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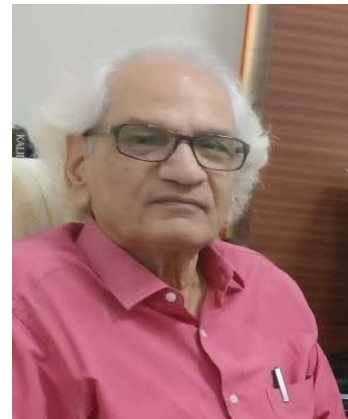
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Message from Editor-in-Chief



It gives me profuse ecstasy to note that COUNCIL FOR INDUSTRIAL INNOVATION AND RESEARCH (CIIR) is organizing a National Conference on “Recent Trends in Academic Research” on August 30 & 31, 2021 in collaboration with JAGRAN LAKECITY UNIVERSITY BHOPAL and SANSKRITI UNIVERSITY, MATHURA.

The subject chosen for this conference is extremely important and timely which relates with the global challenges in multidisciplinary fields. The conference will let the young generation realize, that what, they, as research community, should do in 2021 and onwards to meet the societal requirement globally.

It is a matter of great privilege that the organizers of the conference have succeeded in collating a myriad of researchers, technologists and industries. Exchange and cooperation are crucial to research and development. They are important tools that bring global scientific strengths together to achieve a common goal. One of the means of ensuring sustainable cooperation is to involve young researchers in on-going activities. I am happy to note that the young researchers have also been provided opportunity to present their work on this international platform and receiving valuable inputs from the experts.

I believe it's high time for every one of us to join hands and contribute towards the endeavors of this conference. The Conference proceedings, I am sure, will bring forth the diversity of different stages and areas of multidisciplinary research.

My heartiest congratulation to the organizing committee for planning this activity and I am sure that it will be a grand success and contribute to creation of new knowledge!

Prof. (Dr.) R. M. Mehra
Chief Patron and Editor-in-Chief,
RTAR-2021, India.
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C1_1029

A Review on Mitigation and Prevention of DDoS Attack in IoT using Machine Learning Approach

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Abstract: Now-a-days, Internet-of-Things (IoT) devices have grown in popularity, and IoT networks have become increasingly relevant in industry and people's daily lives. On the one hand, they make our lives easier in any way; Due to increasing use of IoT devices, network is vulnerable to security breaches, owing to the resource-constrained existence of IoT. In this paper, look at one of the most popular IoT system violations, the Distributed Denial of Service (DDoS) attack, its effect on (IoT) devices, and how to mitigate it. The Distributed Denial-of-Service (DDoS) attack, for example, can cut off network service to users in a variety of ways, such as by consuming server resources, saturating link bandwidth, and so on. To bring down networks and servers, DDoS attackers take advantage of vulnerabilities revealed by new networking technologies such as wireless, mobile, and IoT, as well as accompanying protocol problems. DDoS attacks are becoming more common in the internet world as a result of the easy availability of resources and botnet armies. Researchers have suggested a number of strategies to combat DDoS attacks. Using a machine learning method, this study can be used to discover dangers and anomalies in smart devices and IoT systems, as well as prevent assaults.

Keywords—Internet of Things (IoT), Distributed Denial of Service (DDoS), Anomaly Detection, Smart Devices, Machine Learning.



CI_1023

Digital Food Service Application: It's Influence and Challenges Faced by Consumers

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ABSTRACT: Due to busy working schedule people had no time to spend for food preparation and the reason consumers get attracted towards food delivery industry. Consumers demonstrate their determination by using technology but due to some inconvenience caused a gap has been created. For this reason, this study had been conducted to understand while used digital food service applications what challenges faced by consumer although they were so much influenced. The sample group for this study, which aimed to identify the challenges faced while obtaining food by using application technology, was made up of 160 consumers. The consumers chosen by snowball sampling method to locate specific groups of people. Quantitative approached had been adopted and questionnaires had been circulated in Kolkata area. The collected data were then analyzed and percentile methods were also enacted to approach the results. As a result of this study, it was found that consumers were very much influenced but mainly facing challenges of delivery timings which is very long and very poor follow up after sale.

Keywords—Digital Food Services Application, Influenced, Challenges, Delivery Timings.



CI_1035

A Study on Nutritive Effect of Green Algae *Chlorella vulgaris* on Silk Production

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Abstract: Sericulture has a very long history. *Morus alba* is the only host plant for the silkworm to feed and acquire growth nutrients such as proteins, carbohydrates, amino acids, vitamins, and minerals. Growth, metabolism and silk production has become the order of classical research in silk farming. Presently, algal extracts so as to enrich the mulberry leaf quality and feed efficiency. Freshwater microalgae *Chlorella vulgaris* belongs to a genus of unicellular green algae (Chlorophyceae) and a rich source of protein, carbohydrate, and essential amino acids. The silkworm larvae were fed on *Morus alba* (Mulberry) leaves treated with various concentrations of *Chlorella vulgaris* extracts. It enhancing the larval and cocoon characters against control.

Keywords—*Chlorella vulgaris*, Algae, *Morus alba*, Rearing, Silkworm.



C1_1020

Microglial-Neuronal Intreactions and Neuronal Mechanism in Normal & Ailing Central Nervous System: A Review from Bird View of Computer Neural Network

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Abstract: Microglia is ramified cells that shows dense motile processes, which constantly inspect the Central Nervous System CNS parenchyma and react to any depletion to the CNS homeostasis. The innate immune reaction and phagocytosis constitute minute section of microglia, which is helpful in biochemical homeostasis, neuronal circuit maturation, improvement and reworking of neuronal circuit within-side the CNS. Microglia executes interactions with neurons and different cellule within-side the CNS. There is plenty of proof, which shows that neurons instruct microglia and they are able to controlling microglial activation and motility, at the same time microglia additionally modulate neuronal activities. This assessment addresses the topic: how microglia interacts with neuron as well as with other cellule within-side the CNS, consisting of signaling, secreted soluble elements and extracellular vesicles. This paper also addresses new approach toward brain neural network related issues from the view point of Artificial Intelligence (AI), with Deep Machine Learning (DML), also uses mechanism of brain Neural Network (NN). Understanding CNS completely will enevitably require the use computer AI and DML modelling.

Keywords—Microglia, Inflammation, Neuronal Circuit, Homeostasis, Central Nervous System, Neural Network, Artificial Intelligence, Deep Machine Learning, neuronal plasticity, Astrocytes.



CI_1033

A Study on the State of a Black Hole Singularity After Black Hole Evaporation

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Abstract: It has been well-defined by the Hawking Radiation that when the Hawking Temperature, T_H of a Black Hole reaches infinity, and the mass of the Black Hole, m_{bh} reduces to 0, it should evaporate entirely in a process known as Black Hole Evaporation. However, it is not known clearly as to what happens to the singularity, after the Black Hole gets entirely evaporated. In this paper, we have studied the state of a Black Hole Singularity with the help of Black Hole's Entropy and the Bekeinstein's Generalized Second Law of Black Hole Thermodynamics after it gets entirely evaporated due to Hawking Radiation. We have also found out how does a Hidden Singularity like the Black Hole Singularity can get converted into a Naked Singularity like the Big Bang Singularity and give birth to a new Universe.

Keywords—Black Hole; Black Hole Entropy; Black Hole Evaporation; Naked Singularity.



CI_1022

Analytical Evaluation of Ellagic Acid in Terminalia Chebula Extract by RP-HPLC

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Abstract: Ayurveda, the Terminalia chebula (TC Terminalia Chebula Fruit Extract) herb, and especially its fruits dried pulp. Ellagic acid, chebulinic and chebulagic acids. Ellagic acid has cytoprotective and cancer protective effect against various carcinogenic induced cancers cell. Some study on laboratory animals have pointed that periodical oral administration of ellagic acid in rats can circumvent the carbon tetrachloride (CCl₄) toxicity and formation of fibrosis in the liver. **METHOD** Ellagic acid compound was purchased from Sigma-Aldrich Co. LLC, USA, Product Number: E2250. All other reagents were of HPLC grade and purchased from SDFCL. **RESULTS:** In this analytical study, a simple, precise, accurate and rapid reverse phase HPLC method has been established and validated for the determination of ellagic acid in herbal formulation. **DISCUSSION:** The High-performance liquid chromatography method was validated to estimate the precision, repeatability and accuracy. The relationship of the mean concentration of standard solution and the average peak response was slightly linear with the solution concentration range variables of 20µg/ml to 120µg/ml with a desirable correlation coefficient of 0.999. The phase detection of ellagic acid was calculated from its standard deviation of the linear curve and slope found 3.744µg/mL.

Keywords—Ellagic acid, Terminalia chebula, RP-HPLC, Anti-cancer, Chebulagic acids.



CI_1032

Low Cost and Reliable Machine Learning Based Painless Non-Invasive Blood Glucose Measuring Device

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Abstract: Presently, there is no permanent medicine to cure diabetes. The present work focuses on developing low-cost and reliable non-invasive glucose monitoring device. To train the designed model for different glucose concentration, a machine learning algorithm is used for accurate detection of diabetes. The Fast Forest Regression module in ML.Net Machine Learning, an implementation of random forest quantile regression using decision trees is considered. Further, Clarke Error Grid Analysis (EGA) is used as gold standards for determining the accuracy of blood glucose meters. However, error metric is used to determine R square value. The lower value of MAE, MSE, and RMSE achieved implies higher accuracy of a regression model. However, R square value obtained is 0.99. The accuracy achieved is 95%. This portable painless and cost-effective non-invasive glucose monitoring device can be used to monitor glucose level of a person at home as well as at office using wi-fi module.

Keywords—EGA, MAE, MSE, RMSE.



CI_1038

Electronic Structure and Properties of the Two Tautomeric Forms of Guanosine: An ab Initio Calculation

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Abstract: Geometries of the two tautomeric forms of guanosine (rG) of anti-conformations of keto-N9R and keto-N7R, R=sugar moiety in rG were optimized using the ab initio at B3LYP6-31G (d,p) density functional theory level. Relative stabilities of the two above mentioned tautomers of rG as well as those of hydrogen-bonded complex of two water molecules with each of the keto-N9R (rG-2W) and keto-N7R (rG-2W) complexes in the ground state in the gas phase were studied employing the MP2 correlation correction. It appears that both the keto-N9R and keto-N7R forms of rG would be present in the ground state.

Keywords—keto-N9R, keto-N7R, Sugar, Gas phase, Anti-conformations.



CI_1039

Improving Performance of IoT Applications using Edge Computing

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Abstract: This paper describes about various paradigms of Edge Computing (EC) for applications of Internet of Things (IoT), as the data generated by IoT is huge in amount thus the need of Big Data and Cloud was identified. Cloud Computing (CC) started to face the problem of latency, higher bandwidth, response time, security etc. and this was the moment where it was realized that EC can be a better alternative. Limitations caused due to CC were recovered by EC. This paper discusses about four important platforms of EC that is Cloudlet, Fog Computing, Mobile Edge Computing (MEC) and FemtoCloud. The working and applications are also described in the proposed work. Comparison of these four platforms is presented and important conclusions are drawn to identify the paradigm which can work on diverse platforms as well as provide efficient nodal communication.

Keywords—Internet of Things (IoT), Edge Computing, Cloudlet, Fog Computing, FemtoCloud, Mobile Edge Computing.



CI_1045

Simulation and Analysis of Powder Mixed EDM on Inconel 718

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Abstract: Electric Discharge Machining (EDM) is one of the highly advanced manufacturing process. Powder Mixed Electric Discharge Machining (PMEDM) is a variant of the EDM process, wherein powder is mixed in the dielectric of EDM. This study is focused on simulating and evaluating the effect of powder particles in the dielectric on the EDM process of super alloys. The goal is to establish a comparative study between EDM and PMEDM of the same material and process parameters, using Finite Element Analysis (FEA) method. An axisymmetric 2-d model is developed in ANSYS software for a super alloy, Inconel 718. Various factors such as breakdown voltage, discharge frequency, spark radius etc. are considered to differentiate the simulation of PMEDM from that of EDM. Temperature profiles and graphs are developed for each of the simulations and an extensive comparison has been made. The effect of powder particles on the MRR and surface roughness has been analyzed using the simulation. The advantages of PMEDM over EDM have been validated.

Keywords—EDM, Inconel718, PMEDM, FEA Simulation.



CI_1047

Queuing Analysis of Multi Server Machining System with Working Vacation

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Abstract: This paper explains a Queuing model for Machine Repairing System with 'a' identical operating server. Due to unreliability of server it may breakdown anytime while serving and hence we need repairing. The life time and repairs of the operating units, breakdown and the repair time of the servers are exponentially distributed. To serve all the customers the server may go on working vacation. The system follows finite state of Markov Chain. Further if the server follows Bernoulli vacation schedule with probability p and repairing time and vacation time are exponentially distributed, it continues serving with probability $q = 1-p$. In this paper we will discuss two different models to improve the production. One model is based on continuous probability generating function and another one is based on discrete probability generating function.

Keywords—Multi server, Machine repair, Breakdown, Markov chain, Reliable server, Working Vacation.



CI_1109

A Bottom's Up View of Use of Satellite Imagery

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Abstract: Generally, human can resolve a man from a distance of 1000 meters. However, as the distance increases, one tends to lose what is called as granularity. Unlike, about two decades back, the imagery was not only restrictive in access but was equally prohibitive in cost. Although the cost of space segment per-se remains relatively huge, it is the overall expansion in the soft domain that has competitively reduced the cost of the analysis as well the basic imagery data from the satellite. The rising number of satellites with their inherent spinoff applications (as that of spectral imaging) have enabled multifarious use of the space segment for ancillary purposes when not needed by the parent entity. Overall it is further pushing the space vendors to optimally use the resource in space to deliver the next possible thing of 'satellite as a service'. While sounding futuristic, the use of basic imagery data is being done across various fields even so more innovatively. Therefore, the present paper explores the use of satellite imagery services as a governance (using agriculture backdrop as an example). Just consider a land cartography satellite that has taken image of Punjab in the month of Apr but has got 'canned' without getting analyzed!

Keywords—Space, Satellites, Satellite Imagery, Hyper Spectral Imagery, Cartography.



CI_1048

Linkage of Organizational Citizenship Behavior (OCB) With Job Performance

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Abstract: Albeit past examinations on OCB research drifts in the worldwide setting gave extremely valuable information about the constructions of OCB's research patterns. Organizational citizenship conduct manages the activities and practices that are not needed by laborers. OCB exercises are not central to the work, yet advantage the get-together and empower significantly more basic complete working and ability. OCB is considered as the main piece of any association which should be broke down and observed. On account of OCB's more noteworthy part in employees' job performance, there is an expanding need to contemplate its different studies. In this paper, a significant examination is analyzed to reveal the Organizational citizenship behavior (OCB) linkage with employees' job performance.

Keywords—OCB Facets, Job performance, Human capital, Task performance, Contextual performance.



C1_1050

Choosing the Best Metrics for Quantifying the Quality of the Model in Skewed Binary Classification Problems

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Abstract: Evaluating the performance of a predictive model trained on an imbalanced class distribution has encountered significant challenges as most of the widely used metrics are designed considering balanced class distribution datasets. This paper presents a study on four different biasing of target class variables in train set: (50% majority class, 50% minority class), (60% majority class, 40% minority class), (70% majority class, 30% minority class), (80% majority class, 20% minority class), and focuses on choosing the right metrics out of accuracy, precision, recall, f1 score and AUC score for a binary classification problem with a skewed class distribution. The algorithms considered are Logistic Regression, K Nearest Neighbors, Naïve Bayes. Analysis of all four biasing cases, five evaluation metrics for three algorithms have been presented in this paper.

Keywords—Accuracy, Algorithms, Biasing, Binary Classification, Evaluation Metrics.



C1_1052

Queuing Theory Model to Solve The Problem of Students During Online Classes

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Abstract: The impact of pandemic COVID-19 is observed in every sector around the world. The education sectors of India as well as world are badly affected by this. It has enforced the world wide lockdown creating very bad effect on the Student's life. Around 32 crore learners stopped to move schools/colleges and all educational institutes. The COVID-19 pandemic bought extraordinary disruption to the education landscape with the campus closing everywhere. Schools and colleges in India have a different pattern of education where one cannot physically attend the classes but has to attend classes virtually, a new problem arise such as internet connectivity problems and basic understanding of technology and other problems. The queuing model helps to solve the problem related to technology. In this we study how to resolve these problems.

Keywords—Queuing Theory, Feedback, Covid-19, Communication, Computer Knowledge.



CI_1114

Assessing the Efficacy of Total Quality Management Practices on Employee Empowerment in Automotive Companies

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Abstract: The study seeks to assess the efficacy of Total Quality Management practices on employee empowerment in automotive companies in SIIDCUL, Haridwar and Uttarakhand. With a sample of 180 employees working in the automotive companies in SIIDCUL, Haridwar, the data was analyzed with the help of PLS-SEM Method to arrive at the results. The study revealed that there is a significant impact of implementation of Total Quality Management Practices viz., Top Management Commitment, Team Work, Training & Education and Reward & Recognition on Employee empowerment. The study gives the output that there is a positive relationship of the defined TQM elements with employee empowerment which supports the organization to achieve the business objectives through motivated, aligned and engaged employees. The study is conducted with consideration of 4 elements of Total Quality Management and establishing their relationship and finding the impact on employee engagement. The study makes a significant contribution to the literature on the subject. The finding of the study demonstrates the relationship and impact of TQM on employee empowerment and also on the achievement of business objective through positive culture and engaged employees. The findings are expected to be helpful to TQM practitioners in various sectors.

Keywords—Total Quality Management, Employee Empowerment, Top Management Commitment, Training & development, Reward & Recognition, Team Work, Efficacy.



CI_1069

Pandemic Warrior: COVID-19 Information and Guidance Software

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Abstract: Due to increasing waves of the pandemic, we as conscious citizens of this nation felt the need for a robust solution to stop spread of misinformation, lack of information and machinery in rural areas of the country. We have built a system that promises to solve these issues and promises to help us fight the COVID-19 global pandemic efficiently. We also envision to spark a change in society by stopping spread of misinformation and spread true information.

Keywords—Python, PyQt5, Pandemic, COVID-19, GUI, WHO, Hospital, Healthcare, COWIN.



CI_1051

Increasing the Efficiency of Hydrogen Production using Photo-Electrochemical Water Splitting

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Abstract: Photo-electrochemical water splitting (PEC) devices is a promising method to simultaneously harvest and store solar energy at a large scale. Highly efficient small prototype PEC devices reported recently demonstrate a move from basic material research towards design and engineering of complete devices and systems. There is an increased demand in the development of clean hydrogen production due to its properties of becoming the future fuel and hence, simultaneously increase the interest in development of phot-electrochemical water splitting. Therefore, engineering efforts are continuously made to increase the efficiency of the PEC system. The relevant physical phenomena and the properties of typical materials are well known for separate device components, but their interaction in a complete PEC cell has received less attention. Physical models are useful for studying these interactions and understanding the device operation as a whole, and for optimizing the devices and increasing the efficiency in the end. In this project we will try to review the various physical aspects of the PEC system using physical modelling of the system and review on the areas where the optimization can be done in the system and how the efficiency can be increased overall. We will also do a mathematical modelling of the system and try to get the possible outcomes from the research.

Keywords—Photoelectrochemical cell, Water splitting, PEC device.



CI_1110

Impact of Public Health on Community Wellbeing and Morality

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Abstract: Public health is the science of protecting and improving the lives of people and their communities. Public Health is important as it ensures that everyone is aware of health risks through education programs, campaigns and influences on government policies. For the study researchers considered factors like quality of life, healthcare accessibility, suicide prevention, vaccination program, diseases prevention, promoting peace & justice sustainable development, reducing poverty, wellbeing and reducing inequality. For the study descriptive survey research method has been used which includes presentations of facts, involves procedures, class of events and enumeration of measurements to study the impact of public health on community wellbeing and morality with reference to Meerut District of Uttar Pradesh India. Stratified random sampling is considered to collect the information from 400 respondents. For testing the hypothesis, t-test has been used.

Keywords—Public health, Community wellbeing, Health awareness, Moral, Human behavior.



C1_1071

Covid 19-In a System Dynamics Perspective

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Abstract: This paper tries to analyze spread and rising number of COVID-19 cases from system dynamic point of view which may help in taking measures for decisions of policy about lock down in India. Here model based on causal diagram is developed. The papers talk about need of control of unnecessary information-not any way related to treatment, disseminated to public causing fear but there is need to educate people in proper way. This work will help the policy makers to act in proper way in coming third wave and new strains of virus handling situation.

Keywords—Causal loop, System dynamic, COVID-19, System thinking.



C1_1073

COVI-TRACK: The COVID-19 Info Tracer

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Abstract: Now-a-days, this modern technology serves many Healthcare Applications related to Covid-19 of complex nature, as a consequence the user has a demand for an application which is flexible to use in an effective manner. The purpose of Covi-Track: The COVID-19 Info Tracer is to provide users a flexible User-Interface (UI) with effectiveness and also with various features all at one particular place which is not of complex nature. The features which the application includes are namely Vaccine-Info, Vaccine Tracker, Emergency Info, Symptoms, Precautions, Oxy-Pulse measure, Tracker (Country-wise stats and Indian state-wise stats). All these features make the use of APIs (Application Programming Interface) and is coded in Dart Programming language with Flutter as SDK (Software Development Kit). This Health-care report reflects the research in m-Health applications. We selected health-care as our domain as it is must and beneficial in this current situation that is in the covid-19 pandemic. Similarly, some government's official App which incorporates all the information about Covid-19 and it's precautions also daily cases tracker, vaccination information and its registration as well as all the guidelines that government declared about covid-19. So, we also decided to integrate all the features within the single app to spread correct information and awareness about COVID-19 and gave the idea of vision which we required for our COVID-19 Application.

Keywords—API, Covid-19, Flutter SDK, Healthcare, m-Health, Multi-featured.



C1_1074

Studify: A Students' Management Program

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ABSTRACT: The research paper details the project based on Students' Management Program (A website). Project manages the students' information, the data that students will be uploading. It gives the unique id for every student and also stores the details. It also keeps the records of the students who will sign in to the website. Also, the data is well protected and safe. Students can manage their deadlines by making specific To-do list and check/uncheck or delete it. This feature helps student to manage their time and deadlines altogether. It also gives a quiet nice space to upload the documents or notes. A website which will help the students to sort the notes and will also help to recall the completed and uncompleted work in a specific way. The website will help in every other way a student to study specifically and neatly with the notes uploaded by himself.

Keywords—Websites, Notes, Students, Projects.



C1_1075

Review and Recent Trends in Image Segmentation Techniques used for Brain MR Images

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Abstract: Brain MRI segmentation involves segmenting tumor area from other brain tissues. This paper presents overview of segmentation methods using image processing techniques. First, principle and advantages of selecting MRI-based diagnosis are discussed, which is followed by concept of brain tumor segmentation from biological as well as image processing point of view. Various image modalities are also discussed. Then, a brief overview of preprocessing techniques is given. Finally, various segmentation techniques are discussed including recent improvements in the same.

Keywords—MRI, Brain tumor segmentation, Image processing, Preprocessing, Skull stripping.



C1_1076

Machine Learning—Algorithms, Evaluation and Applications

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Abstract: Machine learning (ML) technology has proved its significance in various domains including smart cities, defense, motion estimation, security, waste management, and healthcare. The society and industries are benefitted at large using this technology. There are several machine learning algorithms which are used in variety of industrial applications and have become popular. It is very important to choose the appropriate ML algorithm to maintain the better system performance in terms of accuracy. This paper presents important machine learning algorithms viz. simple linear regression (SLR), logistic regression (LR), support vector machines (SVM), k-Nearest Neighbor (kNN), Naïve Bayes and k-means which are used for variety of industrial applications. This paper also describes various platforms which are used for development of ML based applications. The insights for selection of appropriate ML algorithm based on performance parameter are presented.

Keywords—Machine Learning, Algorithms, Regression, SVM, k-NN, Naïve Bayes.



CI_1143

Necessity of Strenuous Efforts of Sustainable Supply Chain Approaches in Footwear Industry for Its Survival and Transfiguration

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Abstract: With the awareness of footwear manufacturing concerns towards the outcome of emission of hazardous gases and toxic materials in the environment and its impact on present and future ecosystem, footwear manufacturing process has transformed significantly. Now, they have adopted the footprints of sustainable production to save the environment and welcome those novel technologies which safe guard ecosystem and accelerate the productivity by minimizing production cost and time. In past few years various sustainable supply chain approaches have been adopted by footwear manufacturing units which helped in achieving environmental, social and operational excellence. This paper enlightened the findings with the help of exploratory case-based research, with an objective to explain the significance of sustainable supply chain approaches for footwear manufacturing units and on what basis it improves the overall productivity. Moreover, it played the role of catalyst by mapping future requisition for footwear industry survival and how to maintain balance between ecosystem and future industrial growth potential.

Keywords—Sustainable supply chain, Ecosystem, Operational and social development, Emission of toxic gases, Industrial transfiguration.



C1_1077

Impact of Artificial Intelligence and Deep Learning in Healthcare

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Abstract: Health informatics have emerged as a growing source of profit among researchers around the world due to its major impacts on society. Although the sector remains very small, AI has the potential to play major roles within the healthcare system. The purpose of Artificial Intelligence is to make computers more useful in solving problematic health care challenges and through computers we can interpret data obtained from the diagnosis of chronic diseases such as diabetes, Alzheimer retinopathy, early detection of melanoma, cardiovascular risk and various types of cancer, intestinal cancer, lung cancer etc. It helps in early detection of various chronic diseases that reduce the economic burden and the severity of the disease. Various automated programs and tools such as Brain-computer interface (BCIs), ASL-MRI, biomarkers, Electrocardiograms (ECGs), Natural language processing (NLP) and various algorithms help reduce errors and control disease progression. The use of deep learning (DL) for the analysis and diagnosis of health care problems has received unprecedented attention. Currently, biological and medical devices, treatment and applications are capable of generating large volumes of data within the type of images, sounds, text, graphs, and signals creating the concept of big data.

KEYWORDS—Artificial Intelligence, Deep Learning, Retinopathy, Atrial Fibrillation.



C1_1078

Effect of Solar Wind Parameters on Ionospheric Total Electron Content over Low Latitude Station

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Abstract: The input energy of geomagnetic storms comes from the Sun, and this energy is transferred into the Earth's magnetosphere by streams of solar wind. The energy from solar wind can only be injected into the magnetosphere only when the interplanetary magnetic field (IMF) has an approximately negative (southward) B_z component of the IMF i.e., significant component parallel to the terrestrial magnetic dipole. The mechanism for energy transfer between the solar wind and magnetosphere is the magnetic reconnection between the IMF and the Earth's magnetic field, and the energy transfer efficiency is of the order of 10% during intensive magnetic storms. In this work, we have presented a Ionospheric response to solar wind activity of some of the geomagnetic storm cases. The indicators used in this work; Total Electron Content (TEC) and B_z implies an intense storm in the perturbation of the peak electron density of the F2 layer, and these perturbations in turn could affect the entire global communication which could occur simultaneously across the globe. It was also noted that the time the enhancement/depletion in the TEC was observed at the Ionospheric stations corresponds to the point when the B_z experiences a northward orientation.

Keywords—Total Electron Content, Solar wind parameters, Geomagnetic storm, GPS.



C1_1081

Study of Understanding of Basic Genetic Facts and Disease Related Concepts Among People Based on Working Status and Qualification

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Abstract:

Background: In present times often, we hear cases of genetic mutation and gene linked diseases. However, not many people have proper knowledge and understanding of concepts of genes and gene-linked diseases. The present study investigates how aware is the general population about concepts of genes and genetics based on various sub variables like working status, subject studied at senior secondary & college level and educational qualification.

Method: An online survey was conducted using an instrument (questionnaire) by Ortega-Paredes et al. (2019) to assess the knowledge and understanding of basic concepts of genetics and gene related diseases for the present study involving 230 participants from different states of India.

Findings: Three-fourths of the genetic disease related questions have been answered correctly by all participants in business, followed by all home-makers. On genetics facts as well as disease related concepts most correct responses were given by the ones who had/ have Biology as a subject. Surprisingly, participants who haven't taken Biology at college level had a higher percentage of correct answers on genetics facts as well as disease related concepts. Participants in Highschool had the highest percentage of correct respondents, followed by grade 12 and diploma students on genetics facts as well as disease related concepts.

Conclusion: It can be summarized that among the group of respondents, most are aware of genes, genetics and genetic diseases. However, for the benefit of the larger population and in the present situation it is essential that awareness programs should be organized for all age groups, coming from varied professional backgrounds and different educational qualification, so that a larger population should be made aware of the genetics concepts and gene related diseases.

Keywords—Genetic concepts, Gene related diseases, Understanding of general public.



CI_1142

A Comparative Analysis of Pattern of Commodity Export During Pre COVID-19 and COVID-19 Era

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Abstract: The study seeks to analyze the export of all goods from India during COVID-19 with previous year. The data has been collected from Department of Commerce Government of India website. The paper is an attempt to analyze the shift of pattern of commodity export from India. The study tried to highlight the impact of complete and partial lockdown on the export of goods from India in the global market. The study compared pre COVID-19 era (April 2019 – January 2020) and COVID era (April 2020 – January 2021) export of all the commodities from India in order to analyze the shift in pattern of export during both the period.

Keywords—COVID–19, Pandemic, International trade, Department of Commerce Government of India, Export.



C1_1082

A Transshipment Model for Cooperative Milk Dairy – A Case Study

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Abstract: Effective supply chain network has a significant impact on costs, service level (time) and quality and thus influences competitiveness and success of any manufacturing and retailing organizations. Various strategies for achieving effectiveness have been proposed and practiced over the past decades. One such strategy adopted in multi-echelon supply chain networks systems that allows movement of stock between locations at the same echelon level or even across different levels is transshipment models. The paper presents a case study of a co-operative dairy seeking to optimize its transshipment network comprising of milk collection centers (MCC), pasteurizing plant (PP) and city markets (CM) with an objective to reduce the total transportation costs and time.

Keywords—Supply Chain, Transshipment Model.



C1_1087

Improve the Quality Service of Dhaba with the Help of Queuing Theory

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Abstract: Queuing theory is the mathematics of waiting lines. It is extremely useful in predicting and evaluating system performance. Queuing theory has been used for operations research, manufacturing and systems analysis. The common problem arises in almost every famous dhaba is that they lose their customers due to a long wait on the line. Some dhaba provide extra chair for the customer to wait. But after waiting too long they leave. However, waiting chairs alone would not solve a problem when customers withdraw and go to the next dhaba. This causes a lot of loss to our dhaba. This shows a need of a numerical model for the restaurant management to understand the situation better. This paper aims to show that queuing theory satisfies the model when tested with a real-case scenario. Authors obtained the data from a “Gulshan Dhaba” in Hodal, Haryana. In order to derive the arrival rate, service rate, utilization rate, waiting time in queue and the probability of potential customers to balk. The collected data is analysed by using Little’s Theorem and M/M/1 queuing model. The arrival rate at “Gulshan Dhaba”, Hodal during its busiest period of the day is 2 customers per minute (cpm) while the service rate is 2.02 cpm during our study period. The average number of customers in the restaurant is 100 and the utilization period is 0.99.

Keywords—Queuing theory, Little’s Theorem, Kendall’s notation, Waiting Lines, Dhaba.



CI_1112

The Usage of Artificial Intelligence (AI) Applications in Retail Sector

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Abstract: Retail Industry is one of the most active and attractive industries. With new technologies such as IOT, Big Data Analytics, block chain has changed the way retail business operates. Artificial Intelligence has transformed the entire retail industry, Current research aims to provide a comprehensive review of AI usage in retail industry and includes a variety of applications like voice search, visual search, in store assistance, chatbox, customer satisfaction tracking system etc. used in retail industry. To achieve this sample of 117 retail shoppers was selected using convenience sampling. The study utilized survey research and descriptive statistics was used to analyze the data. The finding of this research revealed that that retailer who wants to stay competitive is looking for AI in retail business. Most shoppers feel that convenience; Modernization and Virtual Reality are three factors that have significant impact on their store preference in future. It is predicted that most retail enterprises making good investment in AI to be able to compete and those who don't risk will lose large market to their competitors.

Keywords—Artificial Intelligence, Customer, Retail Industry, Retail Market.



C1_1088

Role of Cloud of Things in the Field of Medical Industry

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Abstract: The rapid growth of fields like IoT and cloud computing is finding its way in to our lifestyle which is responsible for upgrades in our life through various gadgets, technologies and applications. Presently there is a fairly a big utilization of IoT and cloud into the field of medical industry that is helping people constantly. Both fields will further develop the capacities and asset usage to the greatest. Together the combination of these both fields of Cloud computing and IoT can be recognized as Cloud of Things. Therefore, both of these fields are associated with each other in such a way that cloud computing is utilized as an interface to get to Internet of Things. The Internet of Things is brilliant source of health care services and services connected to it are an especially significant one. Presence of network sensors, either worn on the body or inserted in our body, makes conceivable the collection of rich data demonstrative of our physical and mental wellness. During this study there is proper explanation about the significance of Internet of Things and Cloud in the field of Medical Industry.

Index Terms—Internet of Things; Cloud Computing; Cloud of Things; Medical Industry and Cloud.



C1_1028

Comprehend the Family Unit and Its Place in Trendy Society

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Abstract: It's plausible that you honestly might have detected of the term "nuclear circle of relatives" within the past. This term is surely one element that sociologists and anthropologists have accustomed facilitate define historic households in society. A typical nuclear circle of relatives is commonly idea of as having a mother, a father, and but several kids a handful occurs to own. This can be the primary and simple plan at the back of what a relation is meant to be. Nuclear family, conjointly known as elementary family, in social science and social science, a bunch of individuals United Nations agency area unit united by ties of partnership and adulthood and consisting of a try of adults and their socially recognized kids. Typically, however not perpetually, the adults during a clan area unit married. Though such couple's area unit most frequently a person and a lady, the definition of the clan has expanded with the appearance of duet. Kids during a clan could also be the couple's biological or adopted offspring.

Keywords—Family Unit, Trendy Society, Adopted Kids.



C1_1040

Short Term Prediction of Ionospheric Total Electron Content (TEC) Based on Solar and Geomagnetic Data

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Abstract: Deep learning algorithm are useful for investigation of ionospheric weather using past ionospheric data under various space weather conditions. The Total electron content (TEC) is an important parameter of the ionosphere and prediction of TEC are very challenging task, mainly in anomaly crest station. This research develops and analyzes a technique based on long short-term memory (LSTM) neural network (NN) for the short-term ionospheric TEC prediction. In this work, multi-input LSTM forecasting technique is utilized and tested for evaluating its capability in prediction of ionospheric TEC over Lhasa, China station (Longitude: 91.10397200, Latitude: 29.65734166) using vertical Total Electron Content (TEC_v) with Solar and Geomagnetic time series data. The results were then compared with the observed TEC collected by the IGS network. The result shows that the model could recognize the variation trend of typical TEC profile and have a good performance of the short term ionospheric TEC prediction.

Keywords—Total electron content (TEC), LSTM, Neural Network.



C1_1070

A Study on Implementation of Multivariate LSTM in Estimation of Gross Calorific Value of Coals

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Abstract: This paper aims to report the Gross Calorific Value of coal using Multivariate LSTM. The total of ten parameters are taken into the consideration which are non-linear models. These are developed using the LSTM methodology. The first LSTM model developed here uses the major constituents of the proximate and ultimate analyses as inputs while the remaining four sub-models make the different combinations of the constituents of the stated analyses. It was reported that more accurate results are obtained in ANN based models than RNN based models. It was also found that some features of coal samples like moisture content, ash content may dominate other features like volatile matter, He density, etc. in estimation of GCV of coals.

Keywords—Gross Calorific Value, Long Short-Term Memory, RNN, Root Mean Square Error.



C1_1058

Comparative Analysis of Cryptocurrency Price Prediction using LSTM and SVM

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Abstract: Due to growing popularity and merchant acceptance, Cryptocurrency is playing an increasingly essential role in altering the financial system. While many people are investing in cryptocurrency, the dynamical aspects, uncertainties, and predictability of cryptocurrency are still largely unknown, putting investments at risk. This study aims to forecast price patterns for cryptocurrencies, specifically Bitcoin and Ethereum, using machine learning techniques and considering time series trends into account. This paper evaluated how machine learning techniques such as long short-term memory (LSTM) and support vector machine (SVM) aid in predicting Bitcoin and Ethereum price trends. These techniques were used based on historical data that was produced on a daily and weekly basis, as well as for both one and four input parameters. The data was derived via Kaggle. The performance of the developed models is evaluated critically using the mean squared error (MSE) value. According to the results of the study, LSTM surpasses SVM.

Keywords—Cryptocurrency, Bitcoin, Ethereum, LSTM, SVM, MSE, SVR.



C1_1065

Brand as Driver of Consumer Behavior Towards: Indian and Foreign Brands

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Abstract: The booming Indian economy and the huge Indian consumer market is encouraging many researchers to study the various socio-cultural dimensions influencing the Indian consumers' behavior. The objective of this study is to examine about the consumer preference on the foreign and Indian brands in the market. Brand perception is a special result of a consumer's experiences with a brand. Study also shows the consumer brand loyalty and their opinion for brand as a symbol of status. A quantitative approach was adopted and a self-administered questionnaire was distributed to collect data from three districts of Haryana. This study also noted that the most influencer person in decision making when consumer purchase. Study found that 43.8% respondents selected are brand loyal, 30.6% of the selected respondents prefer both foreign and Indian brands whereas 30.6 % prefer only foreign and a very few of them 4% prefer Indian brands over foreign brands. 19.9% of the selected respondents prefer total Indian brands and 14.9% prefer more foreign over Indian brands. It is also found that 68.6% of the respondents are agreeing that brand as a symbol of status.

Keywords—Brand loyalty, Consumer behavior, Preference, Foreign brand, Status.



C1_1067

Hyperparameter Optimization of CNN by Utilizing a Particle Swarm Approach for Malarial Cell Images

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Abstract: Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female *Anopheles* mosquitoes. It is preventable and curable. Early diagnosis of this disease can lead to reduction in fatality rates. In this paper, we propose a model that facilitates automatic result revelation of malarial test by the use of computational techniques. One of the most impressive forms of an artificial neural network architecture is that of CNN (convolutional neural network), which is mainly implemented to solve difficult image-based pattern recognition tasks by indirectly improving performance due to image feature mapping using different convolutional layer architectures. However, it has come to light that these CNN models take up a lot of time and computational resources. In this paper, we propose a novel method of using Particle Swarm Optimization to optimize CNN network hyper-parameters in order to enhance performance and eliminate the requirement of searching manually for the best fit model for the classification of malarial cell images to achieve an accuracy of 98.34% on training data and 94.26% on test data.

Keywords—PSO, Convolutional Neural Network, Deep Neural Networks, Malaria, Image Classification.



CI_1097

Mechanism of a Bad Bank is to Reduce Stress Assets for achieving economic growth and Financial Stability

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Abstract: The setting of Bad bank for purpose of resolve the Non-Performing Assets/Taxie Assets. US based Mellon Bank created the First bad back in 1988. Government created Stressed Asset Stabilization Fund (SASF) in 2004, When IDBI was converted in to Bank. The 2008 Financial Crises, Corona virus Pandemic 19, implementation of Bankruptcy Code and the recent amendment to the Banking Regulation Act creation of a 'bad bank mechanism is assessing the bad loans of corporate, individuals, Small and Medium enterprise's (SME), PMMY and the true extent of stressed assets. Bad Bank mechanism has been implemented in other countries including Sweden, Finland, France and Germany, Japan set up bad bank in the name of Credit Co-operative Purchasing Company which bought the stressed assets of the Japanese banks at a discount. Indian Banking Assigation as submitted the proposal to RBI for setting up bad bank mechanism to reduce the NPA has impact on the Gross Domestic Product (GDP) of country and If NPA are reduced form the active Balance sheet of Financial institutions are helps in maintaining Financial Stability and Nurturing the Economic growth.

Keywords—Bad Bank, Covid-19, Financial Crises, Non- Performing Assets(NPA), Stress Assets, SME, PMMY, RBI, Balance sheet, Financial Institutions, Financial Stability and Economic growth.



C1_1053

Smart Learning: Augmented Reality Based Effective Learning Approach for Kids

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Abstract: Teaching and Learning should be blended with more fun for kids to pay proper attention. Kids generally use mobile to play games and for entertainment only. While attending online lectures, making them sit continuously has become a big challenge for teachers and Parents too. Visualization is very much needed in the present online education system. Our proposed system provides a solution for this. It provides an overview of how Augmented Reality (AR) can be used in education. Smart learning is an android application that aims to make learning more interesting for kids. This proposed work aims to improve kids' understanding of realistic phenomena of nature and enhance their capabilities towards learning. Augmented reality procedure has demonstrated itself in education because it replaces memory-based learning with fun-driven and conceptual tutoring. This application scans 2-Dimensional (2D) target images present on <https://bit.ly/3yelkpP> website such as alphabets, animals, flowers, vehicles with normal mobile camera and displays their 3-Dimensional (3D) models on top of that target image by recognizing the features using Vuforia Engine which is an advanced computer vision functionality. For displaying 3-Dimensional (3D) models on top of target images and for integration with Vuforia engine software tool named Unity3D is being used.

Keywords—Augmented Reality, Education, Vuforia, Unity3D.



C1_1059

Mathematical Modeling of Drug Distribution for Oral and Intravenous Routes Administration

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Abstract: This study is an attempt to establish the mathematical models of different body compartment to understand the distribution of drug administration in human body through intravenous and oral routes. Some compartment models were formed on the basis of diffusion process. The drug concentration in the different compartments of the body has been computed using some numerical parameters. Some problem statements were solved to understand one compartment pharmacokinetics which considers the administration of an antibiotic given to a patient. For PK SIM we presented study which represented European male standard volunteer by selecting an enzyme as CYP4A and parameters such as reference concentration, turnover and relative expression was specified similarly inferences about itraconazole and its inhibition with clearance of its metabolite hydroxyl itraconazole was studied similar setting was done for midazolam control study. The graphs plotted illustrate the variation of drug concentration with respect to time using PK SIM, PYTHON software. It has been inferred from the graphs that drug concentration decreases in the first compartment and gradually increases in other compartments.

Keywords—Metabolite, Pharmacokinetics, Clearance, Compartment Modeling, Intravenous And Oral Routes, Drug Administration.



C1_1079

Hydrogen Storage in Defect Induced Pillared Graphene: A Computational Study

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Abstract: Finding new and efficient renewable energy sources is one of the most crucial aspects of technological developments in the 21st century. It is going to help in creating new ways of generating clean energy along with solving the ongoing energy crisis. Hydrogen fares quite well as a clean energy option for the fast depleting fossil fuels. Some of the main reasons for this are its abundance, non-toxicity and its lightweight. Pillared graphene is a new class of 3D nanomaterials which is widely studied for its novel physical, electronic and mechanical properties. It is considered as a suitable material for generating hydrogen fuel cells due to its ability to store hydrogen. Inducing defects in graphene has shown to increase its ability to adsorb hydrogen. But not much study is done for the effect of defects in pillared graphene. In this article we have carried a computational study to investigate the result of defects in pillared graphene. We have carried out a plane wave based density functional theory simulation to study the adsorption of hydrogen on pillared graphene.

Keywords—Pillared graphene, Adsorption, Density Functional Theory, Quantum Espresso, Hydrogen Fuel Cells, Porous Nanocomposite.



C1_1064

A Comparative Study of SVM, LSTM and LR Algorithms for Stock Market Prediction using OHLC Data

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ABSTRACT: Prediction in the stock market is challenging and tricky process for financial investors. Many researchers have performed various studies to sense the future market developments. The variation and complex inter-dependency of multiple parameters make stock market predictions as a difficult outcome. Machine Learning have been proven to be helpful in such cases to forecast the stock market values. The parameters involved and the commonly used models are discussed and compared in this paper. A comparative study of algorithms: Scaled Unscaled LR, SVM, LSTM are discussed. In machine learning, LR is a fundamental approach by which a linear trend can be obtained. But SVM have modern features such as high exactness and certainty. LSTM is a kind of recurrent neural network (RNN) and uses an appropriate gradient algorithm. In this paper algorithms were compared to predict stock values. The methodologies and results of the algorithms were performed using python codes which are discussed further in this paper.

Keywords—Stock Market Predictions, AI Methods, ANN, LSTM, SVM, LR, Python.



C1_1083

Indian Courts and International Parental Child Abduction: Where is the Best Interest of Child?

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Abstract: The 1980 Hague Convention on the Civil Aspects of International Child Abduction seeks to secure prompt return of children to the place of their habitual residence in cases of wrongful removal by a parent. The Convention aims to protect the best interest of child as guaranteed by the United Nations Child Rights Convention. However, despite tremendous international pressure, India refuses to sign this Convention stating that India's judiciary has developed sufficient jurisprudence to safeguard the best interest of child in cases of inter-parental child abduction. The parent who abducts the child to India initiates multiple legal proceedings, under the applicable personal laws, against the left behind parent. It so happens that by the time guardianship/custody issues are finally decided the child is seen to be accustomed in its new environment. The court then gives the decision as per the factors developed to promote the best interest of child, and more often than not the child's custody is granted to the abducting Indian parent. A lot of time is lost in deciding these multifarious legal proceedings and this goes against the speedy disposal mechanism for return provided in the Convention. The 1980 Hague Convention is completely against such rulings, as they facilitate child abductions by favouring parents who wrongfully bring about a change in child's circumstances. This paper proposes to make a study of the international child abduction case laws decided by the Supreme Court of India to ascertain its established jurisprudence and to examine whether it is sufficient to protect the best interest of child.

Keywords—Best Interest of Child, Child Rights, Inter-Parental Child Abduction, Indian Mothers, Personal Laws, Public Interest of State.



C1_1089

Identification of Anti-Tubercular Agents through Direct Drug Design Approaches Targeting Isocitrate Lyase

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Abstract: Isocitrate lyase (ICL) plays a pivotal role in the survival of *Mycobacterium tuberculosis* as the first enzyme in the glyoxylate pathway during the chronic process of human TB infection. ICL is recognized as a recurring factor in the survival of *Mycobacterium tuberculosis* in the dormant stage and is thus thought to be a possible drug target for tuberculosis treatment. Here, we designed several molecules manually and through De Novo design in Catalyst 4.11 and docked the resulting molecules into the CYS191 mutant of ICL using Automated docking tools Autodock 4.0, Molegro Virtual Docker (MVD) and GOLD 3.0.1. The resulting molecules were ranked based on scores, ligand-receptor interactions and affinities. Molecules 1, 6, 12 and 13 gave comparable results/scores in both Autodock 4.0 and GOLD 3.0.1. Molecules 14 and 21 produced highest scores in MVD and GOLD 3.0.1 respectively.

Keywords—Isocitrate lyase, Molegro Virtual Docker, Genetic Optimization on Ligand Docking (GOLD), Autodock, 3-nitropropionate



CI_1090

Emerging Tools Used in Covid-19 in India

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Abstract: The discovery of SARS-CoV-2 and related disease Covid-19 showed a negative impact on health and lifestyle. Covid-19 is a disease that causes destruction on India which will have the largest population in world. Currently, Covid-19 is caused by the Severe Acute Respiratory Syndrome (SARS-CoV-2). To identify the importance of biological and immunological process that underline the clinical manifestations of Covid-19. SARS-CoV-2 is transmitted through droplets into the air also with a fecal contamination pathway but it is still unproven. The onset of symptoms appears within 4-5 days after the infection. To understand the pharmacology of SARS-Cov-2 it is important to diagnose the target proteins and therapeutics that used in Covid-19.

Keyword—Virus, Covid-19, Respiratory problem, Infection, Antigen Test.



C1_1091

Incorporation of Herbalism in Obesity Management: A Future Trend Approach

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Abstract: Obesity is a daunting health issue in the modern situation, and its occurrence along with co morbidities is on the rise worldwide. Obesity is a pathological disorder in which extra body fat has accrued as a result of the disparity in energy consumption and spending on energy. One of the most popular natural treatments for weight loss is herbal drugs. Due to its natural sources, cost effectiveness and reduced side effects, the use of herbal medicines has been the topic of concern for obesity treatment and management. A lot of phytoconstituents have already been reported for their anti-obesity activity. Synthetic moieties and surgical operations have multiple detrimental side effects and risks of recurrence with severity so incorporation of herbalism in obesity treatment can be a better alternative.

Keywords—Herbalism, Herbal drugs, Lipidemia Obesity, Phytoconstituents.



C1_1100

Implementation of Dual Axis Solar Tracker

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Abstract: Modern mankind is continuously dealing with its energy problem. We have ample amounts of natural sustainable sources of energy but still haven't come up with the correct way to harness it. This paper shows one of the method of increasing efficiency of solar panels. In order to harness more energy in that same Microcontroller in order to track down the direction of the sun. The proposed dual axis solar tracker ensures the optimization of the conversion of solar energy into electricity by properly orienting the solar panel according to the position of the sun. The operation of the experimental model of the device is based on a servo motor which moves the solar panel according to the signals received from four LDR sensors. The performance of the solar tracker is then experimentally analyzed, and a comparative analysis between the stationary and proposed system shows that the proposed system delivers more power than the stationary one.

Keywords—Solar energy, Solar Tracker, Panel, Servo motor, Dual axis.



CI_1101

Gearless Transmission Using Elbow Mechanism

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Abstract: Majority of machines employ gear transmission from intake to output, yet friction causes the largest power loss. The fundamental criterion for calculating the machine's efficiency is the transfer of electricity with minimal losses. This paper examines and trains the new mechanism, which replaces the bevel gear with a 90-degree elbow for power transmission. New concepts for transmitting electricity via various methods have emerged because of research in this subject. This Transmission device demonstrates that power may be efficiently transmitted at a 90-degree angle without the need of gears. Six elbows are linked radially at a 60-degree angle to the center of the axis in this work, to transmit electricity.

Keywords—Gearless mechanism, Skew shaft, Component of the model and its operation, Design of Shaft, Hub, Elbow.



C1_1102

Challenges and Opportunities for Women Entrepreneurs: A Case Study of Haryana

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Abstract: The aim of this study is to discuss the various challenges and opportunities faced by women entrepreneurs in the state of Haryana. This paper is based on primary and secondary data along with some personal observations. For the identification of the various challenges and opportunities author has collected responses from various women entrepreneurs based in Haryana through a structured questionnaire. For secondary data various research articles and reports have been reviewed. Findings of the study reveal that maintaining work life balance, availability of finance, family support, lack of information and awareness levels, gender discrimination, lack of self-confidence are some of the challenges faced by women entrepreneurs in Haryana. As far as opportunities are concerned, there are various promotional, supportive and training programs run by Central, state and Government agencies for women entrepreneurs. But, majority of the women entrepreneurs have neither availed the benefits nor they are aware of these schemes. Genetically, women are more organized and committed to work; they have specific qualities that guarantee success. Whereas, research on women entrepreneurs is extensive as far as India is concerned, there are comparatively few studies on women entrepreneurship based in Haryana.

Keywords—Women Entrepreneurship, Challenges, Opportunities, Haryana, Training programs, Promotional schemes.



C1_1099

A Computational Method for Improving the Accuracy of Measurements of an Unbound Space using IoT

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Abstract: The Internet of things (IoT) is a widely implemented domain with Robotics as an ever-growing field. In this paper, a method for measuring and obtaining the dimensions of an enclosed space is proposed with the help of the Industrial Internet of things using MQTT protocol to send the data via a live server on Power Business Intelligence (BI) which is a tool to visualize and draw inferences based upon the analytics. The Robot has ultrasonic sensors mounted on it which are used to measure dimensions of an unbounded space as well as the object. The Robot is capable of reaching inaccessible locations, and they are controlled by hand-held modules. These modules are operated by an accelerometer where the data is transmitted and received by radio frequency-based modules. The data received is mapped to an on-screen user interface. The data from the workstation is further transmitted to the MQTT broker then the data will be stored on the MySQL database which is connected to the Power Business Intelligence (BI) dashboard. This is done to get a clear view of the space without even entering it.

Keywords—Arduino, Ultrasonic sensors, Accelerometer, Environment mapping, processing development environment, MQTT Broker, MySQL, Power BI Dashboard.



CI_1103

Quality Enhancement of HEVC Encoding System—A Survey

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Abstract: As multimedia services are increasing in video domain; quality assessment of video standard needs to be focused. Video quality includes compression, Bit Error Rate (BER), efficiency, lossless transmission, and computational complexity. In this paper, video quality improvement techniques of the High-Efficiency Video Coding (HEVC) system are discussed with its pros and cons. By using different parameters, the HEVC technique is performing its best to support various applications. This technique plays a vital role in video quality enhancement. Video compression methods with their performance parameters are reviewed. Efficient coding techniques are required to improve video coding efficiency are also discussed. The design of the video encoder is a challenge for better efficiency of video stream. Different video coding formats such as H.262, H.264 (AVC), HEVC(H.265), VP9, etc are available for video conversion and transmission of video bit stream are also reviewed with respect to HEVC 2.625 in terms of different performance parameters.

Keywords—HEVC, Efficiency, Video standard, Compression, Computational complexity, Bit Error Rate (BER).



CI_1104

Comparison of Algorithms Used to Implement Face Recognition

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Abstract: Face recognition is the basis for modern day security applications, from phone locks to office security procedures. It is one of the most direct derivatives of Computer Vision, which means there is more than one way to go about it. With the advent of software in all fields and a plethora of libraries, faster processing, and better storage, choosing the most appropriate algorithm to execute the facial recognition technology can get a little arduous. The comparison drawn is of four different approaches to facial recognition methods or rather Computer Vision in general. The analysis is performed based on a security authenticating application that detects a person's face, verifies whether the person is a part of the database and accordingly grants access to any premise or internal data. In the event of identifying an intruder, a relevant security alert is sent to the mail of the host. The result is drawn after a thorough comparison in terms of factors like efficiency and complexity which play a key role in defining an algorithm. The algorithms implemented are—Haar Cascade classifier, LBP (Local Binary Pattern), PCA (Principal Component Analysis) and Artificial Neural Networks.

Keywords—Algorithm, Detection, Face, Recognition, Security.



C1_1063

Emotion Detection Using Python, OpenCV, Keras and TensorFlow

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ABSTRACT: This paper presents the design of a system which is capable of detecting emotions by the expressions on the face. It discusses three steps of emotion detection: face detection, feature extraction and emotion classification. This paper proposed a convolutional neural network based deep learning architecture for emotion detection from images. In social communication, human emotion detection is important and a challenging research task. The paper also elaborates on the 7 steps algorithm and the extensive applications of the system. Expressions play an important role as they reflect the inner feelings of a person. Here, machine learning and deep learning models and algorithms are used for emotion recognition. The dataset used here is the FER2013 data set consisting of 48 x 48-pixel grayscale images and the emotions detected by the model are angry, disgust, happy, fear, sad, surprise and neutral. This method could provide machines with the ability to recognize human relationships and react accordingly.

KEYWORDS---Artificial Intelligence, Deep learning, Convolutional Neural Networks, Deep learning, Facial emotion recognition.



C1_1003

Simultaneous Estimation of Tramadol and Etoricoxib by UV Spectrophotometer and RP-HPLC

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Abstract: This work relates the development of analytical method to simultaneously estimate two drugs i.e. Tramadol Hcl and Etoricoxib in combination formulation. The proposed method is based on UV spectrophotometer and RP- HPLC. Absorption Subtraction technique has been used in simultaneous determination using UV Spectrophotometer. In High performance Liquid Chromatography, separation is made with Phenomenex, C18 column using 20mM phosphate buffer and Acetonitrile (65:35 v/v) as mobile phase at flow rate of 1.02 ml/min. Parameters are validated as per ICH guidelines in which Accuracy, precision, Repeatability and Robustness were found in accepted limits. The method thus is fast, precise and can be employed for simultaneous determination of both the drugs. Parameters such as linearity, precision, accuracy, robustness, ruggedness, Limit Of Detection, Limit Of Quantization are studied as per International Conference on Harmonization guidelines.

Keywords—RP-HPLC, Validated, accurate, UV spectrophotometer.



C1_1092

Replacement of Cement with Pond Ash in Concrete: An Experimental Study

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Abstract: Concrete is the most adaptable utilized material which requires the enormous amount of port land cement. Be that as it may, the creation of Ordinary Portland Cement (OPC) produces enormous measure of Carbon-Di-Oxide which is affecting the environment. Henceforth it is inescapable to track down an elective material. Lake Pond ash concrete is a creative development material which will be delivered by the compound activity of inorganic atoms. This relies upon thermally actuated regular materials like Lake Pond ash. Lake Pond ash is a result of coal got from nuclear energy stations. This is wealthy in silica and alumina responds with basic arrangement which contains sodium hydroxide and sodium silicate. The waterway sand is most famous decision for the fine total segment of cement. The current work includes researching the mechanical properties compressive strength, parting rigidity and flexural strength of cement contrasted and the consequences of M40 grade to lessen the utilization of concrete. On supplanting of concrete with Lake Pond ash at 15%, 25% and 35% by load of concrete. Sped up restoring is taken on which for the most part gives early and more strength when contrasted with typical relieving.

Keywords—Ash, Concrete, Pond, Cement, Compressive Strength, Flexural Strength.



C1_1093

Therapeutic Applications of Stem Cells in Regenerative Medicine for the Treatment of Cancer

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Abstract: Regenerative medicine refers to the process of replacing damaged or diseased cells, tissues or organs in order to attain normal function. Many diseases and their treatments result in damaging the healthy cells, tissues and organs in the body that need to be repaired or replaced. Such a commonly known disease is cancer which is known for its cause to affect the rate of growth of cells and affects the normal functions of the organ by metastasis. For the treatment of cancer, high-dose chemotherapy or radiotherapy is mostly performed which not only destroys the cancerous cells but also affects the activities of other healthy cells due to which the patient lacks healthy cells in the body. In order to suffice the need of healthy and functional cells in the body, regenerative medicine is found to be an efficient tool with the use of stem cells for replacing and regenerating healthy cells in the body. Stem cells are found to provide promising results in the treatment of various diseases including cancer. This review aims at describing the applications of stem cells in regenerative medicine for cancer treatment by exploring the properties of stem cells that may provide an aid against several cancers such as breast cancer, Renal cancer and lung cancer, why they are a suitable tool for cancer treatment and discussing the implications of new approaches in the treatment of cancer.

Keywords—Regenerative medicine, Metastasis, Chemotherapy, Radiotherapy, Stem cells.



C1_1094

Improved Efficiency of Lithium-Ion Batteries Using Electron Tunnelling

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Abstract: This article is majorly focused on two main sections: (1) The first part of this article describes the formation of a Solid Electrolyte Interface which was considered as a blessing in disguise because it protects the electrolyte and suppresses further electrolyte reduction, but later it was discovered that this layer consumes 5% of total lithium ions present in the battery during its very first charge, but the heating of the seller can lead of melting of this layer and can cause an explosion in the battery. Electron Tunnelling a unique approach to decreasing this formation of SEI layer is proposed. (2) The second objective of this article is to simulate fully electric vehicles in MATLAB software. The simulation results are based on observations taken after considering necessary changes in the entire battery module, electron tunnelling and materials used in lithium-ion batteries.

Keywords—Lithium-ion battery, Nanoarchitecture, Solid-electrolyte interface (SEI), Electron Tunnelling, Modelling and Simulation of BEV.



C1_1095

Influence of Crumb Rubber and Polypropylene Fibre on Compaction Characteristics of Cemented Black Cotton Soil

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Abstract: Construction activities on the black cotton (B.C.) soil are extremely dangerous because of its expansive property due to presence of minerals like montmorillonite, when reacted with water. This expansion leads to upheaval which further leads to differential cracking in the structure or constructions. Therefore, many researches were carried-out on this type of soil to mitigate the problem and suggested various ground improvement techniques in the recent times among which chemical stabilization is one. In this stabilization process, the soil is mixed with cement, lime and several industrial reactive byproducts such as, fly ash, bagasse ash have been used for stabilization of soil in weak deposits. Even unreactive byproducts like crumb rubber and polypropylene which are produced from scrap tyre and polythene (plastic) respectively are being utilized to effectively utilize the lots of waste being generated every year. These materials have been used in the highway pavements and backfills of retaining walls applications to minimize the lateral earth pressure and to reinforce the soil. In this study, crumb rubber and polypropylene were used to assess the modification in geotechnical properties of soil. The geotechnical engineering properties of virgin soil were determined and a lime content of 4% was fixed for carrying out subsequent experiments based on the pH test and the Atterberg limits. The polypropylene content was fixed at 0.25% and the crumb rubber content was added in varying percentages of 0.5, 1, 2, 5 and 10%. The test results indicates that the maximum dry density occurred at 0.5% of crumb rubber .i.e. 1.49. Further increase in rubber results in decrease of maximum dry density.

Keywords—Crumb rubber, Polypropylene, Montmorillonite, Blending, Reinforcement.



C1_1096

Inter Facial Friction Between Woven and Non-Woven Geo Textiles and Robosand

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ABSTRACT: Interfacial angle created by fill material with reinforce material plays a crucial part. Frictional fills are considerably preferred over strong frictional fills in development of reinforce earth holding dividers since they display higher frictional strength with fortifications. The expense of reinforce earth development can be decreased essentially by utilizing elective savvy material as fill that can interact with support through grating. The current work is intended to evaluate the capability of Robosand, squander material at rock pounding plants for use as fill material in reinforce soil structures. Broad research facility tests are completed on Robosand tests gathered from different quarries to assess designing properties and frictional qualities of the material with engineered geo textures. For the most part the particular gravity worth of sandy soils lies between 2.6 to 3.2. This means that strength. We got a worth of 2.64 and 2.84 through pycnometer test which addresses Robosand has sufficient protection from oppose loads. Here we acquired the % of sand is above half through degree by sifter examination for our example which shows that the material is sandy in nature. This addresses that it has well shear opposition.

Keywords—Geo textile, Shear, Robosand, Campaction, Woven material.



C1_1098

Crop Prediction and Yield Recommendation System

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Abstract: The change in global climate is the major reason that is affecting the agricultural crops in terms of its performance over a large period of time. Taking appropriate measures for marketing and storing the crops is a problem for policy makers and farmer's due to such change in climate, so predicting the crop yield well before its harvest would help them a lot. These predictions will also help the associated industries to plan the logistics for their business. Researchers have been working on finding a connection between large scale climatologically phenomena and the crop yield. The Crop Predictions technology focuses on predicting the acceptable crop by sensing various parameter of soil and parameters related to atmosphere. Other parameters such as area of crop production, temperature and pH are also used for predicting the yield of crop.

Keywords—Crop prediction, yield recommendation, temperature, production, area, pH.



CI_1111

Testing the Reliability of Leadership Efficacy on Employees' Motivation in Indian Oil Corporation, Northern India

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Abstract: The study seeks to assess the impact of leadership style on the motivation of employees' in Indian Oil Corporation; with special reference to Panipat Refinery, Panipat. With a sample of 100 employees working in the Indian Oil Corporation, Panipat Refinery, the study revealed that most of the employees working in Indian Oil Corporation in Panipat Refinery between the age group of 20-40 years prefers transformation leadership style. The study also revealed that this style has a significant impact on increasing employees' performance. On the other hand, transactional leadership style has negative significance on employee's performance. The study makes a significant contribution to the literature on the subject. The finding of the study implies that transformation leadership style should be adopted more in Indian Oil Corporation to enhance the overall performance and increases motivational level of employees. Its findings are expected to be helpful to marketing scholars, investors and policy makers and how different leadership style contributes to the overall motivation of the employees.

Keywords—Job performance, Employee's performance, Leadership effectiveness, Motivation.



CI_1113

Design Optimization of Stackable Car Parking System

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Abstract: Parking is one of the biggest problems in metropolitan cities throughout India. To overcome this problem, various methods and technologies were developed over the years. Each technology has its benefits and limitations. As cities were developed a long time back, many parking systems can't be incorporated easily. The easiest and simplest parking system to implement is the stackable car parking system; this system has various disadvantages, the biggest problem being safety. In the paper, the disadvantages of the stackable parking system were resolved by implementing sensors and microprocessors. The system can also be monitored and operated wireless as the system is IoT-enabled.

Keywords—Parking System, FluidSim, Modeling, Hydraulic System.



C1_1084

A New Method for Privacy-Preserving of the Big Data in D2D Communication using the (k)-Anonymity Model

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Abstract: Due to the extreme benefits of fast transmission as well as the response on data deliveries, including its range of applications, device-to-device (D2D) connectivity has attracted a lot of research attention as a unique and exciting innovation for 5G communications networks globally. Big data analytics provides new benefits while also posing a significant obstacle in D2D communications, as the data frequently contains private information about people or organizations and is therefore vulnerable to leakage. Privacy preservation has become almost essential for D2D services in the modern world but there is a huge research gap due to technological advancements. In this article, the authors suggested a novel technique for privacy-preserving of the big data in D2D communication using the (k)-anonymity model that is deployed through MapReduce. Initially, the authors offer a structure of the big data exchange in D2D communication as well as investigate threat prototypically. Then authors, proposed the privacy-preserving structure for the big data in the D2D communication utilizing the (k)-anonymity prototypical that is deployed through MapReduce. In this strategy, (k)-anonymity prototypical is utilized for the big data in D2D as well as the MapReduce for the classification and grouping of the data for the diverse gigantic datasets. Outcomes of this experimentation, as well as analysis, depicts that this suggested prototypical is more robust and pragmatic in comparison to the existing approaches in terms of the big data secrecy along with lowest data or information losses as well as less computation time. However, several investigations have been done in this field but there are vital possibilities for more research in the future.

Keywords—Big Data, D2D Communication, Datasets, MapReduce, Privacy-Preserving.



C1_1085

An Overview on Data Privacy Monitoring in Big Data

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Abstract: Big data refers to exceedingly big data collections with a more complicated structure. As a result, storing, analyzing, and applying additional procedures or extracting findings are more complex. Massive volumes of complicated data are analyzed using big data analytics in attempt to uncover hidden patterns or find concealed relationships. While big data security and privacy are important, their broad use creates a clear conflict. This paper provides a comprehensive review on big data security and privacy problems along with data privacy monitoring in the big data. Establishing a data governance programme is a good approach to ensure that data privacy is protected in the years to come. Privacy and security laws and behaviour codes will be the new standard operating procedure. As data volumes continue to grow, they will transfer to the cloud, where they will be stored. Almost unanimously, big data specialists believe that the quantity of data created in the future will rise exponentially.

Keywords—Big Data, Challenges, Information, Privacy, Security.

CI_1105

Analysis on Some Fishes Olfactory System

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Abstract: In this paper mainly analysis on some fishes olfactory system. The sense of smell, or olfaction, is the specific sense through with smells are perceived. The cognition of smell has many junctions, inclusive detecting hazards and pheromones, and plays role test. The olfactory system is the system concerned to the cognition of smell (olfaction) many fish activities are dependent on olfaction, such as: concurrency, discriminating Kin, avoiding carnivore location food, confinement avoidance, implant and centering. Olfactory toxicity can appear by different, complex modes of harmful action.

The olfactory system, or sense of scent is the sensational system used for smelling (olfaction). Olfaction is one of the specific senses that have directly related specific organs.

Keywords—Olfactory System, Perceived, Cognition, Hazards, Pheromones, Olfaction.

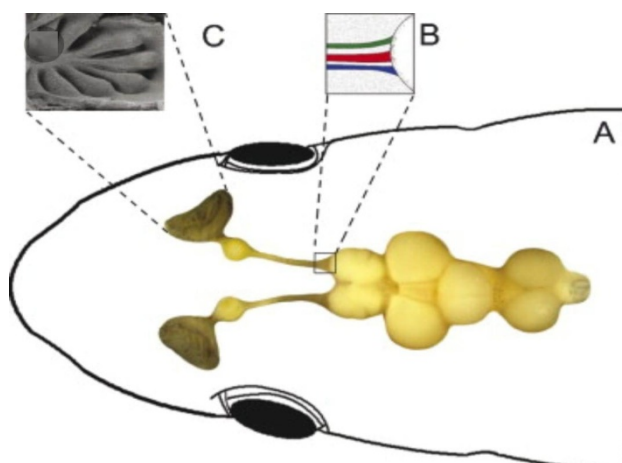


Fig. (1) Fish Olfactory System



C1_1106

Enhancement, Training and Development in Banking Sector

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Abstract: In Banking Sector training and development programmes give impetus to knowledge and skill development of bank employees. It too reduces the attrition rate, increases job detention and prepare value addition to the employees. Training and development is a regular activity equipping employees to perform effectively. The result can too be perceiving as an enhance bank culture and bank profits.

Training has to be ongoing process as it plays vital role in better the productivity, planning and effectiveness of managers. Designing training and development scheme incurs cost at present considering the gain accrues in the form of large productivity of employees, inlarge confidence, reduced supervision and grow organizational stability and flexibility for the future.

Keywords—Impetus, Attrition, Equipping, Enhance, Productivity.



CI_1107

Studies and Approaches on Sodium Aerosols

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Abstract: The paper review recent studies and approaches on sodium aerosols. Although sodium aerosols have been studied extensively, no commonly accepted classification and no consistence method of describe different types of aerosols exist. Aerosols has been called mist, dust, smoke etc. A common definition of an aerosol or aerodisperse method is a method having a gas stage as the dispersion medium and solid or liquid dispersed stage. In study of the conduct of aerosols it seems vital to differentiate among aerosols constitute by dispersion and through condensation and to differentiate between systems have solid and liquid dispersed stages.

Keywords—Extensively, Consistence Method, Aerodisperse Method, Dispersion, Condensation.



C1_1108

Normal Spaces in Topological Spaces in Mathematics

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Abstract: In this paper we study on normal spaces in topological spaces in mathematics. Topology studies character of spaces are that invariant under any continuous deformation. Topology is relatively a new branch of mathematics; extremely of the research in topology has been done since: 1900. A normal space is a topological space X that: each two separate open neighborhoods. A general Hausdorff space is called a T_4 space.

A topological space X is normal space if, given some one disjoint close sets E and F , neighborhood U of E and V of F that are also disengage. More intuitive, this condition says that E and F can be separated by neighborhoods.

Keywords—Normal Space, Topological Spaces, Invariant, Deformation, Intuitive.



CI_1130

The Effect of Domestic Slowdown on Momentum Profitability: Evidence from the Indian Market

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Abstract: Previous studies have found sufficient evidence in favor of the existence of the momentum effect in stock prices, thus bringing forth strong arguments in favor of momentum strategies. Studies have also found such strategies to flounder during times of economic turmoil, generating negative returns. This has led to the general consensus that momentum strategies do not work during a financial crisis. However, most of the studies of such nature have generally focused on the more developed markets of the US or Europe. Similar studies conducted for the Indian stock market are few, to begin with, and only examine momentum returns in the backdrop of the Global Financial Crisis of 2007, which had its epicenter in the US. This study aims to add to the existing literature by studying the same in the Indian Stock market in the most recent years. However, unlike previous studies, we explore the profitability of momentum strategies during slowing economic conditions caused by domestic reasons and not as a consequence of being a ripple effect of a crisis in some distant land. We examine momentum profits from April 2014 to February 2020, dividing the aforementioned time span into two sub-periods; the Boom years spanning from 2014 to end of 2016 which were marked by high optimism and the slow down years from 2017 till end of 2019 which were marred by sequentially deteriorating economic indicators. We study momentum returns for the 110 odd largest companies by way of market cap and listed on the National Stock Exchange. Of the sixteen momentum strategies that were examined for the Boom years, it was no surprise that fifteen generated results that were both economically as well as statistically significant, thus confirming to the existing literature. However, the study also found five of the momentum strategies to still give results that significantly outperform the benchmark index during the subsequent period of economic decline and turmoil, thus providing some evidence supporting the persistence of momentum profits even during conditions when the macro environment might seem unfavorable.

Keywords—Momentum Strategies, Economic Slowdown, Investment Strategies, Indian Stock Market, Momentum.



C1_1044

An Impact of Teacher's Marital Status on Their Retention in the Private Schools of The Taj Heritage City - Agra in Uttar Pradesh

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Abstract: Any school, without properly following the rules and principals of HR tends to face a number of complications in order to manage their activities. For same, the schools are required to run an extra mile to devise a worthy HRM structure. This paper contains the driven results from investigations made on the teachers Marital Status while examining its effects on their retention. This study has been carried out on 30 selected private secondary schools of Agra, Uttar Pradesh. The relevant literature has been assessed, collected and reviewed with respect to the nature of the problem. The researcher has reviewed literatures focusing on the importance of retaining employees ranging from national and international borders. This Study contains the findings which were strained from the conclusions drawn by the researchers themselves. The study recommends improvement in the practices of Teachers retention techniques and their follow up in the private schools being operated in the city of Agra.

Keywords—Retention, Private School Teachers, HRM, Marital Status.



CI_1145

Heavy Metal Tolerance, Accumulation and Translocation in Local Weed Species

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Abstract: To evaluate the cadmium accumulation and remediation capacity of natural weed flora (*Boerhaviadiffusa*, *Cassia occidentalis*, *Dactylocteniumaegyptium*, *Malvastrumtricuspidatum* and *Setariaverticillata*) of Aligarh region, this study was conducted. Each individual species was treated with 0.1M, 0.2M and 0.3M doses of cadmium nitrate and data (dry weight, metal accumulated) were collected to assess the metal impacts thereof. Plant species *M. coromandelianum* showed more cadmium accumulation as well as translocation to aerial parts from root whereas *S. verticillata* showed more cadmium accumulation but less translocation. Plant species *C.occidentalis* and *M. coromandelianum* showed less tolerance against *B. diffusa*, *D. aegyptium* and *S. verticillata* which showed more tolerance.

Keywords—Cadmium, phytoremediation, Tolerance, Weeds.



C1_1146

A Study on Sustainable Fashion Practices: New Approaches for Eco- Friendly Fashion

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Abstract: Fashion industry is the second most ecologically harmful industry for the world producing approx. 1.5million tones waste each year , thus it is the need of the hour to produces sustainable, recyclable and eco-friendly brands and wearable that touch the environment with a soft hand brands are constantly changing and evolving to sustainable production and marketing approaches as new eco-friendly buying pattern is gaining momentum it seems like industry is gradually realizing it responsibility in It role in the processes of making eco-friendly ethnical fashion products. Today's modern consumers it not only brands conscious but also conscious about the impact that their buying is making to the ecological balance and others stockholder of the supply chain like the artisans and labors a few fashion movement like # Who made my clothes try to tell the consumers about this particular aspect of the supply chain by being transparent in this manufacturing and back processes various a movement in 1980's and 90's like the anti-fur campaigns and sweatshop scandals put a social pressure on the fashion industry in co-prorate better and ethnical trends and operational practices through this paper . It has been tried to highlight various angle of sustain abilities in fashion, how the fashion business models and how this industry moving towards sustainable fashion.

Keywords—Sustainable fashion, Eco-friendly, Recycle, Fashion industry.



CI_1147

Empirical Analysis of Valuation Multiples of Publicly Listed Food Delivery Companies in Key Geographies

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Abstract: *The global food delivery business is a new age concept. With the rise of technology, our food order can be served at a click of a button at the convenience of our homes. Zomato is one of the leading online food service platforms in India in terms of value of food sold as of March 31, 2021 with its share trading at Rs. 137.45 as on 20, Aug, 2021. It has more than 150k restaurant partners and operates in over 500 cities in India. This study aims to assess the valuation multiples of publicly listed online food delivery companies in USA, China, Europe and India and compare the valuation multiples of Zomato, India with companies across the above key geographies. For this, cases of food delivery companies in India, USA, Europe and China are analyzed.*

Keywords—*Valuation Multiples, Market Price, Enterprise Value, Market Capitalization, Growth, EBIT, Gross Merchandise Value, GMV Multiple, Revenue Multiple.*



C1_1011

Remote Work: Perils of Techno Stress on Quality of Work life

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Abstract: The COVID pandemic physical distancing guidelines expanded the remote working across the globe. Now a days many employees have been working from home, remote working has been now become the new way of profession life for many organizations. During remote working employees are required to maintain high levels of technology application resulting negative consequences, such as Techno stress. Employees are getting more strain to adopt new technology resulting Techno Stress and impact on quality of work life. The purpose of this paper is to determine the effect of remote working on quality of work life due to Techno Stress through literature review. The literature review indicates that the work-life wellbeing of remote employees could be influenced by lack of remote working plan and support by organization during the transition to remote work. This paper thinks about the remote working consequences due to pandemic for quality of work life and due to excessive use of technology resulting Techno Stress. The review findings proposed strategies which helps to improve the employee quality of work life & remote working policies in the organizations based on its findings.

Keywords—Remote working, Pandemic, Work-Life, Techno Stress, Technology.



CI_1149

Fire Extinguishing Robot Using Arduino Microcontroller

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Abstract: Firefighters have to often put themselves in dangerous situations to put out or prevent the spread of a fire. With this point in mind, we have proposed a design and implementation of a fire extinguishing robot in this paper that will assist them in extinguishing fires in hard-to-reach areas which will ensure their safety and protect them from harm. To build the proposed robotic model several technologies like Arduino, Bluetooth, and Infra-Red sensing were utilized. The proposed model will have four battery-operated (BO) motors which will be intelligently controlled by our mobile phone using a Bluetooth module. Another mechanism is the fire control mechanism attached to the top of the chassis. This will be controlled by another Arduino microcontroller board with the help of an infrared sensor (photodiode) which will sense heat and in turn trigger the water pump to throw water.

Keywords—Fire Extinguishing robot, Arduino, ATmega328p microcontroller, IR Sensor, Water pump, HC-05 Bluetooth Module.



CI_1151

Study of Subconjunctival Hemorrhage in Retinal Vessels of Human Eyes using ANN

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Abstract: Artificial Neural Network (ANN) is computer neural network which can be trained by supervised method to perform certain type of identification in unknown dataset given to it to perform on that and find intelligent conclusion. This can be used in health care system. Eye play important role in human, it is critical organ that visualized the surrounding of human to sense spatial world around. Eye contain blood vessel to supply the blood to retina. Retinal vessels segmentation play a vital role in the life because of entire world moves toward the digital words. Artery classification of retinal images is a key to necessary tasks, such as automated measurement of Arteriolar-to-Venular diameter ratio (AVR). To identify the diseases one of the most important part is to classify the retinal vessels. The classification of retinal vessels into healthy and unhealthy state, in eye images is a relevant task for the automatic assessment of vascular changes. This paper proposes a novel technique for classifying the vessels. The proposed system uses Artificial Neural Network (ANN) for Classification of unhealthy state in Human Eyes specially Subconjunctival Hemorrhage. For this, databases are used with a local dataset of number of images and publically available databases. Experimental results compare the performance of the new method. Using Computer Neural Network (CNN) with help of Artificial Intelligence (AI) the map of arteries network can be more easily analyzed. Important anomalies once feed to Neural Network (NN) to assist human for better prognosis of diseases.

Keywords—Artificial Neural Network (ANN), Medical image analysis, vessel Classification, Retinal images, Neural Network, Computer Neural Network (CNN).



C1_1006

Academic Performance Appraisal of Private College Professors in Marthandam Town

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Abstract: In almost every organization, the employees are subjected to periodic appraisal of his/her performance. This is highly important for any type of organization especially in higher education institutions, for the objectives of the human resource development programme to be realized. An effective performance appraisal system brings rationality in the management. If an institution wants to maximize its effectiveness, then it must have tools by which it can discriminate between an effective employee and not so effective employee. Today, appraisal is not something a choice left to the wishes of higher educational institutions, nor it is a privilege to be enjoyed by few business conglomerates. It is a must for every institution for its survival and growth. The appraisal practices are structured and formally sanctioned in other instances. They are informal and integral part of daily activities. In social situation, performance appraisal is conducted in a systematic and planned manner to achieve various organizational goals in social system. A structured questionnaire was the main instrument used in this study. This study examined the need of performance appraisal, level of satisfaction and the problems faced by the professors working in private colleges by the system of performance appraisal. The result of the study showed that the academic performance appraisal had satisfied the professors in their promotion thus increase their confidence. The results reflected that the academic performance appraisal is effective and brought high level of satisfaction in the academic performance.

Keywords—Performance Appraisal, Evaluation, Promotion, Satisfaction, Problems.



C1_1127

A Study of Influence of Social Media on Society

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Abstract: In today's world, social media has become a necessity. It is playing an extremely important role in our daily lives. Nobody can distance themselves from its influence. With the advent of new social platforms and their mass adoptability, a relevant issue regarding its impact on India's young generation has cropped up. The objective of this article is to present various evidences from several researches conducted by many different scholar's different environment which have negative impact of social media in following three main categories of analysis:

First, social media generates a false sense of online “connections” and superficial friendships which can lead to emotional and psychological problems.

The Second harm of social media is that it can become easily addictive, it can even lead to diminish interpersonal skills, leading to antisocial behavior.

And the third analysis will consist of showing the link between the psychological problems caused by social media and becomes a tool for criminals, predators and terrorists enabling them to commit illegal acts.

Keywords—Social Media, Facebook, Society, Knowledge, Education, Impact.



CI_1129

An Overview of Child Trafficking in India

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Abstract: Within the last two decades, the subject of trafficking has received a lot of attention. Trafficking in common language means the use of force, fraud or coercion to transport persons across international borders or within countries to exploit them for labour sex. Many experts and researchers on human trafficking assert that the greatest number of victims of trafficking are women and children, there is little systematic and reliable data on the scale of the phenomenon; limited understanding of the characteristics of victims (including the ability to differentiate between the special needs of adult and child victims, women, girls, men, and boys), their life experiences, and their trafficking trajectories; poor understanding of the modus operandi of traffickers and their networks; and lack of evaluation research on the effectiveness of governmental anti-trafficking policies and the efficacy of rescue and restore programs, among other gaps in the current state of knowledge about human trafficking. Such information is vital to helping decision-makers craft effective policies; service providers develop culturally sensitive and linguistically appropriate and efficacious programs, and law enforcement enhance their ability to identify and protect victims and prosecute traffickers. According to NHRC Reports published previously on trafficking in Women and Children, in India the population of women and children in sex work in India is stated to be between 70,000 and 1 million of these, 30% are 20 years of age. Nearly 15% began sex work when they were below 15 and 25% entered between 15 and 18 years. The law has relevance to addressing the problem of trafficking. India has also adopted a code of conduct for Internet Service Providers with the objective to enunciate and maintain high standard of ethical and professional practices in the field of Internet and related services. Juvenile Justice (Care and Protection of Children) Act, 2000 Enacted in consonance with the Convention on the Rights of the Child (CRC); and Consolidates and amends the law relating to juveniles in conflict with law and to children in need of care and protection. The law is especially relevant to children who are vulnerable and are therefore likely to be inducted into trafficking.

Keywords—Trafficking, Children, Rights, Prostitution, Protection, Exploitation.



C1_1031

Human Rights and Surrogate Motherhood: A Critical Analysis

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Abstract: For longer than 10 years, the issue of proxy maternity and its significances have expanded with the conjunction of the expansion of the multiplication artificial strategies and the foundation of a genuine business in specific nations, for example, the United States, India, Ukraine or Thailand. At this time, despite the fact that the vast larger part of nations on the planet don't rehearse the proxy parenthood, not many national laws unequivocally preclude it, as states have not yet adjusted their national enactment to this ongoing marvel. Guidelines of this training is some of the time called for so as to forestall this maltreatment and guarantee that it is practiced inside a moral system. Some draw a corresponding with the 1993 Convention on Intercountry Adoption, which doesn't except states to approve universal appropriation however outlines it for the individuals who let it be known, so it doesn't transform into kid dealing. The enduring of fruitless couples ought not to cover the way that proxy parenthood raises essential issues in regards to human rights that must be tended to before actualizing a universal legitimate structure.

Keywords—Surrogacy, Women's Right to Health, Human Rights, Maternal Mortality.



C1_1032

Balancing Good Governance and Fundamental Right

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Abstract: Good governance is related to economical and effective administration in a very democratic framework. It's thought of as citizen-friendly, subject caring and responsive administration. Sensible Governance emerged as a robust plan once four-sided and bilateral agency just like the United Nations agency, UNDP, OECD, ADB, state agencies etc. The article discusses the principal characteristics of good governance. It conjointly underlines the necessity for harmonious construction of fundamental rights and good governance to strike a balance between the two elements. It emphasizes the assorted instances wherever the govt. action was proof of the imbalances between the fundamental rights and good governance and the way such irregularities is self-addressed.

Keywords—Good Governance, Fundamental Right, Directive Principles.



C1_1033

Media Trial: A Study of Laws and Ethics

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ABSTRACT: Media gets opportunity of press under Article 19(1) (a) of the constitution of India which accommodates the right to speak freely of discourse and articulation, by the excellence of this opportunity media continues revealing the news and distributing the articles dependent on the meeting of the observers and different gatherings with respect to the issue which are sub-judice forthcoming under the steady gaze of the official courtroom and by doing this the media can make pre-judice the case and influence the organization of equity which will prompt the unsuccessful labor of equity the appointed authority must be fair-minded and will pass the decision just based on current realities and the proof delivered in the courtroom yet the promotion made by media biases the psyche of judges and may drive the adjudicator to pass the decision against the blamed despite the fact that the denounced is guiltless. This paper centers around what such preliminary led by the media means for the right to reasonable preliminary of the denounced and brings the contention between the opportunity of press, reasonable preliminary and autonomy of legal executive.

Keywords—Fair Trial, Prejudice, Media Trail, Sub-judice.



CI_1135

Unequal Treatment with Indian Women—A Public Issue

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Abstract: Man and woman both are the equal part of this universe; God has made both of them complement each other. Then how did the woman become inferior to the man? Reason may be our patriarchal culture and values or orthodox mindset of the society that man are physically and emotionally tough than woman so they possess customary higher position in society. If seen, then woman should be on high status because she is a generator but it is the irony of our society that they are considered second class citizens and she is struggling for right to equality till today. And because of imbalance treatment women has always been the victim of violence by men. We believe that the Humanity, Mental and Physical level of women is slightly different from that of men. But this doesn't mean that women are subordinate to men. Where did this inferior superior culture come from, are its roots hidden in history and how it became our custom? This paper is trying to bring out the factors that are responsible for unequal treatments and suggestions to solve this problem.

Keywords—Domestic violence, Women Empowerment, Gender differences, Policies.



CI_1137

Oppression and Mismanagement in Companies

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Abstract: For over a century the debate over the interests of the members in the corporate world and the degree to which Court of law can interfere with the company's affairs have been in issue. At present, the main issues have been securing the rights of the minority shareholders against oppressive members. In this area there is lack of agreement mainly because the company functions on the majority rule and consequently Court's interference for an action taken by members forming majority is usually considered as equivalent to interference with the company's affairs. This has called great rage among advocates of company law and even the Judges have been hesitant to expand their dominion themselves to such extent. Nevertheless, an equilibrium needs to be maintained between extreme intervention and safeguarding the interests of the minority shareholders. Therefore, this paper highlights the various remedies available for prevention of oppression and mismanagement.

Keywords—Company, Shareholders, Oppression, Minority, Tribunal, Law and Order.



CI_1138

Relevance of Contract Law in E-Commerce Related Issues

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Abstract: In today's world, business practices are no longer restricted to boundaries. A new facet has been provided to it by E-commerce. Moreover, the need of physical presence at the same time and same place is no longer required. It has even affected the way we used to our lives. Most the times we are using internet facilities and by using that we do not even realize that we are entering into a contract, starting from booking a cab to flight tickets online. Numerous things in our day to day lives are administered by contracts. All thanks to e-commerce that number of people using internet facilities are entering into contracts using electronic form are growing fast and electronic contracts have escalated to ubiquity. Therefore, this Paper intends to get an overall idea behind the concept of E-Contracts in the light of technological revolution. The objective is to create an understanding as to how different kinds of E-Contract transactions works and how far the law helps in regulating these kinds of e-Contracts.

Keywords—Electronics, Act, Section, Evidence, e-Contract, Information.



CI_1139

Constitutional and Legislative Provisions Related to Custodial Torture

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Abstract: Custodial torture is one of the evil prevalent all over the world. Torture is the oldest form of violence. The police include custodial torture as a part of daily routine for investigation only for the purpose of minting out truth from the mouth of accused person. In the democracy and under India Constitution, police is vested with the power to maintain law and order in the society and they are State's representative whose sovereignty lies with the Indian people. The police are called as public servant and the police station as public property. The conduct of the police should be in accordance with the law and needs to understand and provide basic human rights to the people they are acquainted with their work as assigned by the State. And also to ensure that the public trust and confidence upon state machinery is maintained. There is no law which specifically deal with custodial torture. Still Custodial torture is deal with the indirect provision i.e. constitution, criminal laws and Police Act. This paper will deal with the provisions of Constitution of India 1950, Indian Penal code 1860, Criminal Procedure Code 1973, Indian Evidence Act 1872, Police Act which dealt with custodial torture. And also analyze the Prevention of Torture Bill, 2010 which if passed by the parliament become the first specific legislation with respect to custodial torture.

Keywords—Police, Torture, Victim, Human Right and Fundamental Right.



CI_1140

Legal Mechanism for Combating of Money Laundering in India: A Study with Reference to Prevention of Money Laundering Act, 2002

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Abstract: Money laundering adversely affects the nation's economy so it is more serious economic crime than a street crime, therefore it should be strictly curbed. The main purpose of this paper is to discuss the history, meaning, concept and analyzing the laws prevailing in India for combating Money laundering. This paper discusses what the law enforcement agencies to prevent money laundering are and what are its impacts upon the country's economy. In this paper it has been tried to discuss what majors should have been taken into account to combat the money laundering in India and what are the specific features and loopholes of the Prevention of Money Laundering Act, 2002. In this paper it is also discussed what are the functioning of International treaties, MoUs, agencies and organizations for the prevention of money laundering. In this paper researcher used the doctrinal method to analyze the laws prevailed in India for combating money laundering.

Keyword—Money laundering, Hawala, drug trafficking, Corruption, Terrorism.



CI_1144

IoT Based Smart Sensing Health Monitoring

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Abstract: “Health isn't everything, but everything is after health”, nobody will afflict this statement. However, if we talk about the current scenario of Indian rural health care system, it is facing a crisis as compared to any other social sector. Nearly 86% of the visit made by India coming from remote places for medical purposes where majority are still travelling 100km to for health care facility of which 70-80% are burning their pocket for a basic need which lands them in poverty. In India, around 27% of total population lives in urban areas where more than 75% of total health care infrastructure is available and rest is for more than 80% of the population of rural areas, with this figure we can easily predict that rural population is witnessing the lack of proper primary healthcare facilities. According report published by KPMG, 74% of total Indian Doctors are catering the urban population of India. Due to the lack of basic health care infra in rural areas people are not aware of many diseases and they do not go through proper consultation. 2.4 million Of Indian Population die because of negligence ad without a basic treatment every year, the worst condition among the 136 nations studies for a published report within the lancet. So, we come across a solution that how we can facilitate this problem in which we can connect the rural India about their basic health requirement using the technology.

Keywords—Health care, IoT, Rural areas, Data monitoring, Medical system.



CI_1155

Big Data: Challenges and Management Tools

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Abstract: A huge amount of data is generated each day from modern information systems and digital technologies like internet of things, social media and cloud computing. Towards the investigation of these large volumes of data, big data has become an emerging research and development field. The term 'BigData' is referred to the gargantuan bulk of data that cannot be dealt with by traditional data-handling techniques. This paper includes, comprehensively surveys, various attributes of big data, including its nature, definition, rapid growth role, management, analysis and security. The aim of this paper is to explore the challenges that are hindering the growth of Big Data Analytics and various tools associated with big data. And this study opens a new horizon for researchers to develop solutions, based on the challenges and other issues.

Keywords—Big data, Heterogeneity, Hadoop, HBase.



CI_1150

Cyzygium Cumini Influenced Biosynthesis and Characterization of Iron-Oxide Nanoparticles

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Abstract: Iron-oxide nanoparticles have an important role in our life. As an emerging technology, nanotechnology has been gaining increasing interest and many nanomaterials have been developed to remove heavy metals from polluted water. In this study, iron-oxide nanoparticles were synthesized using eco-friendly green synthesis process where *Cyzygium cumini* leaf extract was used as one of the reducing agents along with basic metal precursors used in chemical processes. The synthesized iron-oxide nanoparticles were characterized using microscopic analysis (SEM), spectroscopic analysis (PXRD).

Keywords—Iron-oxide nanoparticles, *Cyzygium cumini* leaf extract, SEM, XRD, etc.



C1_1086

Recognition and Identity of Indigenous People in International Law

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Abstract: There are approximately 370 million Indigenous People in the world, belonging to 5000 different groups, spread across 90 countries worldwide. Out of the above mentioned 370 million, 70% are from the Asian Countries. Indigenous People constitute only about 5% of the world's total population yet they account for the 15% of the total world's poor. The existing International Law recognizes the Rights of Indigenous People, yet it's difficult to safeguard their rights and status because of the inconsistency prevailing within the domestic framework. The core of this inconsistency takes its shape primarily because the term "Indigenous People or Indigenous Identity" is in itself a very complex and provocative topic. Universally there is little agreement amongst the nations as to who all constitutes to be a part of Indigenous Community. So when it comes to acknowledging and guaranteeing their rights, it opens a Pandora box. This uncertainty and inconsistency has led them to become the most economically destitute members of the human family. In addition to this most of the indigenous people are under the continuous threat of cultural asphyxiation. Further with advent of the Intellectual Property Regime and linking it with trade through TRIPS Agreement has exhibited a systematic threat to the erosion of indigenous culture and knowledge.

In this backdrop it is an urgent necessity to look into the issues faced by the indigenous people and to surface out a meaningful discourse of Human Rights and Intellectual Property interface so as to maintain ecological sustainability. Thus in the light of above this paper proposes to analyze the international conventions recognizing the identity and rights of indigenous people and also upon recognition of their indigenous knowledge which can be tool for their economic development.

Keywords—Indigenous Identity, Indigenous Culture, ecological sustainability, Intellectual Property Rights.



CI_1156

Application of Guar Gum as Polymer Films and Composites

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Abstract: Guar gum (GG) is a non-ionic polysaccharide extracted from the endosperm of *Cyamopsis tetragonolobus*. Guar gum and its derivatives are water soluble hydrophilic polymers whose solutions are highly viscous in nature. This property resulted in these polymers to be commercialized incorporating the polysaccharide in a polymer matrix; its hydrophobic modification is required to increase its compatibility. The biodegradable films were made by using guar gum and polyvinyl alcohol. The polymer films are characterized by FTIR and SEM and mechanical properties of the blend films were evaluated. The solution blend of guar gum and polyvinyl alcohol were prepared by casting method. These films are very brittle in nature and shows better properties than their individual polymer like guar gum and Polyvinylalcohol. The effect of citric acid on the mechanical properties of the resultant film were also studied and from the results it may be observed that citric acid act as plasticizer into the system. The films made by this method are used where water resistant films are not required. In order to increase the water resistance of the resultant film a crosslinking agent is required. The crosslinking agent not only enhance the mechanical properties but its water resistance properties were also improved. So this study supports that glutaraldehyde is an effective cross linker in the presence of citric acid into the guar gum polyvinylalcohol films. The use of Polysaccharides as fillers in polymer Composites has as yet not received that attention attributed to other materials. Guar Gum and the effect of allylation on its filler properties on composites were evaluated for their mechanical properties. The resulting composites were characterized by SEM and their mechanical Properties were evaluated by UTM.

Keywords—Guar gum. Biodegradable films, Composites, Polysaccharides.



CI_1157

A Study on Entrepreneurial Skills Among The College Students in Nagercoil

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Abstract: This study focused on the entrepreneurial skills among the college students. The study revealed that majority of the respondents have no family business, belongs to middle income group and management major students. The sample size was 50. The primary data was analyzed percentages, mean rank. Entrepreneurship education is very important to the educated youth. The educational institutions should adopt entrepreneurship education strategies for promoting self-reliance among the students and pursuable them with innovative ideas, new ventures and new techniques to much the global challenges in the contest of the demand. There is a need of the hour to washing the old methods of teaching entrepreneurship education aspires the students to become entrepreneurs. Thus this paper focuses on the entrepreneurial skills among the college students at Nagercoil in Kanyakumari district.

Keywords—Entrepreneurial Skills, Entrepreneurship Education, College Students.



C1_1158

A Survey on Presence of WBANs in Field of Healthcare

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Abstract: WBANs (Wireless Body Area Networks) are developing as significant systems, relevant for major enhancement of every field. Joining little sensors and remote correspondence innovation, wireless body area network has become need for every field that needs development. The field of WBANs has been leading this century towards the faster improvement of remotely operating innovations. These days' major study is going in the domain of Healthcare Monitoring System (HMS) that can be operated through WBAN. WBAN has become major requirement because of the increasing number of elderly individuals and medical patients. This field expected to lessen medicinal service costs by empowering the consistent observation help to patients that operates remotely during their everyday actions. In terms of medical services, WBAN will develop as a key innovation through which ongoing health observation and early determinations of numerous hazardous infections can be performed. Through this paper a survey about WBANs is presented about application of WBAN in the field of medical services. Further there is description about significant parts of WBANs. Besides, repetitive advances happened in WBANs are the ones generally engaged after the discoveries. Likewise, the ongoing patterns and futuristic scope of this field has been tended with in this paper.

Keywords—Wireless Body Area Networks, Healthcare, Sensors, Remote devices, Medical.



CI_1126

Plant Growth Promoting Microorganisms Assisted Amelioration of Heavy Metal Toxicity in Leafy Crop Plants

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Abstract: Now a day microorganisms are use in different fields. One of majorly increasing field is in the plant growth promotion. Heavy metal toxicity in crop plants has many harmful effects on living population. It alters the soil nature by changing its pH. To overcome this problem we use biological method. As these methods are more competent and reliable, we can use certain microorganism to promote plant growth which works in association with plants. These microorganisms use different techniques to defend plant from heavy metal toxicity like they can use these metals for their own use or can restrict them to enter in plant metabolism. How these heavy metals affect plants and various ways by which plant growth can be promoted by using microorganism are discussed here.

Keywords—Heavy metals, PGPRs, Sources, Toxicity, VAM.



CI_1128

Cardioprotective Effects of Dietary Squalene Intake on Lysosomal Function in Rats with Adriamycin-induced Cardiomyopathy

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Abstract: This study attempts to test the cardioprotective effects of dietary squalene intake on lysosomal function in rats with adriamycin-induced cardiomyopathy. Squalene has a significant membrane stabilizing effect on adriamycin-mediated myocardial cell membrane necrosis by regulating the activity of lysosomal enzymes and membrane-bound ATPase and the state of mineral metabolism. In the present study, administration of adriamycin resulted in a significant ($p < 0.05$) elevation in the activities of lysosomal enzymes (acid phosphatase, β -D glucosidase and β -D-galactosidase) in the plasma. The dietary supplementation of squalene conserved the lysosomal structural and functional integrity as evidenced by near normal levels of lysosomal hydrolases in heart tissue, it probably did so by membrane stabilizing property and antioxidant nature of squalene. The results of the study indicate that the cardioprotective effect of squalene is attributed to its ability to stabilize the membrane against a oxidative membrane degradation caused by adriamycin, which is the main reason for the irreversible necrosis of the cardiac cells.

Keywords—Squalene, Adriamycin, Cardiomyopathy, Lysosomal hydrolases, Membrane stabilization.



C1_1049

Problem of Stubble Burning: A Case Study of Punjab

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Abstract: Agricultural pollution due to stubble burning is the main issue in Northwestern states like Punjab, Haryana and Uttar Pradesh. The stubble burning leads to the hike in greenhouse gases like CO₂, N₂O, NO₂, SO₂ Methane etc. which is a threat to the sustainable developmental goals. Since stubble burning happens between October to December the combination of smog and fog leads to severe air pollution. These harmful gaseous emissions lead to an increase in high fatality in Human beings due to various diseases like asthma, chronic bronchitis, which decreases lung function. Stubble burning also leads to an increase in Global warming by the depletion of the Ozone. The stubble burning can be reduced only when the farmers are aware of its after-effects and alternative solutions like the use of rice stubble as fodder, in bio thermal plants, bio-oil paper production and biogas production etc. Paddy straw can also be incorporated into the soil thus increasing the fertility level. It can also be used in energy technologies and thermal combustion. The crop residue management approach is a very important step to ban this type of human-created catastrophe.

Keywords—Stubble burning, Pollution, Punjab.

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