recognition rate.

31. Damping Performance of heat treated Magnesium AZ91 Alloy Hybrid Composites

Dhanunjay

Princeton Institute of Engineering & Technology for women

Abstract

Stir casting was used to synthesize SiC and graphite particles reinforced AZ91 magnesium matrix hybrid composites with particle sizes of 25 µm. Each reinforcement quantity was modulated from 0 to 3 weight percent in increments of 1 weight percent. Heat treatment was carried out on hybrid composite samples (solutionized and age hardened). The test outcomes showed that the reinforcements and heat treatment have a significant impact on the damping capacity of the composites. Damping experiments on cantilever samples were performed using a Dynamic Mechanical Analyzer across a range of temperatures from ambient to 400°C. It was evident from the results that the damping capacity of the hybrid composites was directly proportional to the reinforcement content and temperature as well.

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32. Deep Learning-based LSTM-ADFC approached Wind Speed Forecasting

E.Laxman

Abstract

Consistent and precise wind speed forecasting is the important aspect of the efficient use of wind energy, a Renewable EnergySource (RES) with significant developmental prospects. Wind speed forecasting is necessary to operate the electrical power system safely and efficiently. Nevertheless, owing to three characteristics of wind speed—randomness, variability, and volatility—accurate forecasting of the wind velocity values remains difficult. Although many processing and validation approaches have been researched extensively in the past, applying these techniques to realistic forecasting is challenging because the recently received data would significantly impact the results of the first fragmented sub-sequences. To solve this issue, a Long Short-Term Memory (LSTM) neural network-based wind speed prediction model with validation using the A Day Forward Chaining (ADFC) method has been offered. The National Institute of Wind Energy (NIWE), Chennai, has been contacted to collect the time series data of three stations in Maharashtra: Songirpada in Nandurbar district, Vankuswade in Satara district, and Mahlunge in Sindhudurg district. A wind speed forecasting framework based on LSTM has been created, ADFC has been utilized for validation, and comparative analysis has been carried out to obtain a better approach to be employed on larger datasets with improved accuracy and efficient forecasting. The proposed model is focused on real-time data with sudden transitions and reliance on wind velocity. The findings suggest that the wind speed forecasting model based on LSTM-ADFC decreases prediction error compared to other wind velocity prediction-based statistical models and acquires better predictions than other deep neural structures. Among the prediction methods, the proposed LSTM with ADFC for Songirpada station has the least error values (RMSE=0.011, MAE=0.32 and MAPE=29%) and the best prediction accuracy than baseline methods.

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33. Predictive Methods For Heart Disease Using Bivariate Analysis

N.Sravani

Princeton Institute of Engineering & Technology for women

Abstract

The big data produced by the healthcare sector contains enormous amounts of information that can be used to make decisions. In order to create decisions that are more accurate than intuition, a vast amount of data is used. Exploratory Data Analysis (EDA) identifies errors, locates pertinent data, verifies presumptions, and establishes the relationship between the explanatory factors. In this context, EDA is understood to be data analysis without statistical modelling or inferences. Any profession needs analytics since it can predict the future and reveal hidden patterns. In the recent past, data analytics has been regarded as a cost-effective technology and it now plays a crucial role in healthcare, including new study discoveries, emergency circumstances, and disease outbreaks.EDA is a crucial step when analysing data, and the application of analytics in healthcare improves treatment by simplifying preventive care. In this study, the bivariate analysis is used to perform study on publically available data on heart disease and to forecast the risk variables that lead to heart disease. The dataset contains 303 records with eight parameters, including age, the type of chest pain, blood pressure, blood sugar level, resting ECG, heart rate, and four different types of chest pain. Heart disease has been predicted using data analytics techniques and visualisation tools. The pre-processing techniques, classifier performances, and assessment criteria are covered in the study. The data visualisation methods used in the results section demonstrates that the forecast was correct.

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34. The Impact of social media on the enhancement of e-learning programs and platforms on university students in the United Arab Emirates

Authors

Dr.Akla Giridhar

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Abstract

Social media has traditionally recognized as a medium of transferring information across populations and individual who is learning. Colleges have made use of social media to enhance their teaching and collective engagement. The incorporation of social media is emphasized in the research for collective learning e-learning process for higher education in the Emirates. Various aspects of improving collective learning in e-learning from the viewpoint of employing social media will be explored in this research. This research will include many participants (386). The data collected will be assessed employing structural equation modeling (SEM). The research provided a model for highlighting the effects of various elements based on analysis and structural model validities. The research will focus on the implicit and explicit influence of these variables on collective learning which is visible via the employment of social media, which may result in improved learner performance.

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35. A Comparative Study for Mild DR Detection with CLAHE and Non-CLAHE Fundus Images using Minimal CNN Model

S.Vasavi

Princeton Institute of Engineering & Technology for women

Abstract

One of the major vision impairments is blindness due to diabetic retinopathy (DR), which is affected by diabetic patients. Complete vision loss is based on the category of diabetic retinopathy. Different automated techniques are available nowadays to categorise the DR based on their severity. Early detection of mild DR is the best solution to prevent further vision loss and start the treatment. To study and analyse DR, medical practitioners are using fundus images of the eyes captured by fundus cameras (2D images) or 3D Optical Coherence Tomography (OCT) images. In this study, the researchers proposed a Minimal Convolution Neural Network (MCNN) model to predict and classify mild DR symptoms. The researchers utilised image datasets from Kaggle and Messidor, a publically available dataset that contains fundus images of the eye categorically. The images from the dataset are pre-processed with an algorithm called Contrast Limited Adaptive Histogram Equalization (CLAHE) and the MCNN model is trained with both CLAHE images and the same non-CLAHE images. Finally, a comparative study was carried out with MCNN with CLAHE and non-CLAHE.

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36. Impact of knowledge sharing on knowledge Acquisition among Higher Education Employees

G.Vinodha

Princeton Institute of Engineering & Technology for women

Abstract

This paper consolidates academic studies on knowledge sharing and acquisition. An effort is made to synthesize and establish the research perspectives and the link between knowledge sharing and knowledge acquisition in higher educational institutions based on a systematic review of literature retrieved from sources such as Google Scholar and the various journals listed on Scopus. Many articles were identified that studied these two processes separately. However, the number of works that investigate the relationship between knowledge sharing and knowledge acquisition is extremely limited, particularly in the context of higher education institutions (HEI). This systematic review finds papers that explain techniques of information sharing and knowledge acquisition in higher education institutions and examines the impact of knowledge sharing on knowledge acquisition. The papers chosen draw a link between knowledge sharing and knowledge acquisition and outline the criteria that facilitate knowledge sharing.

37. The Impact of Project Management Office's Role on Knowledge Management: A Systematic Review Study

T.Kanakaiah

Princeton Institute of Engineering & Technology for women

Abstract

The purpose of this study is to review the research on the function and impact of project management offices (PMOs) in knowledge management (KM) and to establish the current body of knowledge by addressing the following questions: What function does the PMO play in the knowledge management process, and what types of knowledge does the PMO deal with? The study includes a systematic literature review for six papers on project management office (PMO)

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role and impact on knowledge management. PRISMA guidelines were used to select the papers and the research focused on the most important six papers to investigate the research questions. The study findings revealed that PMO plays a vital role in boosting information usefulness by sharing the correct knowledge with the right people at the right time. Furthermore, PMO is important for maintaining knowledge repositories, which comprise knowledge generated from projects in the form of lessons learned, updated project management standards, and individual learning that becomes organizational learning

38. Dual Axis With MPPT PV Panel Monitoring And Control System Based On Iot

I.Swapna

Princeton Institute of Engineering & Technology for women

Abstract

This Paper aims to create a PV model with IoT technologies to track solar power. This Proposed system combines dual axis with maximum power point tracking (MPPT). The converters equipped with maximum power point tracking (MPPT) technique is based on an algorithm which keeps on detecting the maximum instantaneous power of the PV array. Since the operating point of the array vary intermittently, so the MPPT algorithm is required to set the operating point so as to extract and deliver maximum instantaneous power to the load. It's increasing the PV panel Output voltage and current with the help of MPPT and dual axis tracking system. A IoT system needs to be designed, with powerful program, and be able to communicate in both directions. So, that paper suggest a dual axis tracking system based on the Internet of Things (IoT) that uses Wi-Fi to talk back and forth with the user to make them more comfortable. The user can monitor and track the connected load and check the status of the connected devices through a mobile app or web address.

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39. Analysis Of Crane Elements Through Mechanical Software

K.Manjula

Princeton Institute of Engineering & Technology for women

Abstract

In industries, there are so called requirement to handle the material to transfer it one place to another. The type of material to be handle are like- bags of cement, marbles, iron and steel products etc. In such condition, it is necessary to transfer the material in right time and place with safety and good working environment.

So, it is necessary to make such crane to perform desire purposes without failure.

In this project a simulation test performs in a software for such crane components to identify the strength of the components to withstand in such working condition. Because, the crane involves the human interfere for completion the work in a proper manner with proper safety, it is very advantages to done simulation test for it to avoid the damages when it works practically.

40. A Conclusive Comparative Analysis On Congestion Control In DTN Routing Protocols

S.Vasavi

Princeton Institute of Engineering & Technology for women

Abstract

DTN data volume increases with long-distance broadcasts. DTN's research has improved routing system efficiency, cost, and congestion. Parallel study has uncovered impediments to a more effective strategy. This research shows how cache collaboration improves routing. This approach illustrates origin-to-destination and information-exchange paths. Best path given cost, time, and network capacity. Prior models required 20% less time to move between nodes, 15% less time to determine a route, and 50% less time to allocate cache. As more information is transmitted

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online, DTNs become increasingly frequent. Traditional content production and transmission technologies have improved over the past decade, and recent trends lead to more memory-intensive, rich data. Recent developments show content creators wanting global remote distribution. Improved DTN routing is needed. Recent study reveals innovative routing methods. DT networks' intrinsic complexity reduces research outputs and increases local node memory. Knowing how to employ DTN's attributes helps enhance latency, routing time, energy usage, and memory awareness. This study enhances DTN routing using probabilistic pathfinding. 85% performance, 85% network sustainability, 57% energy efficiency, and 35% routing route reduction. Military, media, academic, and industry seek delay-tolerant networks (DTN). App development tools have fallen since DTN's popularity. Two factors hamper growth, the study finds. Because of the distance between intermediary nodes, DTNs take longer to create clusters for long-distance data transmission. Second, cluster members are near starting nodes. Replicating data at intermediate nodes takes 20% of overall transmission time. Delays result. This work presents a data-affinity-based method for picking cluster nodes and a multi-tiered queue for storing data. It has two benefits. This might enhance cluster member identification and reduce transmission delays. The proposed study boosted cache allocation accuracy by 85% and lowered memory utilization by 90% in simulations.

41. Solution Of The Side Slope Problem Caused By Slides

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Landslides from the side slopes of the road are phenomena that are caused by changes in atmospheric conditions which have also affected the change of physical -mechanical parameters of clay layers that have caused the stimulation and possible activation of landslides, but during the study of this area additional measures have been taken to solve this problem in order to prevent the possibility of landslides that are a traffic jams and a high risk on the highway at which the maximum speed allowed, according to the standards based on which the road is constructed, it is foreseen to be 120 km/h, then to reduce the risk of not coming to the traffic

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jams on the highway that can cause fatal accidents on that segment of the road according to the case shown in Fig. 1 as well as to find a solution to avoid this phenomenon of slips is made the comparison of the existing condition of the side slopes of the road and the designed one, which is the purpose of this paper, calculating the stability of the side slopes according to the existing condition and that designed taking into account the physical - mechanical parameters with the safety factor allowed according to geotechnical standards.

42. Flood Damage Assessment Using Remote Sensing And Gis: The Past And Present

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

A flood is a runoff of water that sinks land that is generally dry. Floods are causes not only by rain but also by human changes to the surface of the earth. Flooding occurs as an overflow of water from water bodies, such as a river, lake, or ocean, in which the water overtops or breaks embankments. It results some of that water escaping its usual boundaries or it may occur due to an increase of rainwater on inundated ground in an areal flood. Deforestation and urbanization increase the runoff from rains thus inundate vast areas today that previously caused no flooding. The careless building in vulnerable areas, poor watershed management and failure to control the flooding create the disaster condition. This paper presents a literature review on flood damage assessment in urban areas and their applications. It also describes the methodologies used for assessing the flood damage.

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43. Prediction Of Inflow To The Ujjani Dam Reservoir Using Linear Regression And Hybrid Model

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Assessment of impact of climate change is very essential for the areas where the water scarcity is the main issue. Ujjani dam one of the largest dams of Maharashtra state in India is constructed on Bhima river in 1980 which supplies water to downstream culturable area of Solapur and Pune district. In this study statistical downscaling model was developed for downscaling and projecting the temperature and rainfall by considering the GFDL-CM3 (GCM) model under scenario RCP 6.0. Statistical downscaling models showed a very good correlation (R2) between NCEP predictors and hydro metrological predictands. Using the projected values of temperature and rainfall, inflow to the reservoir was predicted by developing the three different models namely, multiple linear regression, Artificial neural network and Wavelet neural network. The models were evaluated by using mean square error criteria. It is observed that there is a change in rainfall pattern, it increases in the months of September to December however it decreases in the months of June to August, this is due to corresponding changes in rainfall. The inflow to the reservoir has been predicted in three different time period viz 2020-29, 2050-59 and 2080-89.

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44. A Critical Review On Early-Age Cracking In Concrete

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

The most widely used concrete versatile building material extensively used for the wide range of residential and industrial applications. It is a combination of three basic components: Portland cement, water and aggregates (gravel, rock or sand). Inappropriate mixing, unsuitable humidity and variations in the temperatures may lead to poor quality in concrete resulting to cracks Premature concrete cracking is a major issue in structures under working conditions, which is mainly depending on the nature of the material, hydration intensity, treatment atmosphere and healing conditions. This comprehensive review article will assist in identifying the common causes and Impact of early cracking of concrete and future prevention steps. Furthermore, the various types of early-age cracking, factors causing cracks such as temperature, thermal expansion, and tensile strength are discussed with simulation and identification of early-age cracking.

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45. Evaluation Of Internal Stresses And Its Impact On The Concrete/Cement Mortar Mass Prepared With Recycled Demolished Concrete Aggregates

N.Pavani

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Abstract

In Concrete /Cement Mortar Mass a significant study was made on the applied stress and on this applied stress the design criteria of the structures have been finalised and a limited study on the internal built in stress was made and minimal studies on its effects. Since, in any material the internal stress, i.e. residual stress plays a vital role and it defines the internal anatomy and its behaviour. The present research work concentrates on the studies done in assessing the residual stress i.e. macro and micro stress and its impact on the concrete /cement mortar mass prepared with untreated and treated recycle demolished coarse and fine aggregates and compared with that of concrete/mortar mass prepared with that of conventional aggregates. The XRD is used to evaluate the macro and micro stress and on the obtained results it was found that type of stress developed plays a vital role in defining the internal integrity of the structure and the amount of the stress play a significant role in the performance of the concrete/mortar mass and the residual stress developed decides the durability of the structure in terms of its fatigue life, resistance to corrosion and the dimensional stability overall.

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46. A Framework For Calculating The Relative Weight Of Educational Buildings' Criteria

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Management of educational building assets is one of the most complicated factors because it has a bigger number of related and unrelated criterions. Analytic hierarchy process (AHP) as a decision-making technique is widely deal with many decision problems that have bigger number of criterions. This paper proposes AHP method to define the judgment matrix of related and unrelated criterions that is used to calculate the relative weights (RWs) of each criterion. Analytic network process (ANP) was also used to calculate the RWs of the interrelated building categories (architectural, mechanical, and electrical). Such RWs can be used by managers for physical condition assessment of an educational building. The educational building hierarchy are divided into five levels. Each level is then defined in a judgment matrix to calculate its RWs. Then. The consistency of such judgment matrix has been evaluated to ensure that the RWs' results are acceptable. As concluded in the space level of the building hierarchy, the classroom space type that includes most of the education processes had the highest relative weight (RW=26.76%) followed by the bathrooms (RW=26.14%) and corridors and stairs (RW=25.77%). On the other hand, the cafeteria space type was the least relative weight (RW=1.58%) among all other space types. AHP technique provided an improved approach to calculate the RWs of each criterion affecting physical condition of educational building in Egypt.

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47. Mechanical Behavior Of Concrete Reinforced With Waste Plastic Bottles Fibers

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Nowadays plastic waste is becoming curse to the human society. In many countries the production of disposable plastic bottles is becoming a major issue. PolyEthylene Terephthalate (PET) bottles usage increases day-to-day. This research addresses the effects of adding waste plastic bottles fibers on the slump, density, compressive, split tensile, flexural strength of concrete, and ultrasonic pulse velocity of concrete. The reason behind choosing this material is the cheapness and availability of them as well as nowadays the world is facing environment pollution problems, where many things which are invented for our life are responsible for polluting environment due to improper waste management. One of the big waste sources is the plastic ones which have to be disposed of or recycled properly to maintain the beauty of our nature, so utilizing such materials is absolute of a great benefit.

It is planned to prepare cubes, cylinders, and beams of FRC Concrete and test them, then to compare the concrete reinforced with fibers with plan concrete. Where, the fibers of 35 aspect ratio will be added to concrete with ratios of (0.5%, 1.0%, 1.5%).

The results in general showed that the fibers addition improved the all strengths of concrete but it reduced the workability of concrete and made concrete lighter. The main property was improved is the ductility of concrete. Generally, 1% percentage of fibers was the best percentage.

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48. He Cost Of Administrative Frictional Taxes In Major Underground Infrastructure

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Building cost-effective major underground infrastructure underpins economic growth and prosperity. The ultimate cost of underground infrastructure includes unique local expenses. Some of these costs may simply be a result of inherent local idiosyncrasies but others may result from an abrogation of the obligations on government to administer power responsibly. Where poor governance is the cause of these costs, they may rightly be considered a tax and in some circumstances may even promote, entrench or contribute to modern forms of corruption. This paper explores the likely magnitude of these local additional frictional costs - and examines the potential impact of government action to minimize them on the final cost. It is noted that the countries in most need of underground infrastructure typically have the poorest credit ratings, highest interest rates, and lowest incomes. Governments are uniquely placed to regulate and enforce measures to minimize these frictional taxes to protect the value of expensive underground infrastructure by minimizing unnecessary expenses, maximize project value and reduce the likelihood of corruption and intergenerational debt.

Note: This paper is prepared in good faith to demonstrate the likely scale of the cost of Frictional Taxes and the value to countries of minimising Frictional Taxes in all forms. The views expressed in this paper are those of the author.

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49. Influence Of Compaction Methods On Functional And Structural

N.Pavani

Princeton Institute Of Engineering & Technology For Women

Abstract

Performance of pervious concrete mainly depends on strength and its interconnected macro-pore structure which allow water to percolate through. A careful mix design is required, to achieve mix of desired porosity and strength. Due to variation in specimen preparation technique a lots of variations were observed in performance of pervious concrete, this can be due to variation in mixing procedure and method of compaction. Extensive researches in the past have been done on different mix parameters that influence the structural and functional performance of pervious concrete. However, the compaction method is one of the key parameter, is still a conjecture. The main objective of this study was to study the effect of compaction methods on performance of pervious concrete. Specimens were prepared with four gradations of aggregates with constant water to cement ratio (W/C) of 0.32 and three types of aggregate to cement ratio (A/C) ratios of 3.5, 4.0 & 4.5. All the mixtures were designed as per American Concrete Institute (ACI) guidelines with three different compaction methods namely; rodding, proctor hammer and pneumatic vibration. Effects of compaction methods on structural as well as functional performance of pervious concrete were studied. Results demonstrate the influence of compaction methods on different pervious concrete specimens.

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50. Municipal Solid Waste Management System And Environmental Impacts In Iraq: A Review Paper

N.Pavani

Princeton Institute Of Engineering & Technology For Women

Abstract

According to country's war conditions, lack of efficient infrastructure and modern waste management system, municipal solid wastes became one of the significant sources of pollution and environmental issues in Iraq. That is estimated to produce 31,000 tons of solid waste every day in Iraq, that huge number will lead to cause public health problem and damage natural resourses. Proper method management system should apply to reduce municipal solid waste production and get benefit through organized plan for reuse of material that can be recycled to other services to creating a sustainable and developed country. For achieving such goal proper municipal waste management strategy from collection, transporting, reusing, reduction, disposal and life cycle assessment are required. The study represents a brief history about waste management issues, that are facing us due to the rapid increasing amount of municipal solid wastes. Therefore, the study recommends to use methods of waste treatment such composting, recycling in order to reduce the amount of waste that are taken to the landfills .Also improve more environmental awareness by government, public and individuals by regular environmental train program and reduce land usage.

Solid Waste Management, Municipal Solid Waste MSW, Recyclable Materials, Environmental Issues, Landfills

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51. Experimental Investigation Of Moment Redistribution In Rc Continuous Beams With T-Cross Section Considering Central Loaded Support

N.Pavani

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Abstract

This paper investigates experimentally the relation between tensile reinforcement of sagging and hogging region on the performance of the reinforced concrete continuous T-beams and their effect on the moment redistribution. Four two-span RC continuous beams were manufactured and tested up to failure, three of them were designed with a loaded central concrete column. This research provides an insightful and comprehensive description of the carrying capacity, deformation, ductility index, and moment redistribution of the continuous beam with the different steel reinforcement ratio at critical zones. The results show that the load-carrying capacity of continuous beams depends mainly on the longitudinal reinforcement at sagging region rather than that of the hogging region. The sagging reinforcement improves the ductility and the serviceability of the continuous beams at the allowable deflection and the permissible crack width. The moment redistribution ratio depends on the ratio between the sagging reinforcement and the hogging reinforcement areas, especially after the yielding loads. At the hogging and sagging regions with equal reinforcement areas, the moment redistribution values were reduced in comparison to the other tested beams.

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52. LEED PLATINUM CERTIFIED RESIDENTIAL STRUCTURE

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

A diverse group of undergraduate civil engineering students were tasked with the design of a three-story residential building with GREEN components that would reduce energy cost and carbon emissions. The team designed the structural components, carried out a seismic analysis, and integrated GREEN components to the building using the LEED guidelines. A cost analysis was performed to determine the time of which it will take to see a return of investment from the addition of the GREEN components. The team consisted of a group of senior civil engineering students with diverse backgrounds and abilities who worked collaboratively on the architectural, structural, and environmental aspects of this research project. This group represented Asian-American, LatinX, and international student community. The participating seniors gained an understanding of GREEN buildings and LEED certification and also showed the benefits of incorporating LEED items through detailed cost analysis.

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53. Organics Removal From Domestic Wastewater Utilizing Palm Oil Clinker (Poc) Media In A Submerged Attached Growth Systems

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

To meet the discharge requirements, new treatment plants are designed as extended aeration systems with anoxic tanks to meet the new regulations. In this study, submerged attached growth made from palm oil clinker (POC), was introduced into conventional activated sludge systems. In the activated sludge system, aerobic and anoxic chambers were introduced to promote nitrification and denitrification. The performance of POC submerged system was monitored and compared to a biological activated sludge system. The performance on the removal of an organic was measured from COD, TSS, MLSS, and MLVSS. The rate of removal average for COD result of biomass improved POC in a POC reactor with attaching growth system POC mode is COD 30-50 mg/L, TSS 10-15 mg/L, MLSS 700-800 mg/L and MLVSS 600-700 mg/L for the POC reactor as attaching media. Therefore, using POC as an attach growth system can reduce the organic contaminant in effluent discharge.

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54. Experimental Investigation On Flexural Behaviour Of Flowable Rc Beam Using Welded Wire Mesh As Shear Reinforcement

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

An alternative reinforcement system, Welded wire mesh is proposed to perform the function of transverse steel in Reinforced Concrete Beams. Welded mesh reinforcement eliminates some of the detailing problems inherent in traditional rebar in the Reinforced Concrete Construction resulting in easier and faster construction, and better economy and quality control. Since the mesh size is very small and to ensure strength and homogeneity, self compacting concrete is to be used. Selfcompacting concrete consists of the same components as conventionally vibrated concrete with the addition of chemical and mineral admixtures in different proportions. In present study SCC is developed by replacing cement with silica fume of 4% and 6%. This project is to examine the flexural behavior and crack pattern of RC beam. Totally five variations of beam were caste and number of mesh layers with percentage of silica fume are varied in each specimen. It is obtained that the beam with continuous welded wire mesh and longitudinal bar given the maximum load carrying capacity and it is found that there is improvement in strength characteristics while using mesh layer and silica fume when compared with control specimen.

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55. Green Roof: A Holistic Approach For Ecologically Sustainable Cities

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Sustainable technologies and green design practices all over the world have a vital role on architectural practices by reducing building impacts on human health and the environment and contribute positively to the ecosystem. Factors call for improved environmental design are population growth, which increases the built up area in cities and reduce the green open spaces, high percentage of air and water pollution due to industrialization, global warming, loss of habitat and biodiversity, and increasing urban heat island (UHI). Consequently, a new approach is needed to alleviate these problems; one of these approaches is green roofs which recognized as an effective sustainable design tool that soften the harsh urban environment. Green roofs or the so called 'fifth facade' have had diverse environmental benefits such as improving the surrounding environment, insulation properties, purifying the air pollutants through the foliage which absorb dust particles, carbon dioxide, and other pollutants, building energy saving, it also presents the correlation between a green rooftop and improving micro-climate for both individual buildings and neighborhood. In addition, green rooftops provide a visual interesting layer with plenty texture and color instead of uncovered roof. Generally, the results verified that green-roof enhance building microclimate, conserve energy, increase occupants' comfort and health, and compensates for the green-space deficit in cities.

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56. Analysis Holzer Method Using Quadraticpolynomial

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Calculation structures of the eigen vector and eigen value are not easy, therefore there are many theory for that. One of them is Holzer method, in case of the analysis of Holzer method using qudratic polynomial to find the eigen value shows to get quick calculation, so in this journal shows how get the eigen value. The case study indicates that the Holzer method using quadratic polynomial can be used as method of analysis structures.

57. A Simplified Approach To On-Site Related Risk Factors Assessment In Educational Institutional Projects

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

The degree of differential indices between the expected and actual performances on building projects is becoming increasingly alarming due to many unforeseen and often unpleasant events that come up on site. This paper therefore presents the report of the investigation conducted on site related risk factors which impact building delivery based on a case study of some tertiary educational institutions projects in Nigeria. Data for the assessment were collected from 52 building contracting organizations who had executed building projects in four (4) public tertiary educational institutions in Ekiti State, Southwestern Nigeria, using structured questionnaires. The

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questionnaires were administered on the contracting organizations' and the client's representatives. Thirty nine (39) questionnaires were retrieved and used to provide quantitative data for the analysis. Data collected were analyzed using mean item score and severity index. Most frequently occurring site related risk factors were; excessive variation order to maneuver site conditions, contractor's improper planning, changes to initial design and design errors. Contractor's improper planning, changes to initial design, problem with subcontractors and mistakes during the construction stage of the project delivery were among the top factors with lesser degree of severity. The study provides implications for prioritizing responses towards risk variables based on their severity and thus help to improve site planning and overall project performance. Conclusion was drawn that site related risk factors had significantly contributed to on-site performance of contractors of building projects.

58. Studies On Influence Of Feldspar Activator On Slag Based Geo Polymer Concrete

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Substituting Ordinary Portland cement(OPC) with the alternative materials possessing binding properties can have significant assistance to the ecosystem and infrastructure. In the present study, Fly ash (FA) and Ground Granulated Blast Furnace Slag (GGBS) are the two binder materials used to replace OPC. Fly ash, a waste residue obtained by thermal combustion of coal. Secondarily Ground granulated blast furnace slag is the another binding material which is used in the study and is generally obtained from quenching process of molten iron slag. The work involves in evaluating the mechanical properties of the slag based geopolymer concrete; obtained by mixing Fly ash and GGBS in the ratio of 50:50 along with feldspar and NaOH as the alkali activators (NaOH: FS) with different ratios for initiating polymerisation reaction. Experimental study was carried out by varying NaOH: FS ratios to determine the optimum mix of the resulted

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geo polymer concrete. Finally, mechanical tests were carried out for the casted specimens and compared with the properties of ordinary Portland cement (OPC).

59. Numerical Analysis Of Flow Through Stilling Basin Using Cfd Model

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

A performance study of a stilling basin located downstream of 140 m high dam was attempted in the study using numerical simulation. The hydraulic characteristics of the stilling basin of 140-MW Tanahu (Upper Seti) Hydropower Project situated in Tanahu district in Nepal were investigated by numerical simulation using Computational Fluid Dynamics (CFD) modelling. The flow patterns, velocities at various locations with three different elevations: 293.00, 305.00, 309.00 masl and water levels along a main water course in stilling basin were recorded. A comparative study was made in order to evaluate the capability of the computational fluid dynamics on modeling stilling basin flow, by using results obtained from physical modeling and CFD simulation. FLOW-3D that solves Reynolds-averaged Navier-Stokes (RANS) equations, was used to model the numerical model setup. The flow behavior inside the stilling basin was well represented by the numerical model and there was reasonably good agreements in flow characteristics between the physical and numerical models. The deviations in water levels between physical and numerical model were below 1.9 m and that in flow velocities were below 30%.

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60. Evaluating The Effect Of Cross Sectional Steel Ratios On Concrete Density And Its Design Implication

N.Pavani

Princeton Institute of Engineering & Technology for women

Abstract

In this paper, a case study has been taken from construction industry of Pakistan to evaluate the effect of using different percentages of steel rebar's in cross section of structural members. Four different construction sites from Karachi city were surveyed and their heaviest column cross sections were observed for estimating the concrete density. In total sixteen concrete columns are studied in this research and their respective densities calculations were made. Columns are selected in such a way that all have different cross section and different areas of steel in it. From each cross section, the volume of concrete and steel were determined and used to estimate the density of reinforced concrete. The current design density and estimated density is compared and increment in density is calculated. Using the analytical results, a dead load factor for design of structural members is suggested to overcome the effect of increased density of RC members and overall factor of safety were calculated using different ratio of live and dead load at different strength reduction factors.

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61. Comparative Analysis Of Upqc With Various Hysteresis Current Controllers

Pasya Pramada Kumari

Princeton Institute of Engineering & Technology for women

Abstract

This paper deals the comparative analysis of a three-phase three wire Unified Power Quality Conditioner (UPQC) with various hysteresis current controllers. The UPQC is one among the custom power devices which is a integration of series and shunt active power filters (APF) connected by a common link capacitor. The construction of shunt and series APF is by using a three phase three wire Voltage source Inverter (VSI). In series active filter, synchronous reference frame technique is used to extract fundamental voltage; whereas in shunt active filters, instantaneous reactive power theory(IRPT) is used to extract fundamental current. Switching pulses for both filters generated by hysteresis current controller (HCC), multilevel vector based hysteresis current controller (MVHCC) and adaptive hysteresis current controller(AHCC).The performance of the various HCC based control algorithm of shunt active filter with series active filter is evaluated in a three-phase distribution system connected with non-linear and unbalanced load conditions. Fuzzy logic control is used for dc capacitance balancing. The control technique is executed by the use of MATLAB / Simulink-based simulations environment.

62. High Voltage Engineering Using Activity Based Learning

K.V.Krishna Reddy

Princeton Institute of Engineering & Technology for women

Abstract

This 21’st century, change drastically for teaching and learning system. Now a days few students are showing their interest in learning information from the teacher rest is purely depending on Internet resources like Google, YouTube and other Platforms etc. It means in any manner many

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students easily learn any course from outside if they not comfortable in learning it. So as a teacher we have to create interest in these type of subject through implement different techniques, Activity-Based Learning (ABL) is one of these technique which acts as a method to overcome from the convectional technique of studies. In this way Classroom bases ABL activities will give simultaneous benefits to both students as well as for teachers in the manner students can overcome their difficulties in learning typical course and teachers can deliver a topic in a variety of approaches more effectively [1]. High Voltage Engineering one of the fast developing technology within the electrical engineering field. This paper presents the results and experiences gained from Design-Oriented Project Based Learning of High Voltage power supply design within a High Voltage Engineering at the Gandhi Institute of Technology (GITAM). Project-based learning (PBL) is one of the Activity base learning method that provide motivating and problem-centered teaching facilities that places students the ability to transfer their acquired scientific knowledge into industrial practices. And also provide students under the core of the teaching and learning activities [2].

63. Solving Wind Integrated Dynamic Economic Load Dispatch Using Dynamic Neighborhood Based Differential Evolution

S.Bhavana

Princeton Institute of Engineering & Technology for women

Abstract

Economically satisfying the power demand of various consumers in dynamic mode becomes a prime challenge nowadays. Unbalanced load variation makes the power demand and power loss vibrant which leads to the rough load curve. To deal with differential power requirement, dynamic economic (DELD) load dispatch is witnessed as major one in consideration with unauthorized operating zone, economic load dispatch in valve pointed loading, etc. On considering the surplus power demand it is mandatory to find an alternate way to satisfy it economically, hence renewable energy support is crucial. The discontinuous power generation of wind energy with respect to the availability of wind source makes the DELD problem non smooth and non convex in practical. Hence an evolutionary computational technique is

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prominent to find a better solution. In proposed topology, Neighborhood based Differential Evolution Algorithm has been evaluated for resolving the wind integrated DELD problem including various constraints. To check out values attained from proposed method, 15 unit and 10 unit system test data is optimized for various power demand including the wind support and evaluated with the results from the literature

64. Computationally Efficient Robust Model Predictive Control Of Magnetic Suspension Systems

Pasya Pramada Kumari

Princeton Institute of Engineering & Technology for women

Abstract

Robust model predictive control (MPC) of a general magnetic suspension system (MSS) is analyzed. Tight positioning requirements in the presence of constraints makes MPC a promising control technique for this system. While inherent robustness of the MPC approach may be able to handle some amount of model nonlinearities and external disturbances, we consider a robust approach that systematically incorporates the effects of uncertainties and disturbances in the linearized dynamics model and explore its applicability for a range of operating points or reference inputs of the MSS. Simulation results illustrate the effectiveness and the computational simplicity of the robust MPC approach

65. Algorithm For Priority Charging In A Dc Micro-Grid

S.P.R.Manohar Raja

Princeton Institute of Engineering & Technology for women

Abstract

With the increasing electric vehicles (EVs), the power grid will be impacted for charging the EVs. In order to manage EVs charging, there is a need for an intelligent charging strategy that supports EVs charging while preventing the power grid from overloading. In this paper, an

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algorithm is proposed for optimal charging of the batteries based on priority. The priority determination rules are calculated according to source voltage, current state-of-charge (SOC), battery capacity and battery current. The proposed algorithm considers real-time price (RTP) in order to minimize charging cost without increasing peak load. Intelligent charging strategies are needed in order to minimize electric vehicles charging cost without violating the operational constraints of the electric power grid with an extra burden. This work aims to design an optimal scheduling algorithm for managing electric vehicles charging using droop control

66. Wavelet Transform Based Fault Location Estimator For Statcom Compensated Lines

B.Srikanth

Princeton Institute of Engineering & Technology for women

Abstract

Voltage Source Converter (VSC) based Flexible AC Transmission system (FACTS) controllers have several advantages like modular construction, better performance, facility to add an energy source at the DC bus. Static Synchronous Compensator (STATCOM) is a VSC based shunt connected controller employed to have better voltage regulation at critical buses. A STATCOM with energy storage device facilitates operation in any of the four quadrants and hence present methods for fault location estimation may not be accurate and reliable. This paper puts forward a new, simple and dependable wavelet transform based fault location estimator for transmission lines deploying STATCOM integrating energy storage device. It is shown that the recommended estimation methodology is very precise and is least affected by operating mode of STATCOM and fault resistance

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67. Automatic Generation Control Of A Thermal Power Plant With Reheat Turbine Using Pso Optimized Integral Controller

J.Anjaiah

Princeton Institute of Engineering & Technology for women

Abstract

In this paper an approach has been presented for load frequency control of a singlearea thermal power plant with reheat turbine. Integral controller has been preferred for control of manipulated variable of the control system representing a single-area thermal power system, since the basic intention of load frequency control execution is to annihilate the frequency deviation resulting from step load disturbance acting on a power system. The gain of the integral controller is optimized with the help of Particle Swarm Optimization (PSO) technique. Various objective functions such as IAE (Integral Absolute Error), ITAE (Integral Time Absolute Error), ITSE (Integral Time Square Error) and ISE (Integral Square Error) are used as benchmark criteria for optimizing the gain of the controller. The controller performance exhibits divergence based upon objective functions. In the second part of the research, we have tested the system for robustness by administrating the system performance for parameter variations. The simulation results have affirmed the robust performance of the system

68. A Three Input Dc-Dc Converter For Hybrid Energy Application

Priyanka

Princeton Institute of Engineering & Technology for women

Abstract

Power electronic converters are so crucial in the integration of different energy sources in the concept of Hybrid Energy System (HES). A three input DC-DC converter with buck-boost

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operating capability is introduced in this paper. The converter is capable of integrating energy sources which have different V-I characteristics. The output equation of the DIDC converter is derived from different working states using voltage - second principle. Also, the converter which has been presented in this paper can incorporate a single source or multiple sources with a small modification in the converter structure. This converter topology is designed and simulated in MATLAB / SIMULINK platform. Three input sources with different voltage levels such as 30 V, 20 V and 10 V are used for the performance evaluation of the converter. A small scale experimental setup has been developed to check the performance evaluation of the converter in real time condition and the results are incorporated. Also the efficiency profile of the converter under various loading condition has been analyzed which clearly shows that the presented converter has a good efficiency level.

69. Superior Performances Of Different New Multilevel Inverter Topology With Disparate Pulse Techniques

K.Prasad

Princeton Institute of Engineering & Technology for women

Abstract

This paper establish the Analysis& designing of a new multilevel inverter topology with reduced number of DC source and power switches and further comparing using PWM technique. Through various PWM techniques like NLT, PD, POD and APOD, Comparison is 31 level multilevel inverter using various PWM technique to analysis there characteristics. The analysis PWM technical configured with Vrms, Irms with high efficient, less THD harmonic profile and cost efficient. The nearest level modulation technique is introduced with different DC offset value to evaluate the voltage harmonic at the load. The validation is done for presented PWM technique by using simulation software MATLAB/Simulink and laboratory based experimental test.

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70. Power Factor Correction By Bridgeless Buck Boost Converter

Md.Parveen

Princeton Institute of Engineering & Technology for women

Abstract

In current Scenario, efficiency and economic are the major concerns in designing and developing low-power applications. The aim of the paper is to design a Bridge Less Power Factor Corrected (BLPFC) buck boost converter for low power applications. The diode bridge is eliminating using bridgeless configuration thus reducing the conduction losses associate with in it. A BLPFC buck boost converter is design to operate in Discontinuous Current Mode (DCM) to provide a better Power Factor Correction (PFC) at AC mains. The PI controller design will be used to reduce the harmonics present in the system and to maintain the unity power factor at different voltages. This drive is to compare with the different input voltages and shows satisfactory performance. The performance of the system is to be simulated using MATLAB/Simulink. The experimental output values will be tabulated and the system is maintaining unity power factor at various voltages (90V, 100V, 125V).

71. A Comparative Study On The Export Market Structure Of Manufactured Goods In East Asia And Latin America

B Yellaiah Yadav

Princeton Institute of Engineering & Technology for women

Abstract

The diversification of export markets and the development of South-South intra-regional trade are the two major problems faced by developing countries in the market structure strategy of manufactured goods export. The impact of fluctuations and deteriorating terms of trade trends

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related to commodity structure on their export earnings, so the diversification of export markets has become a

72. An Exploration On Solving The Foreign Exchange Balance Of Three Foreign-Funded Enterprises

B Jyothi

Princeton Institute of Engineering & Technology for women

Abstract

"Three capital" enterprises, namely overseas Chinese-funded enterprises, foreign-funded enterprises and Sino-foreign joint ventures. After the Third Plenary Session of the Eleventh Central Committee of the Communist Party of China, the country has formulated a large number of foreign-related economic regulations, such as the "Foreign-related Economic Contract Law", "Sino-Foreign Equity Joint Venture Law", etc., which have effectively promoted the smooth progress of foreign investment work. However, due to the short time of opening to the outside world and the imperfect economic legislation, there are still many problems in foreign-related economic activities. Among them, the foreign exchange balance of "three foreign-funded" enterprises is relatively important and has certain influence. according to

73. Negotiations And Contracts For Technology Introduction Projects

B Jyothi

Princeton Institute of Engineering & Technology for women

Abstract

After the technology introduction project has gone through the feasibility study and the relevant units have made a decision, it will enter the specific implementation stage, that is, the negotiation

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stage. Through the negotiation, the contract is signed, the rights and obligations of both parties are determined, and the required technology is introduced to make it play a role in the national economy…

74. History Of The Development Of South Korea's Financial System

K Naveen Kumar

Princeton Institute of Engineering & Technology for women

Abstract

Intervention of the Modern Banking System The involvement of the modern banking system in South Korea coincided with the beginning of Japan's occupation of this area. In 1878, the First National Bank of Japan opened a branch in Pusan, a seaport city in South Korea next to Japan. The First National Bank of Japan, Busan Branch, operates modern banking business including the issuance of bank notes. Since then, other Japanese banks have established branch networks in South Korea. At this stage, some North Koreans also opened their own banks, but most of them were closed for a relatively short period due to insufficient capital and lack of operating experience.

75. On The Internal Reasons For The Growth Of The Four Small Asian Economies

K Shyamala

Princeton Institute of Engineering & Technology for women

Abstract

After Japan, the rapidly developing Asian "Four Smalls" have attracted more and more attention of the world, and are known as "newly industrialized countries and regions" that have created "miracles". However, with the development of the world economy today, what is the prospect of the "Four Smalls" in Asia, and what is the evaluation of the export-oriented development strategy?

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76. A Political Perspective On Economic Cooperation In The Asia-Pacific Region

Paka Mallesh

Princeton Institute of Engineering & Technology for women

Abstract

Two meanings of economic cooperation in the Asia-Pacific region and their relationship with politics. Economic cooperation in the Asia-Pacific region has two meanings from the perspective of widely understood and actually included content: one meaning is cooperation in a broad sense, that is, in trade, investment, technology, etc. Bilateral or multilateral cooperation in transfer and personnel exchange; another meaning is cooperation in a narrow sense, that is, cooperation in the entire Asia-Pacific region or sub-region similar to integration or as a form of community. Cooperation in the broad sense is the fact that it has actually been carried out and achieved results, while cooperation in the narrow sense is still in the stage of conception and prospect.

77. Taiwan's Economy In Transition

G Ram Narsaiah

Princeton Institute of Engineering & Technology for women

Abstract

Economic transformation is imperative Since the 1980s, Taiwan's economy has entered a new period of transformation. From 1958 to 1988, the average annual growth rate of Taiwan's economy was 9%. By 1988, the per capita GNP reached 6,045 US dollars.

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78. Round Control Of Investment Cost And Introduction Of Foreign Capital

G Satyanarayana

Princeton Institute of Engineering & Technology for women

Abstract

Since my country's opening to the outside world in 1979, the investment environment has been improved, and the number of foreign investment in China has been increasing. According to the latest materials released by the Ministry of Economic and Trade, by the end of August 1989, my country had approved more than 19,000 foreign-funded enterprises to open, more than 50 offshore oil cooperative development projects, with foreign investment of 31.5 billion US dollars and the actual use of foreign capital of 13.6 billion US dollars. . However, there is still a big gap between our current investment environment and the standards required by international capital, especially in recent years.

79. The Development and Trend of South Korea's Advanced Technology Industry

Paka Mallesh

Princeton Institute of Engineering & Technology for women

Abstract

In today's world, there is a new wave of new technology revolution centered on the development of microelectronics technology, bioengineering, new materials and new energy. Structural adjustment, try to make the heavy chemical industry transfer from a lower level to a higher level, in order to shorten the distance with developed countries, strengthen the international competitiveness of commodities, and realize the

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80. South Korea's Position In The Asia-Pacific Region And Regional Cooperation

K Ananda Kumari

Princeton Institute of Engineering & Technology for women

Abstract

South Korea's position in the Asia-Pacific region South Korea is one of the newly industrialized countries or regions in the Asia-Pacific region. Its geographical location is very important. After the Second World War, South Korea had few natural resources and dense population. It was a typical Asian-style agricultural economy, and the vast majority of the population were engaged in agricultural production. June 1950-July 1953 experienced another disastrous three-year

81. The Experience And Enlightenment Of Some Asia-Pacific Countries (Regions) On Several Problems To Be Solved In Utilizing Foreign Capital

R Swapna

Princeton Institute of Engineering & Technology for women

Abstract

In the past ten years, my country has made outstanding achievements in utilizing foreign capital. According to statistics, from 1983 to 1987, there were 9,605 contract projects for the introduction of foreign capital in my country, with a contract value of US$18.113 billion and an effective utilization value of US$8.435 billion. However, my country's actual utilization of foreign capital only accounts for 1% of international direct investment. The newly industrialized countries and regions in the Asia-Pacific region, as well as Mexico and Brazil, have provided a superior investment environment for foreign capital in the past two decades, and have become the most prosperous in the world economy today.

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82. The Transformation Of Japan's Economy And The Change Of The Trade Pattern In The Asia-Pacific Region

Muddagoni Gouthami

Princeton Institute of Engineering & Technology for women

Abstract

Since 1985, under the pressure of international trade imbalance and the appreciation of the yen, the Japanese economy has undergone remarkable adjustments and changes. ", the internationalization of capital and production is progressing rapidly. Singapore Chinese Bank occupies a pivotal position in today's overseas Chinese capital. In terms of ASEAN countries, Singapore's three major banking groups, "Da Hua", "Overseas Chinese" and "Ou Lian", ranked sixth, tenth, and twelfth among local banks in ASEAN countries respectively (The first to fifth banks are the national banks of ASEAN countries). In terms of the private capital of ASEAN countries,…

83. Capital Flows In Asia Pacific

B Pavani

Princeton Institute of Engineering & Technology for women

Abstract

Since the 1980s, the economy of the Asia-Pacific region has continued to develop rapidly, and the resulting growth in economic strength has led to changes in the supply and demand of capital in some countries and regions, which have made some obvious changes in the flow of capital in the Asia-Pacific region.

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84. The Development Characteristics Of Pacific Rim Regional Economic Cooperation And The Conception Of China's Participation In Cooperation

Boppanni Swetha

Princeton Institute of Engineering & Technology for women

Abstract

The two trends of economic development in the Pacific Rim have been the major issues that neighboring countries have paid close attention to for a long time to promote and develop economic cooperation in the Pacific Rim. Japan is the initiator and enthusiastic promoter of this cooperation. It has been nearly 25 years since Professor Kiyo Kojima of Hitotsubashi University put forward the idea of "Pacific Free Trade Area" in 1965. During this period, various cooperation ideas have been put forward, and the cooperation form has been promoted. At the same time, people can see two interesting phenomena.

85. The Types Of Economic Development In Developing Countries And Regions In The Asia-Pacific Region Rely On

Pudari Balaraju

Princeton Institute of Engineering & Technology for women

Abstract

Before the war, almost all of the more than 30 nation-states and regions in the entire Pacific region were economic vassals of colonialism. The emergence of the post-war socialist camp and the awakening of nationalism have brought about profound changes in the world economy. For more than 30 years, the development of the world economy has revolved around the North-South issue centered on the economic development of developing countries and the East-West issue centered on peace. The economic structure of Western capitalism has changed from the US-

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European economic system centered on the United States to the three-pole system after the 1970s, which consists of the United States, Japan, and Europe; the developing countries in the East, as a social group, are politically independent. to economic autonomy, and then

86. Research On Interest Rate Liberalization In Taiwan

Gorantla Kavya

Princeton Institute of Engineering & Technology for women

Abstract

International Background and Internal Pressure of Interest Rate Liberalization Interest rate is the price of financing, and the level and rise of interest rate directly affect the supply and demand of funds. For a long time, most countries in the world have implemented a system of regulated interest rates. In the late 1960s, due to internal economic contradictions and strong external pressure, Western countries began to feel that the artificial interest rate control was difficult to adapt to the changes in the objective situation, so they gradually lifted the interest rate control, allowing the interest rate to be determined by market forces, and switched to using the money supply as The most important indicator of monetary policy. After entering the 1970s, Western countries have

87. On The Choice Of Import Substitution Strategy And Diversification Strategy

Bollaram Divya

Princeton Institute of Engineering & Technology for women

Abstract

Basic Analysis of Import Substitution Strategy Import substitution is a transitional strategic model. The implementation of import substitution is based on the economic development strategy adopted by developing countries to counteract the market competition of developed

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countries. A country's industrial base is backward and the overall level of the national economy is low. In order to change the backward situation, adopting the import substitution strategy at the right time will help to rapidly develop the national industry and establish a complete industrial system and national economic system. But at the same time, it should be noted that the choice of import substitution strategy is not the purpose after all. This is because:

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Bollaram Divya

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89. On The Choice Of Import Substitution Strategy And Diversification Strategy

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90. The Pacific Century And South Korea's Economic Development Strategy

K Ananda Kumari

Princeton Institute of Engineering & Technology for women

Abstract

In recent years, South Korea has become increasingly concerned about the Asia-Pacific region. The south Korean authorities believe that in the 1970s, the economy of the Asia-Pacific region experienced great development, and economic exchanges increased rapidly. Intra-regional trade in almost all countries accounted for more than 50% of its total trade, and some even accounted for 90%. There are developed countries, newly industrialized countries (regions) and nationally independent countries in the Asia-Pacific region. The economic development levels are diverse, and they have great vitality in many aspects such as resources, human resources, and trade, and have great potential for mutual cooperation. Therefore, scholars, industrialists and even government officials in South Korea believe that the 21st century will become the "Pacific Century", network model, flexible, and co-produced business model works a unique tool for business model environments.

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Prof. Pinkal Jain
Dr. G. Malleshama
Dr Rajeev Shrivastava
Dr. Santosh Kumar

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Fundamental of Data Science

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Fundamental of Data Science

Course Objectives

- To understand the various stages in Data science process.
- To study the applications of Data Science.
- To learn how to setup the environment and implement in Python and R
- To learn to write programs in Python and R for data science projects.
- To know the process of data visualization & data manipulation w.r.to data science.

UNIT - I: Introduction to Data Sciences – The data science process – Roles in data science project – Stages of Data Science Project – Defining the goal – Data collection and Management – Modelling – Model evaluation – Presentation and documentation – Model deployment and Maintenance Applying Data science in Industry – Benefits from Business centric Data Science – Data Analytics and Types – Common Challenges in Analytics – Distinguishing between Business Intelligence and Data Science Using Data Science to Extract meaning from Data – Machine learning – Math Probability and Statistical Modelling – Using clustering to subdivide data – Modeling with instances – Building models that operate on IOT

UNIT- II: Data science tools environment - Python – overview - Setting up Data science toolbox, Essential concepts and tools-Obtaining Data – creating reusable command line tools – scrubbing data – Managing your Data workflow – Drake - Exploring Data – Parallel pipelines – Modeling Data.

UNIT – III: Techniques using Python Tools -Linear Algebra – Statistics – Probability – Hypothesis and Inference – Gradient Descent – working with Data – Machine Learning – k – Nearest Neighbours – Naive Bayes – Simple Linear Regression – Multiple Regression – Logistic Regression

UNIT - IV: Techniques using R Tools - R programming overview - Loading data into R – Modeling methods – choosing and evaluating models – Memorization methods - Linear and logistic Regression – Unsupervised methods – Delivering results – Documentation and Deployment.

UNIT-V: Data Manipulation and visualization – Data manipulation using pandas – visualization using matplotlib.

TEXT BOOKS:

1. J. Janssens, Data science at the command line, First edition. Sebastopol, CA: O'Reilly,2014..
2. J. Grus, Data Science from Scratch: First Principles with Python, 1 edition. Sebastopol, CA: O'Reilly Media,2015.
3. N. Zumel and J. Mount, Practical data science with R. Shelter Island, NY: Manning Publications Co,2014.

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1. L. Pierson and J. Porway, Data science, 2nd edition. Hoboken, NJ: John Wiley and Sons, Inc, 2017.
2. C. O'Neil and R. Schutt, Doing Data Science: Straight Talk from the Frontline, 1 edition. Beijing ; Sebastopol: O'Reilly Media,2013.
3. J. Vander Plas, Python Data Science Handbook: Essential Tools for Working with Data, First edition. Shroff/O'Reilly,2016.
4. S. R. Das, Data Science: Theories, Models, Algorithms, and Analytics. https://srdas.github.io/MLBook/.

Course Outcomes:

Students will be able to

- Demonstrate the basic knowledge of data science process.
- Setup the software environment for python and R Language and apply various techniques to work with data.
- Manipulate and visualize the data using tools like pandas and matplotlib.
- Develop simple data science applications.
- Analyze the various data science related projects.

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About Authors

Prof. Pinkal Jain is working as an Assistant Professor in the Department of Computer Science and Engineering at Gyan Ganga College of Technology, Jabalpur, Madhya Pradesh, India. He graduated in B.E. in Computer Science & Engineering from LNCT Jabalpur; Madhya Pradesh India .He secured Master of Technology in Computer Technology and Application at Vindhya institute of technology, Madhya Pradesh India. He is currently pursuing his PhD in Computer Science and Engineering. He has been engaged in research and teaching for more than 10 years. He has published and presented more than 10 papers in National and International Journals and conferences. He is having 02 Patents. His main area of interest includes Artificial Intelligence, Cryptography, Data Science, Data mining, Operating System, Software Engineering, Theory of Computation, Compiler Design and Cloud Computing.

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Network Theory

By ...

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Internet of Everything (IoE) for Biomedical Applications

Editors: Vandana Roy, PhD
Piyush Kumar Shukla, PhD
Anoop Kumar Chaturvedi, PhD
Priti Maheshwary, PhD

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Biomedical applications coupled with IoT advancements help to bridge the gap between the physical and digital worlds, creating a hyper-connected society where objects are utilized not only to share data but are also becoming increasingly intelligent and aware of their context. This book takes a look into applications of the Internet of Things (IoT) in clinical patient diagnosis, treatment, and monitoring.

The book approaches networking, databases, and privacy from a biomedical systems-level perspective, considering human concerns as well as technical considerations. Many of the chapters focus on cutting-edge technology involving the Internet of Things and biomedical engineering in everyday life in the 21st century.

The book explores the use of Internet of Things (IoT) devices to track the health of patients, devices for use in various emergency situations, and devices for the smart management of patients. It discusses smart healthcare systems, remote and near-patient monitoring, rare disease diagnosis, and smart wearable healthcare devices for health monitoring. Chapters look at this technology for cardiac analysis in e-healthcare, and the book also discusses the importance of the Internet of Things (IoT) in biomedical applications such as electroencephalography (EEG) and magnetic resonance imaging (MRI). Chapters also look at the incorporation of Internet of Things applications with the usage of smart wheelchairs, telemedicine, GPS locations, etc.

Internet of Everything (IoE) for Biomedical Applications will be valuable for academicians and students, industry practitioners, and researchers in biomedical engineering, bioinformatics, and computer science.

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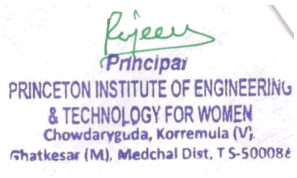

work, and the team was responsive and receptive to our queries, feedback, and revisions. The high quality of the final product and its success is a reflection on the quality of the partnership we experienced with AAP in realizing this project." —Caitlin Gillan, Asst Professor, University of Toronto, Canada

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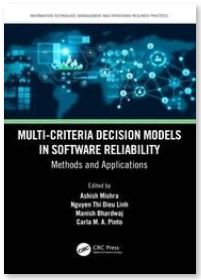

Multi-Criteria Decision Models in Software Reliability

Methods and Applications

Edited By ***Ashish Mishra, Nguyen Thi Dieu Linh, Manish Bhardwaj, Carla M. A. Pinto***

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ABSTRACT

This book provides insights into contemporary issues and challenges in multi-criteria decision models. It is a useful guide for identifying, understanding and categorising multi-criteria decision models, and ultimately implementing the analysis for effective decision-making.

The use of multi-criteria decision models in software reliability engineering is a relatively new field of study, and this book collects all the latest methodologies, tools and techniques in one single volume. It covers model selection, assessment, resource allocation, release management, up-grade planning, open-source systems, bug tracking system management and defect prediction.

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Preface

We are glad to present the book entitled **Recent Innovations in Engineering and Management - RIEM 2022** to the students, faculty members and researchers of Engineering and Management. We have observed that eminent professors and active researchers from various technical institutions across the Nation contributed to the book chapters which are focused on state-of-the-art areas related to Electrical and Electronics Engineering, Computing Sciences, Civil Engineering and Mechanical Sciences and Management.

We hope the readers benefit from the research problems addressed in the book. We are thankful to all the authors and publisher who have helped to bring out the First Edition of the book Recent Innovations in Engineering and Management.

– Editors

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An Analytical Study and Implementation of AutoML Using Hyper Parameter Optimization

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ABSTRACT

In this Book Chapter, the design & development of the necessity for an efficient pipeline for the building of Machine Learning models has never been more vital, given the rise in the usage of machine learning in numerous areas. However, the work of developing and training models remains mainly traditional, with a reliance on domain specialists and time-consuming data manipulation operations, which stymies machine learning model development in both academia and industry. This demand promotes AutoML, a new research era focused on fully automating the fitting of machine learning models. AutoML (Automated Machine Learning) is an end-to-end procedure that tries to automate this model creation pipeline without the need for external help. First, we'll go over some AutoML basics. Second, we go over the different components of the AutoML pipeline and their techniques in detail. We also present a case study on the industrial application and impact of AutoML, with a focus on its practical utility in a commercial setting.

Keywords: *AutoML, Auto Hyperparameter Turning, SmartML, ImageNet.*

Introduction to Automated Machine Learning

AutoML (**Auto**matic **M**achine **L**earning) refers to the process of studying a traditional machine learning model development pipeline to segment it into

modules and automate each of those to accelerate workflow. With the advent of deeper models, such as the ones used in image processing[2], Natural Language Processing[3], etc., there is an increasing need for tailored models that can be crafted for specific workloads. However, such specific models require immense resources such as high capacity memory, strong GPUs, domain experts to help during the development and long wait times during training. The task gets critical as there is not much work done for creating a formal framework for deciding model parameters without the need for trial and error. These nuances emphasized the need for AutoML where automation can reduce turnaround times and also increase the accuracy of the derived models by removing human errors. In recent years, several tools and models have been proposed in the domain of AutoML. Some of these focus on particular segments of AutoML such as feature engineering or model selection, whereas some models attempt to optimize the complete pipeline. These tools have matured enough to be able to compare with human experts on Kaggle competitions and at times have beat them as well, showcasing their veracity. There are wide variety of applications based on AutoML such as autonomic cloud computing[5], Intelligent Vehicular networks, Block Chain[6], Software Defined Networking[8], among others.

Data analysis is a powerful tool for learning insights on how to improve the decision making, business model and even products. This involves the construction and training of a machine learning model which faces several challenges due to lack of expert knowledge.

The primary contributions of this paper are threefold:

1) We segment the AutoML pipeline into parts and review the contributions in each of these segments.
2) We explore the various state-of-the-art tools currently available for AutoML and evaluate them.
3) We also incorporate the advancements seen in machine learning which seems to be overshadowed by deep learning in recent years.

With the advent of deeper models, such as the ones used in image processing, Natural Language Processing, etc., there is an increasing need for tailored models that can be crafted for specific workloads.[26] However, such specific models require immense resources such as high capacity memory, strong GPUs, domain experts to help during the development and long wait times during training. The task gets critical as there is not much work done for creating a formal framework for deciding model parameters without the need for trial and error. These nuances emphasized the need for AutoML where automation can reduce turnaround times and also increase the accuracy of the derived models by removing human errors.

In recent years, several tools and models have been proposed in the domain of AutoML. Some of these focus on particular segments of AutoML such as feature engineering or model selection, whereas some models attempt to optimize the complete pipeline. These tools have matured enough to be able to compare with human experts on Kaggle competitions and at times have beat them as well, showcasing their veracity. There are wide variety of applications based on AutoML such as autonomic cloud computing, Intelligent Vehicular networks, Block Chain, Software Defined Networking, among others. This paper aims at providing an overview of the advances seen in the realm of AutoML in recent years.[34] We focus on individual aspects of AutoML and summarize the improvements achieved in recent years. The motivation of this paper stems from the unavailability of a compact study of the current state of AutoML. While we acknowledge the existence of other surveys, their motive is to either provide an in-depth understanding of a particular segment of AutoML, provide just an experimental comparison of various tools used or are fixated towards deep learning models.[29]

There is a lot of buzz for machine learning algorithms as well as a requirement for its experts. We all know that there is a significant gap in the skill requirement. The motive of H_2O is to provide a platform which made easy for the non-experts to do experiments with machine learning. H_2O architecture can be divided into different layers in which the top layer will be different APIs, and the bottom layer will be H_2O JVM. H_2O's core code is written in Java that enables the whole framework for multi-threading. Although it is written in Java, it provides interfaces for R, Python and few others shown in the architecture, thus enabling it to be used efficiently. In crux, we can say that H_2O is an open source, in memory, distributed, fast and scalable machine learning and predictive analytics that allow building machine learning models to be an ease. If you are using python the same method is applied in it too, from command line pip install -U h2o and h2o will be installed for your python environment.[43] The same process will go on for Initializing h2o. The h2o. init() command is pretty smart and does a lot of work. At first, it looks for any active h2o instance before starting a new one and then starts a new one when instance are not present. It does have arguments which helps to accommodate resources to the h2o instance frequently used are: nthreads: By default, the value of nthreads will be -1 which means the instance can use all the cores of the CPU, we can set the number of cores utilized by passing the value to the argument. max_mem_size: By passing a value to this argument you can restrict the maximum memory allocated to the instance. Its od string type can pass an argument as '2g' or '2G' for 2 GBs of memory, same when you want to allocate in MBs. Once instance is created, you can access the flow by typing http://localhost:54321 in your browser.[52] Flow is the name of the web interface that is part of h2o which does not require any extra

installations which is written in CoffeeScript (a JavaScript like language). You can use it for doing the following things:

- Upload data directly
- View data uploaded by the client
- Create models directly
- View models created by you or your client
- View predictions
- Run predictions directly

AutoML

Now talking about AutoML part of H2O, AutoML helps in automatic training and tuning of many models within a user-specified time limit. The current version of AutoML function can train and cross-validate a Random Forest, an Extremely-Randomized Forest, a random grid of Gradient Boosting Machines (GBMs), a random grid of Deep Neural Nets, and then trains a Stacked Ensemble using all of the models. When we say AutoML, it should cater to the aspects of data preparation, Model generation, and Ensembles and also provide few parameters as possible so that users can perform tasks with much less confusion. H2o AutoML does perform this task with ease and the minimal parameter passed by the user.[37] In both R and Python API, it uses the same data related arguments x, y, training frame, validation frame out of which y and trainin frame are required parameter and rest are optional. You can also configure values for max_runtime_sec and max_models here max_runtime_sec parameter is required, and max_model is optional if you don't pass any parameter it takes NULL by default. The x parameter is the vector of predictors from training_frame if you don't want to use all predictors from the frame you passed you can set it by passing it to x.

Literature Survey

1) AutoML: A Survey of the State-of-the-Art

Xin He, Kaiyong Zhao & Xiaowen Chu et al.

Deep learning (DL) techniques have penetrated all aspects of our lives and brought us great convenience. However, building a high-quality DL system for a specific task highly relies on human expertise, hindering the applications of DL to more areas. Automated machine learning (AutoML) becomes a promising solution to build a DL system without human assistance, and a growing number of researchers focus on AutoML. In this paper, we provide a comprehensive and up-to-date

review of the state-of-the-art (SOTA) in AutoML. First, we introduce AutoML methods according to the pipeline, covering data preparation, feature engineering, hyper parameter optimization, and neural architecture search (NAS). We focus more on NAS, as it is currently very hot sub-topic of AutoML. We summarize the performance of the representative NAS algorithms on the CIFAR-10 and ImageNet datasets and further discuss several worthy studying directions of NAS methods: one/two-stage NAS, one-shot NAS, and joint hyper parameter and architecture optimization. Finally, we discuss some open problems of the existing AutoML methods for future research.[2]

2) A Comprehensive Survey on Machine Learning for Networking: Evolution, Applications and Research Opportunities

Raouf Boutaba, Mohammad A. Salahuddin & Noura Limam et al.

This paper outlines a retail sales prediction and product recommendation system that was implemented for a chain of retail stores. The relative importance of consumer demographic characteristics for accurately modeling the sales of each customer type are derived and implemented in the model. Data consisted of daily sales information for 600 products at the store level, broken out over a set of non-overlapping customer types. A recommender system was built based on a fast online thin Singular Value Decomposition. It is shown that modeling data at a finer level of detail by clustering across customer types and demographics yields improved performance compared to a single aggregate model built for the entire dataset. Details of the system implementation are described and practical issues that arise in such real-world applications are discussed. Preliminary results from test stores over a one-year period indicate that the system resulted in significantly increased sales and improved efficiencies.[5]

3) Automated Machine Learning in Practice: State of the Art and Recent Results

Lukas Tuggener, Mohammadreza Amirian & Katharina Rombach et al.

A main driver behind the digitization of industry and society is the belief that data-driven model building and decision making can contribute to higher degrees of automation and more informed decisions. Building such models from data often involves the application of some form of machine learning. Thus, there is an ever growing demand in work force with the necessary skill set to do so. This demand has given rise to a new research topic concerned with fitting machine learning models fully automatically-AutoML. This paper gives an overview of the state

of the art in AutoML with a focus on practical applicability in a business context, and provides recent benchmark results of the most important AutoML algorithms.[1]

4) Bert : Pre-training of Deep Bidirectional Transformers for Language Understanding

Jacob Devlin, Ming-Wei Chang, Kenton Lee & Kristina Toutanova et al.

We introduce a new language representation model called BERT, which stands for **B**idirectional **E**ncoder **R**epresentations from **T**ransformers. Unlike recent language representation models, BERT is designed to pre-train deep bidirectional representations from unlabeled text by jointly conditioning on both left and right context in all layers. As a result, the pre-trained BERT model can be fine-tuned with just one additional output layer to create state-of-the-art models for a wide range of tasks, such as question answering and language inference, without substantial task-specific architecture modifications. BERT is conceptually simple and empirically powerful. It obtains new state-of-the-art results on eleven natural language processing tasks, including pushing the GLUE score to 80.5% (7.7% point absolute improvement), Multi NLI accuracy to 86.7% (4.6% absolute improvement), SQuAD v1.1 question answering Test F1 to 93.2 (1.5 point absolute improvement) and SQuAD v2.0 Test F1 to 83.1 (5.1 point absolute improvement).[2]

5) Blockchain for 5G-enabled IoT for Industrial Automation: A Systematic Review

Ishan Mistry, Sudeep Tanwar, Sudhanshu Tyagi & Neeraj Kumar et al.

Internet-of-Things (IoT) has made ubiquitous computing a reality by extending Internet connectivity in various applications deployed across the globe. IoT connect billions of objects together for high speed data transfer especially in 5G-enabled industrial environment during information collection and processing. Most of the issues such as access control mechanism, time to fetch the data from different devices and protocols used may not be applicable infor future applications as these protocols are based upon a centralized architecture. This centralized architecture may have a single point of failure along with the computational overhead. So, there is a need for an efficient decentralized access control mechanism for device-to-device (D2D) communication in various industrial sectors IoT-enabled industrial automation. In such an environment, security and privacy preservation are major concerns as most of the solutions are based upon the centralized architecture. To mitigate the aforementioned issues, in this paper, we present an in-depth survey

of state-of-the-art proposals having 5G-enabled IoT as a backbone for block chain-based industrial automation for the applications such as-Smart city, Smart Home, Healthcare 4.0, Smart Agriculture, Autonomous vehicles and Supply chain management. From the existing proposals, it has been observed that block chain can revolutionize most of the current and future industrial applications in different sectors by providing a fine-grained decentralized access control. Various transactions and database logs can be traced efficiently using block chain for consistency and privacy preservation in the afore mentioned industrial sectors. The open issues and challenges of 5G-enabled IoT for block chain-based Industrial automation are also analyzed in the text. Finally, a comparison of existing proposals with respect to various parameters is presented which allows the end users to select one of the proposals in comparison to its merits over the others.[5]

6) Towards Automated Machine Learning : Evaluation and Comparison of AutoML Approaches and Tools

Anh Truong, Austin Walters, Jeremy Goodsitt & Keegan Hines et al.

There has been considerable growth and interest in industrial applications of machine learning (ML) in recent years. ML engineers, as a consequence, are in high demand across the industry, yet improving the efficiency of ML engineers remains a fundamental challenge. Automated machine learning (AutoML) has emerged as a way to save time and effort on repetitive tasks in ML pipelines, such as data pre-processing, feature engineering, model selection, hyper parameter optimization, and prediction result analysis. In this paper, we investigate the current state of AutoML tools aiming to automate these tasks. We conduct various evaluations of the tools on many datasets, in different data segments, to examine their performance, and compare their advantages and disadvantages on different test cases.[6]

Existing System

In the existing system the data pre-process has dine with structured data. Even though data pre-processing consumes a large chunk of time in an ML pipeline, it is astonishing to see the inadequate amount of work done to automate it. For data preprocessing, it can be noted that while the data pre-process approaches are adequate for structured data, work still needs to be done to assimilate on Structured data.[27] We suggest the incorporation of data-mining methods as they can deal with such unformed data. This can allow AutoML pipelines to create models capable of learning from Internet sources. In feature engineering, it should be noted that

most methods used until now adhere to supervised learning. However, dataset specificity is high, and therefore, AutoML pipelines should be as generic as possible to accommodate the diverse datasets. Therefore, a gradual paradigm shift towards unsupervised.[15]

Disadvantages of the Existing System

- Feature Generation is not up to the mark where domain experts excepted results.
- Most AutoML tools emphasize the performance but in the real world, that's just one aspect being covered in machine learning projects. So the companies can't compromise the computing plus storage specification sheet.
- CASH (Combined Algorithm Selection and Hyper parameter) problem considers model selection and hyper parameters optimization as a single hierarchical parameter.
- **Algorithm:** SmartML, J48, C50

Proposed System

The proposed System aims at providing an overview of the advances seen in the realm of AutoML in recent years. We focus on individual aspects of AutoML and summarize the improvements achieved in recent years. The motivation of proposed system stems from the unavailability of a compact study of the current state of AutoML. While we acknowledge the existence of other surveys, their motive is to either provide an in-depth understanding of a particular segment of AutoML, provide just an experimental comparison of various tools used or are fixated towards deep learning models.[24]

Advantages of the Proposed System

- We segment the AutoML pipeline into parts and review the contributions in each of these segments.
- We explore the various state-of-the-art tools currently available for AutoML and evaluate them.
- We also incorporate the advancements seen in machine learning which seems to be overshadowed by deep learning in recent years.

Implementation

- User
- Admin

- Data Preprocess
- AutoML

User

The User can register the first. While registering he required a valid user email and mobile for further communications. Once the user register then admin can activate the customer. Once admin activated the customer then user can login into our system. User can do the data preprocess. At the time of data preprocess the h2o auto Ml server will start automatically and initiate the data from dataset of the adult's data. This data publically available at shap server in the central repository.[34] In the h2o models will load automatically in the project and will split the data our requirements. The files will be pickled and stored in file path locations. Later user can test the salary vs experience dataset. Here user can give the dynamically test split size. Based this size the salary dataset can split and will train to our model and fetch the predicted results. Use can compare the original and predicted results.[41]

Admin

Admin can login with his credentials. Once he login he can activate the users. The activated user only login in our applications. The admin can set the training and testing data for the project dynamically to the code. When h2o servers starts we can see the all models loading process. Admin can also view the user perfumed results. The test size and acquired scores also displayed in the admin page.[54]

Data Pre-process

Data pre-processing guarantees the delivery of quality data derived from the original dataset. It is an important step due to the unavailability of quality data as a large portion of information generated and stored is usually semi-structural or even non-structured in form.[19] However, even though it is a crucial part of any machine learning pipeline, it is reported to be the least enjoyable part, with authors stating that 60-80% of data scientists finding it to be the most mundane and tedious job. In AutoML, certain data-preprocessing operations are hardcoded, which are then applied to a given dataset in certain combinations such that the overall clarity and usability of the data increases. We have largely classified these operations into the following categories based on our surveys of recent papers.

AutoML

H2O is a fully open-source, distributed in-memory machine learning platform with linear scalability. H2O supports the most widely used statistical & machine learning

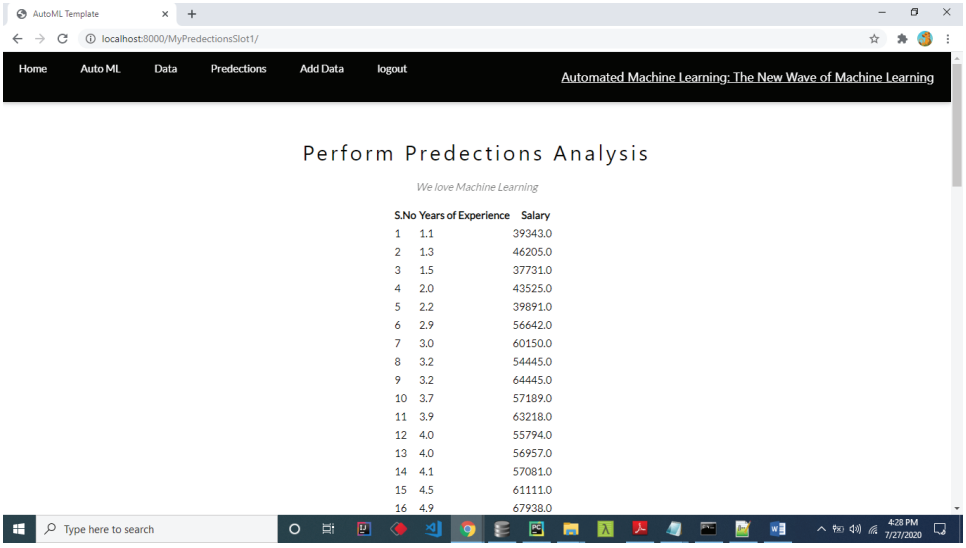


Fig. 1: Test my own Data

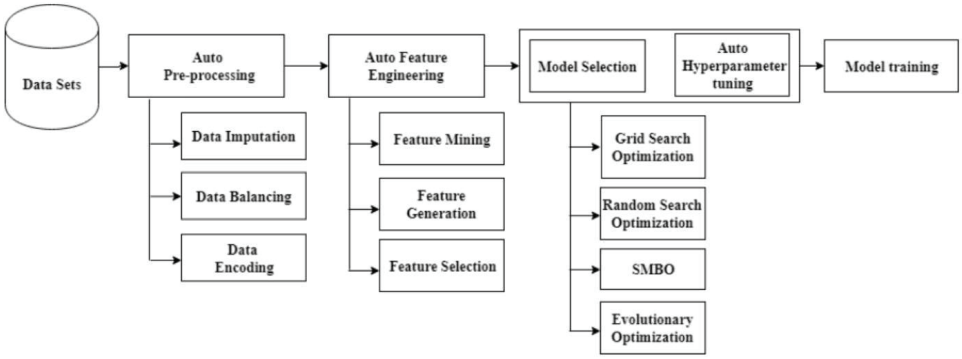


Fig. 2: Taxomonony of AutoML

algorithms, including gradient boosted machines, generalized linear models, deep learning, and many more.[47] We suggest The incorporation of data-mining methods as they can deal with such unformed data. This can allow AutoML pipelines to create models capable of learning from Internet sources. In feature engineering, it should be noted that most methods used until now adhere to supervised learning. However, dataset specificity is high, and therefore, AutoML pipelines should be as generic as possible to accommodate the diverse datasets.[60]

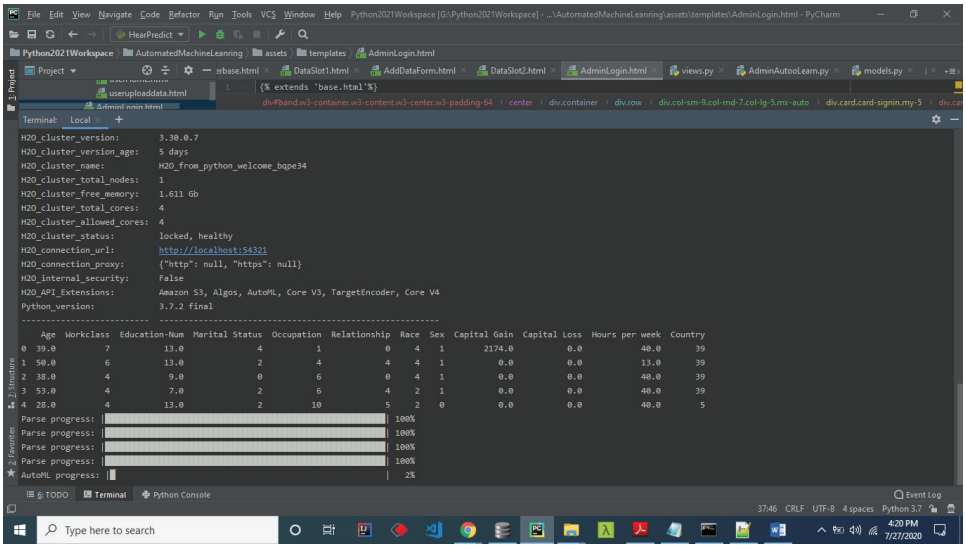


Fig. 3: Training Auto Machine Learning

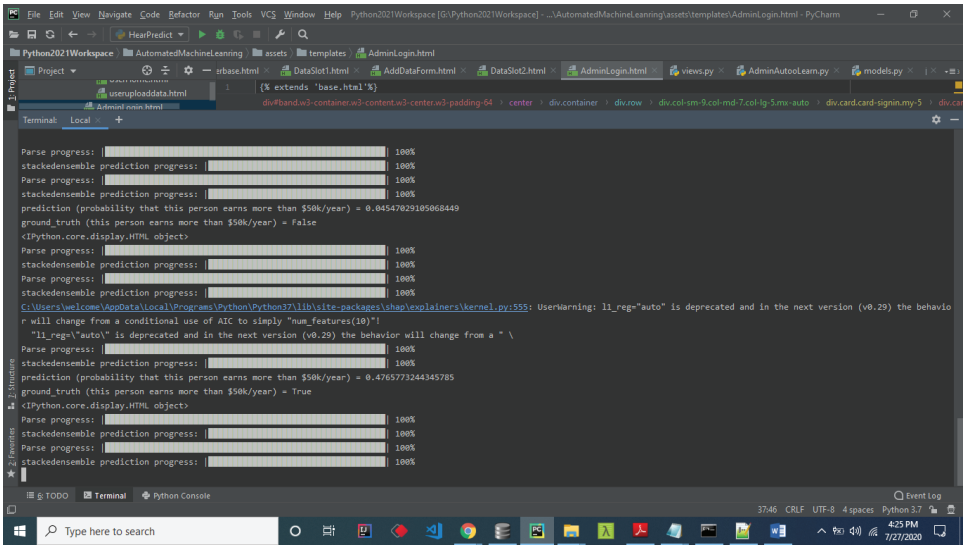
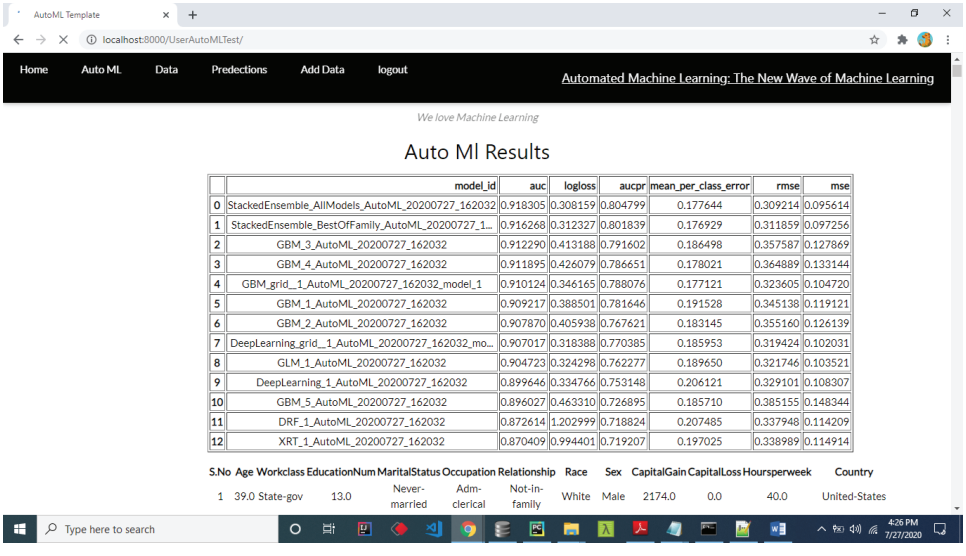


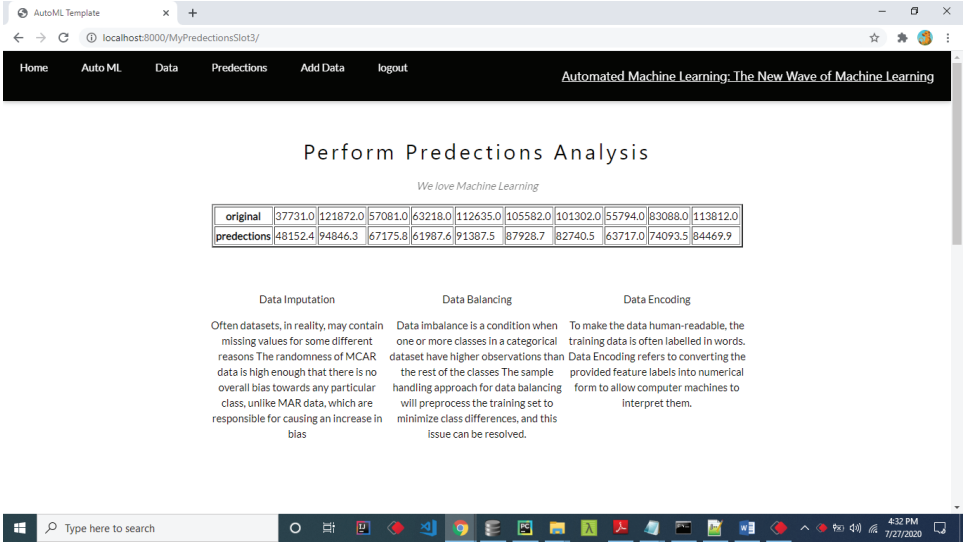
Fig. 4: Testing Models



	model_id	auc	logloss	aucpr	mean_per_class_error	rmse	mse
0	StackedEnsemble_AllModels_AutoML_20200727_162032	0.918305	0.308159	0.804799	0.177644	0.309214	0.095614
1	StackedEnsemble_BestOfFamily_AutoML_20200727_1...	0.916268	0.312327	0.801839	0.176929	0.311859	0.097256
2	GBM_3_AutoML_20200727_162032	0.912290	0.413188	0.791602	0.186498	0.357587	0.127869
3	GBM_4_AutoML_20200727_162032	0.911895	0.426079	0.786651	0.178021	0.364889	0.133144
4	GBM_grid__1_AutoML_20200727_162032_model_1	0.910124	0.346165	0.788076	0.177121	0.323605	0.104720
5	GBM_1_AutoML_20200727_162032	0.909217	0.388501	0.781646	0.191528	0.345138	0.119121
6	GBM_2_AutoML_20200727_162032	0.907870	0.405938	0.767621	0.183145	0.355160	0.126139
7	DeepLearning_grid__1_AutoML_20200727_162032_mo...	0.907017	0.318388	0.770385	0.185953	0.319424	0.102031
8	GLM_1_AutoML_20200727_162032	0.904723	0.324298	0.762277	0.189650	0.321746	0.103521
9	DeepLearning_1_AutoML_20200727_162032	0.899646	0.334766	0.753148	0.206121	0.329101	0.108307
10	GBM_5_AutoML_20200727_162032	0.896027	0.463310	0.726895	0.185710	0.385155	0.148344
11	DRF_1_AutoML_20200727_162032	0.872614	1.202999	0.718824	0.207485	0.337948	0.114209
12	XRT_1_AutoML_20200727_162032	0.870409	0.994401	0.719207	0.197025	0.338989	0.114914

S.No	Age	Workclass	EducationNum	MaritalStatus	Occupation	Relationship	Race	Sex	CapitalGain	CapitalLoss	Hoursperweek	Country
1	39.0	State-gov	13.0	Never-married	Adm-clerical	Not-in-family	White	Male	2174.0	0.0	40.0	United-States

Fig. 5: Auto Generated Algorithms and Files



original	37731.0	121872.0	57081.0	63218.0	112635.0	105582.0	101302.0	55794.0	83088.0	113812.0
predections	48152.4	94846.3	67175.8	61987.6	91387.5	87928.7	82740.5	63717.0	74093.5	84469.9

Fig. 6: Test Results

Conclusion

Finally, to conclude, in this Book Chapter, We give readers with insights into the various aspects of AutoML from a conceptual standpoint in this paper. Each of these areas has a number of different ways that can be briefly presented to provide

a comprehensive understanding. We also go over the numerous patterns that have emerged in recent years, as well as make recommendations for research areas that are in desperate need of attention. We also propose some potential paths for AutoML research that can be pursued. We propose that the research be directed toward the development of a generalised AutoML pipeline that can accept data sets from a wide range of sources, as well as the establishment of a central meta-learning framework that acts as a central brain for approximating pipelines for all future problems statements.

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