International Journal Of Advance Research, Ideas And Innovations In Technology

VOLUME 9 - ISSUE 2

IJARIIT

SPECTRUM

International Journal of Advance Research, Ideas and Innovations in Technology

March-April, 2023

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Spectrum is an e-magazine with the comprehensive collection of all the papers that have been published in our journal over the last two months — Volume 9, Issue 2 (March-April, 2023). This edition brings together 123 papers by 420 authors from 93 institutions. Each entry links to the abstract and the full paper.

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e-ISSN 2454-132X

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ABSTRACTS

1 Study of awareness of cyber security in educational organization

Paper ID V9I2-1137 · Pages 1-7 · Information Technology

Shruti Sunil Manohar, Student, Parul University, Vadodara, Gujarat
Amita Garg, Assistant Professor, Parul University, Vadodara, Gujarat
Aparna Havaldar, Assistant Professor, Parul University, Vadodara, Gujarat

Today we are all living in the era of Internet and Social media . We cannot imagine the world without the Internet .So the Educational organizations are also transforming and trying to use IT tools for various purposes. .The teaching methodologies have also evolved with the technology .During the Covid-19 era technology and the Internet were boon to continue the learning process with the help of several tools . But now Post Covid also many of the tools are still being used as they were found very effective in imparting education. But all of this is resulting in a lot of exposure to the internet or social media. The students even in Kindergarten are busy with some or the other gadgets surfing the internet. But as it is said every coin has two faces ,this cyber world also is also prone to a number of threats and crimes .Therefore it is important for all the stakeholders of any organization to be aware of the challenges in using the Internet .Here we are specially focusing on Educational Organizations to understand whether they are aware of the security measures while using the Internet specially the school kids are more vulnerable to these kinds of threats and even crimes .As the students are not aware of the cyber threats and issues to protect themselves from becoming victims of such activities, cases of cyberbullying, online fraud, racial abuse, pornography, and gambling have significantly grown. Research from the past shows that Internet users still have a very low to moderate level of awareness. Therefore we are undertaking the study regarding the awareness of Cybersecurity in Educational Organizations We will be trying to study how much the young children and young adults are aware regarding cybersecurity and its tools to have safe browsing. The result of this study will be helpful in acquiring knowledge about how much importance do educational organizations give for cyber security .The objective of this systematic review paper is to explore whether modern learners are educated about the risks associated with being active in cyberspace and the strategies that stakeholders are undertaking in the educational industry. In this paper, few strategies are also discussed as to how cyber security education can be implemented in educational Organizations.

Keywords: Cyber Security, Awareness, Internet, Attacks

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2 Data encryption on image cryptography and steganography

Paper ID V9I2-1136 · Pages 8-14 · Cyber Security

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These days, information is transmitted via the internet. Consequently, information security has emerged as a crucial concern. The well-known method of network data security is cryptography. In digital media, steganography is the method used to conceal the message. Comparatively speaking, the security of elliptical

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curve cryptography outweighs that of the ones currently in use. In this paper, a hybrid model that combines steganography and ECC with public keys is presented. can offer higher levels of higher security than steganographic or one ECC method alone. This initiative's primary goal is to conceal sensitive data from internet users, the military, and various corporate sectors that commonly use public networks for interaction

Keywords: ECC, RGB, LSB, CNOT Gate, PSNR, Steganography, and Cryptography

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3 A study of the relation between the logistic performance index on India's trade

Paper ID V9I2-1140 · Pages 15-20 · International Business & Trade

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Logistics and transport increasingly influence international trade. The Logistics Performance Index (LPI) compares customs procedures, logistics costs, and overland and maritime transport infrastructure between countries. This article uses a gravity model to analyze how these components affect trade in emerging economies. The study also compares 2007 and 2012 LPI data from developing countries in five regions (Africa, South America, the Far East, the Middle East, and Eastern Europe) to find logistics improvements. The results show that improving any LPI component can boost trade flows.

Keywords: Logistics Performance Index, Trade, Gravity Model, India

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4 Approach to cyber security issues for small businesses in the United States: Challenges and solutions

Paper ID V9I2-1138 · Pages 21-25 · Cyber Security

Omotayo Oluwatosin Ilori, Student, Austin Peay State University, Clarksville, United States

Cybersecurity is a critical aspect of small businesses' survival and growth, as they are increasingly becoming targets of cyber-attacks worldwide. The SolarWinds cyber-attack in 2020 exposed the vulnerabilities of small businesses and government agencies to sophisticated cyber threats. In response to this growing threat, experts have emphasized the need for small businesses to prioritize cybersecurity by developing a comprehensive strategy that includes risk assessment, vulnerability management, and incident response planning. Considering the SolarWinds hack, this essay provides an analytical and qualitative framework for comprehending the significance of cybersecurity for small enterprises. The framework explores the unique challenges that small businesses face in managing cybersecurity risks and identifies best practices for mitigating these risks. The study concludes that small companies must prioritize cybersecurity by acknowledging and identifying risks to safeguard themselves from the rising risk of cyberattacks and keep their consumers' confidence.

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Keywords: Small Businesses, Cybersecurity, Cyber Threats, Data Breaches, Incident Response Planning, Risk Assessment, Vulnerability Management, Remote Work, Cloud Computing, Solarwinds Attack.

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5 A study on the integration of the Global Positioning System (GPS) in emergency service vehicles.

Paper ID V9I2-1144 · Pages 26-31 · Science And Technology

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Dr. Mala K. M., Independent Researcher, Independent Researcher

The integration of GPS technology and traffic signal control in emergency vehicles, particularly ambulances, can significantly improve response times and save precious minutes in critical situations. By connecting the GPS systems of emergency vehicles with traffic signals, the signals can automatically change to green when an ambulance is approaching, creating a clear path for the ambulance to pass through intersections without delay. This system relies on a network of sensors and communication equipment that are able to detect the ambulance's location and adjust traffic signals in real-time. The benefits of this technology are numerous as it not only helps save lives by reducing response times but also reduces traffic congestion by optimizing traffic flow. This innovative approach to ambulance transportation can make a tremendous impact in emergency situations, particularly in densely populated areas where traffic congestion can impede the progress of emergency vehicles. In short, the integration of GPS-connected traffic signals can be a game-changer for emergency vehicle transportation and help ensure that ambulances reach their destination quickly and safely ultimately saving lives while improving efficiency in emergency response systems.

Keywords: GPS, Ambulance, Integration, Technology, Vehicle Tracking

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6 Investigation on thermal conductivity of polymer (epoxy) based composites

Paper ID V9I2-1151 · Pages 32-43 · Composite Materials

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The current research investigates the influence of fiber volume fraction on effective thermal conductivity (keff) in polymeric materials. This study identifies a method to improve the insulating property of a traditional fiber-reinforced polymer composite. A quantitative relationship for the heat transfer coefficients of polymer composites reinforced with fiber is created utilizing the law of minimal thermal performance and the equal law of particular similar thermal conductivity. To validate this statistical equation, two sets of polymer composites with fiber concentrations ranging from 0 to 15.7 vol percent were hand-built. Natural fibers such as banana fibers are integrated into an epoxy matrix in one set of composites, whilst glass fiber is employed as a filler material in another set, although the matrix material remains unchanged. Thermal conductivities of these composite materials are tested in accordance with ASTM standard E-1530 using the Unit herm TM Model 2022 tester, which operates on the double shielded heat flow concept. Furthermore, using the commercially

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accessible finite element tool ANSYS, the finite element technique (FEM) is employed to quantitatively measure the k eff of such composites. The numerical values generated by the proposed statistical model are then compared to empirically measured values. The analytical and simulation results reveal that the appropriate heat conductivity value for both sets of composites steadily declines as fiber concentration increases. Because none of the models developed properly anticipated the rate of heat transfer of the composites, the results generated from the proposed system closely match the experimental data. This study shows that as the fiber loading in the composite increases, so does the heat transmission rate. The use of 15.7 vol percent glass fiber in epoxy resin reduces heat conductivity by around 8%, whereas a 12 percent decrease is observed when the banana fiber is used as a filler. This research backs up the conceptual approach while indicating that finite element analysis is an effective tool for such investigations. This thermal insulating, fiber-reinforced polymer composites have potential applications in insulating boards, food containers, thermo flasks, construction materials, and so on due to their low thermal conductivity and lightweight.

Keywords: Thermal Conductivities Filler, Matrix

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7 Proposed survey questionnaire for the diagnosis of irritable bowel syndrome: Based on patient complaints

Paper ID V9I2-1150 · Pages 44-49 · Gastroenterology

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Dr. Gayatri Kapse, MEDICCA Press Limited, Pune, Maharashtra

Functional bowel disorders (FBD) are extremely common all over the globe. Enhancing knowledge of FBD is essential because they have a detrimental effect on the healthcare system. Irritable bowel syndrome (IBS) is one such FBD where recurrent abdominal pain is associated with a change in bowel habits. Many conditions mimic IBS which include celiac disease, microscopic colitis, inflammatory bowel disease (IBD), lactose and fructose intolerance, etc. In order to correctly differentiate these disorders from IBS, limited testing may be necessary. Considering these overlapping conditions we thought of developing a questionnaire to help the physicians diagnose IBS based on a scoring system. A set of questions were drafted based on patient complaints and each question had a scoring system. Basis the patient's response to each question the total score would help the physicians understand if the patient is suffering from IBS. This is a brand-new grading system that has not yet undergone testing. The medical community is urged to evaluate the scoring system's usefulness and provide input so that it can be improved.

Keywords: Functional Bowel Disorders, Irritable Bowel Syndrome, Abdominal Pain, Questionnaire, and Patient Complaints

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8 Credit card fraud detection: An evaluation of Machine Learning methods performance using SMOTE and AdaBoost

Paper ID V9I2-1155 · Pages 55 · Machine Learning

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Online card transactions have increased daily as a result of the development of technologies like e-commerce and financial technology (FinTech) apps. As a result, there has been an increase in credit card fraud that impacts banks, merchants, and card issuers. Thus, it is critical to creating systems that guarantee the confidentiality and accuracy of credit card transactions. In this study, we use imbalanced real-world datasets produced by European credit cardholders to create a machine learning (ML) based framework for detecting credit card fraud. In order to address the class imbalance problem, we resampled the dataset using the Synthetic Minority over-sampling Technique (SMOTE).

Keywords: Credit Card Fraud, Machine Learning, Predictive Modelling

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9 Implementation of ai based protective mask detector

Paper ID V9I2-1159 · Pages 56-63 · Artificial Intelligence

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The global impact of the corona virus disease is significant. Firmly stop the corona virus from spreading. A single-shot detector (SSD)-based object identification technique that focuses on accurate, real-time face mask detection in densely populated settings such as communities and workplaces where there are a lot of people is described. On the basis of two methodologies, we suggest a system in this project. Single-shot multi-box recognition, often known as SSD, is a technique for identifying people wearing face masks in an image in a single attempt. By removing the area recommendation network, which causes an accuracy loss, SSD is employed to accelerate the cycle. Implementing our application in closed-circuit television (CCTV) surveillance systems. It will identify who is wearing the mask and who is not by using mobilenetV2 and machine learning techniques. With the aid of the single shot detection technique, it can filter photographs on the spot and distinguish between them. The data collected during this process, such as image capture, is kept in the cloud to ensure that the application functions properly.

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Keywords: MobilenetV2, Single Shot Detection, Mask, Detection, Dataset, Virus, and Data Sets.

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10 Detection and prediction of air pollution using Machine Learning

Paper ID V9I2-1158 · Pages 64-72 · Machine Learning

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The regulation of air pollutant levels is rapidly increasing and it's one of the most important tasks for the governments of developing countries, especially India. It is important that people know what the level of pollution in their surroundings is and takes a step towards fighting against it. The meteorological and traffic factors. burning of fossil fuels, industrial parameters such as powerplant emissions play significant roles in air pollution. Among all the particulate matter (PM) that determine the quality of the air. When its level is high in the air, it causes serious issues on people's health. Hence, controlling it by constantly keeping a check on its level in the air is important.

Keywords: Decision Tree, PM10, PM2.5, SO2, CO, NO2, O3, Air Pollution, Air Quality Index, Assistive Vector Technology, Regression using Logit, Forest of the chance tree, K-Nearest Neighbor, and Naive Bayes.

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11 Diagnosis of transformer faults using multi-class AdaBoost algorithm

Paper ID V9I2-1156 · Pages 73-78 · Machine Learning

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Low fault diagnosis accuracy is caused by the ineffectiveness of traditional shallow machine learning methods un exploring the connection between the oil-immersed transformer fault data. In response, this study suggests a method for diagnosing transformer faults based on multi-class adaBoost algorithms solves this issue. First, the SVM and the adaBoost algorithm are linked. The SVM is improved by the adaBoost approach, and the transformer defect data is thoroughly investigated. The IPSO is then used to optimize the SVM's parameters when the dynamic weight is added to the PSO algorithm. This is accomplished by updating the particle inertia weight in real-time. Lastly, by examining the relationship between the type of fault and the dissolved gas in the transformer oil, the uncoded ratio technique develops a novel gas set collaboration. The feature vector used as the input is produced using the enhanced ratio approach. The diagnosis method suggested in this paper has a

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significant increase in diagnostic accuracy when compared to conventional methods, according to simulations using 419 collection of transformer fault data and 117 groups of IECTC10 standard data that were gathered in China. Additionally, it has a fast confluence speed and a powerful search capability.

Keywords: Support Vector Machines, Enhanced Particle Swarm Optimization, Power Transformers, The Dga Feature, and The Multi-Class Adaboost Algorithm Are Some of the Terms Used in Fault Detection

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12 Employing Machine Learning, A Multiclass Prediction Model For The Student Grading System.

Paper ID V9I2-1161 · Pages 79-85 · Machine Learning

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In today's higher education institutions, predictive analytics applications have become a pressing need. In order to generate high-quality performance and valuable data for all educational levels, predictive analytics used sophisticated analytics that included the application of machine learning. the majority of people are aware that One of the main metrics that may be used by educators to track students' academic progress is their grades. In the last ten years, a wide range of machine learning algorithms has been proposed by researchers in the field of education. To improve the performance of predicting student grades, addressing imbalanced datasets presents serious difficulties. Therefore, this study gives a thorough review of machine learning algorithms to predict the final student grades in the first semester courses by enhancing the performance of prediction accuracy. In this study, we'll emphasize two modules. Using a dataset of 1282 genuine student course grades, we assess the accuracy performance of six well-known machine learning techniques: Decision Tree (J48), Support Vector Machine (SVM), Nave Bayes (NB), K-Nearest Neighbor (kNN), Logistic Regression (LR), and Random Forest (RF). In order to reduce overfitting and misclassification results brought on by imbalanced multi-classification based on oversampling Synthetic Minority Oversampling Technique (SMOTE) using two feature selection methods, we have suggested a multiclass prediction model. The outcomes demonstrate that the suggested model integrates with RF and gives a notable improvement with the greatest f-measure of 99.5%. This model's suggested findings are comparable and encouraging, and they have the potential to improve the model's performance predictions for imbalanced multi-classification for student grade prediction.

Keywords: Predictive Model, Unbalanced Issue, Forecasting Student Grades, and Multi-Class Classification

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13 Advanced key access security system on cloud computing

Paper ID V9I2-1165 · Pages 86-91 · Cloud Computing

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In this study, we create a system for managing key access that translates any access control policies with a hierarchical system to digital media. The given approach can be applied to any cloud infrastructure system as a private cloud. We consider the data owner to be a composite organizational entity. Every user of this organization has a secure way to connect to the public cloud within as well as outside the corporate servers. Our key access control mechanism, which is based upon Shamir's secret image-sharing method and the polynomials interpolation technique, is particularly well suited for tiered organizational structures. It offers a hierarchy, secure, and flexible key access solution for organizations handling mission-critical data. Moreover, it always concerns with moving quest information into the public cloud by using the topology order of shapes the way, including self-loop, and making sure that only individuals with The Keys can be accessible with enough permission from similarly privileged users or above. A significant overhead, such as the need for both public and private storage, is reduced to a manageable level by the computationally efficient key derivation. Our solution provides crucial security that can be distinguished from other systems as well as resistance to group attacks. In addition to removing the chance of a data breach caused by key exposure, the fact that the key is not required to be kept elsewhere also eliminates this necessity.

Keywords: Cloud Security, Hierarchical, Interpolation, Key Access, Key Assignment, Secret Sharing

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14 Forward secure public key Encryption with keyword search for outsourced cloud storage

Paper ID V9I2-1166 · Pages 92-100 · Cloud Computing

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Cloud computing is a self-driven word that offers information outsourcing services without contention, alleviating customers of the pressures of nearby storage problems. Many industries, such as the military, hospitals, businesses, colleges, and so on, already employ cloud computing to store enormous volumes of data or information. The client may seek permission to view the files or information from the cloud. Generally

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speaking, there are three types of information: confidential, public, and personal. The infrastructure that stores all of the data on the cloud belongs to someone else. It is never simple to trust outside cloud service suppliers with critical data. Even the largest cloud market players assert that security is a shared responsibility between the customer and the business. The customer should consider how critical it is for the encryption to be robust in order to restrict people from reading data saved in the cloud. One of the many issues that arise from cloud data storage is information security. To solve these problems, numerous algorithms were created. Unfortunately, securing a sizable chunk of the cloud with a single computation or technique is ineffective. By utilising cryptographic techniques, security problems are reduced in this study effort. In addition, networking, server, and storage are all merged so at infrastructure level in cloud computing. This research project suggests employing cryptographic techniques to store data safely in the cloud.

Keywords: Data Storage, Security, Encryption, And Cloud Computing

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15 Ensuring the security of logistics information and data querying using searchable encryption algorithms and Blockchain

Paper ID V9I2-1163 · Pages 101-109 · Block Chain

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A searchable and encrypted logistics information blockchain data query method is presented to protect the security of logistics information and to query information quickly and efficiently utilizing searchable encryption algorithms paired with the properties of the blockchain. The logistics data is split up into many data files, encrypted with an asymmetric technique, and then kept on a cloud server. Each data file is given a keyword index value, which is then uploaded to the blockchain. Data updates and queries can be performed at any time with this solution. The project's plan is finally completed with accuracy, completeness, and safety. It offers scheme viability.

Keywords: Block Chain, Searchable Encryption, Asymmetric Encryption, Logistics Information, and Data Query.

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16 A comparative overview of Ayurveda and Unani with special reference to efficiency and limitation

Paper ID V9I2-1169 · Pages 110-112 · Ayurveda

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This research article provides a comparative overview of Ayurveda and Unani, two traditional systems of medicine that have been practiced in India and the Middle East for centuries. The efficiency and limitations of both systems are discussed with reference to their historical development, theoretical frameworks, diagnostic and treatment methods, and current practices. The methodology involved a literature review of scholarly articles, books, and online resources that discuss Ayurveda and Unani. The results and discussion section highlight the similarities and differences between the two systems, and their strengths and weaknesses. The article concludes that both Ayurveda and Unani have their own unique contributions to make to the field of traditional medicine and that a better understanding of their theoretical frameworks and clinical practices can enhance the efficacy of their treatment modalities.

Keywords: Ayurveda, Unani

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17 Soft computing technique for the blockchain-enabled secure healthcare system

Paper ID V9I2-1167 · Pages 113-119 · Block Chain

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A recent study demonstrates that by combining AI and Blockchain technologies, we can close several loopholes in the healthcare industry. AI systems perform better when given substantial data input that may be used to infer conclusions and make decisions. When data is acquired from a reliable, trustworthy, safe, and tenable data vault, machine learning algorithms perform better.

Keywords: Artificial Intelligence (AI), Machine Learning (ML), and Blockchain

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18 Remote data integrity checking with a designated verifier while preserving identity-based privacy

Paper ID V9I2-1168 · Pages 120-124 · Cloud Computing

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The authenticity of outsourced data may be effectively checked using the remote data possession checking method, which can be classified into both private and public verification. Public verification can be verified by any cloud user, however, private verification can only be verified by the data owner. However, In the majority of real-world scenarios, the data owner anticipates that just a specific verifier will be able to carry out integrity-checking duties and that the verifier won't be able to learn anything about the data. Yan et al. suggest a remote data possession verification scheme with a designated validator to make sure that only the designated verifier can guarantee the data's integrity and that others cannot. However, this strategy makes use of public-key technology and disregards privacy-related concerns. To overcome these shortcomings, we propose an identity-based remote data possession checking method that fulfills the data owner's demand to select a unique verifier. This method also employs a Merkle hash tree for dynamic data updating and a randomized integer for blind data integrity verification that protects user privacy. Our method can be used to get around the public key infrastructure's burdensome certificate administration. We showed that our system is secure using the computing Diffie-Hellman assumptions and the discrete optimization assumption. Our plan is practical and effective in practical contexts, as shown by conceptual analysis and experimental results.

Keywords: Identity-Based Cryptography, Designated Verifier, Privacy Protection, Data Dynamics

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19 Machine Learning Based Network Intrusion Detection For Cyber Security

Paper ID V9I2-1172 · Pages 120-127 · Cyber Security

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Machine Learning-based systems act on flow features derived through exporting flow procedures. The notable emergence of Machine Learning and Deep Learning (DL) based reports presuppose that the flow of information, such as the average packet capacity, is gleaned from every packet. On common devices, However, when

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packet sampling is unavoidable, flow exporters are frequently used in practice. Since the flow of information is derived from a sampled group of the packets rather than the entire traffic stream, the usefulness of Machine Learning-based results with the use and existence of such samplings is still up for debate. In this study, we are going to investigate in what ways the effectiveness and performance of these ML-based are affected by packet sampling. Our suggested evaluation method is resistant to various flow export stage settings, in contrast to earlier studies. Hence, it can provide a robust evaluation even in the presence of sampling.

Keywords: Supervised Learning, Anomaly Detection, Intrusion Detection, Random Forest, Neural Network, Decision Tree, Support Vector Machine, ML techniques, e-learning, and Principal Component Analysis.

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20 A comparative overview of Ayurveda and Homeopathy with special reference to efficiency and limitation

Paper ID V9I2-1170 · Pages 128-129 · Ayurveda

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This review article compares and contrasts Ayurveda and Homeopathy, two alternative systems of medicine that have been practiced for centuries. Ayurveda is an ancient Indian system of medicine that focuses on the balance between the mind, body, and spirit to promote overall health and wellness. Homeopathy, on the other hand, is a system of medicine developed in the late 18th century that uses highly diluted substances to stimulate the body's natural healing processes. The article presents a comprehensive review of the literature, discussing the efficiency and limitations of both Ayurveda and Homeopathy. While both systems have been found to be effective in treating various illnesses, Ayurvedic treatments can be time-consuming and require a significant lifestyle change, while Homeopathy has been criticized for its lack of scientific evidence to support its effectiveness. Therefore, patients should consult with a healthcare professional before choosing between Ayurveda and Homeopathy to ensure they receive the most appropriate treatment for their condition.

Keywords: Ayurveda, Homeopathy

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21 A comparative overview of Ayurveda and Allopathy with special reference to efficiency and limitation

Paper ID V9I2-1171 · Pages 130-131 · Ayurveda

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Ayurveda and Allopathy are two of the most popular systems of medicine in the world. Ayurveda, an ancient Indian system of medicine, is based on natural remedies and is widely used in India and neighbouring countries. Allopathy, on the other hand, is a modern system of medicine that uses synthetic drugs to cure

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diseases. The aim of this research article is to compare and contrast the two systems of medicine with special reference to their efficiency and limitations. The study employs a systematic review of existing literature on Ayurveda and Allopathy to compare the two systems of medicine.

Keywords: Ayurveda, Allopathy

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22 Supply chain analytics on inventory management on small firms across Hyderabad

Paper ID V9I2-1177 · Pages 132-141 · Business And Management

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Small firms are mostly into retail operations in the very first stage of development. Inventory management describes the way resources are handled in the production process. Inventory management is a part of the supply chain which involves a sequence of activities starting from the procurement of raw materials from suppliers and ending with the distribution of products to the end customers. As inventory management is a subset of the supply chain, efficient management of inventory reduces the time taken for the movement of materials for operations. A study on Supply Chain Analytics on Inventory Management on Small Firms across Hyderabad. Efficient implementation of inventory management with respect to the supply chain helps organizations reduce the cost of operations and gain a competitive advantage in the industry

Keywords: Value-Added Services, Positive Feedback, Customer Loyalty

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23 DAR – DEFENCE ADVANCE ROVER

Paper ID V9I2-1178 · Pages 142-151 · Information Science And Engineering

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A Rover is an IOT-based robot that is basically designed to detect Landmines, Smoke, Fire, Alignment, Obstacles, and Radar to detect Movement. In this research we prepare a Rover as a prototype of a multi-functional robot and the purpose of it is to go to dangerous areas like collapsed places, and areas attacked by terrorists to collect every possible data of the situation and send it via wireless communication system (Remotely), as well as manually for the further actions. The main phenomenon of this Rover is to help the army by providing various information which usually is difficult and risky for a person to collect and send to the control center. The whole system operates wirelessly and sends each and every piece of data to the control center through signals, and shows live video footage directly to the control center, even if the camera is

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damaged the remaining sensors keep providing the data.

Keywords: IoT, Machine Learning, Robotics, and Arduino Algorithm

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24 Design of low power single precision floating point multiplier

Paper ID V9I2-1183 · Pages 152-157 · Vlsi

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The floating-point multiplier is designed to provide high precision and low power for scientific simulations, engineering computations, and financial modeling applications. This paper explains a single precision floating point multiplier architecture using a Vedic multiplier. It takes two single precision floating point numbers as input and produces a single precision hovering point number as output. The proposed architecture uses a pipelined approach to increase the speed of the multiplier and to reduce the power and delay. The pipeline architecture allows multiple operations to be performed simultaneously, resulting in a faster multiplication operation. The proposed architecture generates product mantissa by use of a Vedic multiplier with a carry-save adder using a Multiplexer to reduce the power of the multiplier. The proposed architecture is compared with array multiplier-based single precision floating point multiplier and performance measures such as power and delay. The architecture will be performed in Xilinx Vivado 2016.4 software by selecting the ZED board.

Keywords: Single Precision Floating Point, Pipeline, Vedic Multiplier, Carry Save Adder, Array Multiplier

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25 An Insight into the Sri Lankan economic crises

Paper ID V9I2-1180 · Pages 158-177 · Economics

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Due to years of economic mismanagement, poor administration, and bad policy decisions, Sri Lanka ispresently going through one of its most crucial periods in history. Outside forces including the COVID-19epidemic and Russia's invasion of Ukraine have also exacerbated the nation's issues, leading to its worst-evercrisis in 2022. Now, Sri Lanka is dealing with a number of issues, such as food insecurity, jeopardisedlivelihoods, and growing safety concerns. Everyone from all walks of life have been affected by the devastationcaused by this catastrophe, but the poorest and most defenceless groups have been impacted the hardest. SriLanka routinely experiences natural disasters brought on by climate change, which exacerbates the alreadyprecarious position. These problems have broad repercussions, especially for weaker households andcommunities that suffer disproportionately from the current crisis. To solve these issues, immediate actionmust be made to guarantee enough food supply, stabilise markets, and assist impacted people.

Keywords: Recession, Bubble, Trade Deficit, Currency Crises, Foreign And Domestic Debt, Fiscal Deficit, Credit Booms, and Busts, Shocks, Underscores, Devaluation, Bail Outs, Effects Of Consolidation, Foreign Support, Global Imbalances, Sovereign Policies Failing, Unfledged.

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26 Study on financial literacy and its effects on investment decisions using the Likert scale

Paper ID V9I2-1179 · Pages 178-188 · Financial Literacy

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Many people seek to educate themselves financially with the goal of saving money and taking advantage of financial products such as easy access to credit, profits gained in favorable circumstances, planning for retirement, and the ease of organizing property or land purchases, among other things. This goal is usually not met or only partly met due to a lack of financial literacy. As a result, we decided to conduct a study into how financially literate the Indian people are and whether financial literacy has anything to do with a person's financial decisions. The purpose of the study was to determine how financial education, financial behavior, financial attitude, and financial awareness affect investment decisions among the residents of Mumbai, India. This study was carried out through sampling, and structured questionnaires were used to acquire primary information.

Keywords: Financial Literacy, Financial Awareness, Investment Decisions, Inflation, Interest Rates, Stock Market, Banks, Credit Decisions Reserve Bank of India, GDP, Mutual Funds, Fixed Deposits, Chi-Square, Hypothesis, Likert Scale

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27 Image classification of human action recognition using transfer learning in PyTorch

Paper ID V9I2-1142 · Pages 189-196 · Computer Science

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Over the years, deep learning models have been applied to human action recognition (HAR). due to the enormous amount of labeled data needed to train deep learning models, there has been a significant delay in the absolute development of these models. Data collection in sectors like HAR is challenging, and human labeling is expensive and time-consuming. The current approaches mainly rely on manual data gathering and accurate data labeling, which is carried out by human administration. This frequently leads to a slow and prone to human bias labeling data collection method. To solve these issues, we offered a novel approach to the current data collection techniques [1]. It is generally used that (CNN) is among machine learning models. Since Yann Lecun created this context in 1988, image identification has greatly improved. Transfer learning in image classification has simplified the process of training new models from the beginning and has reduced the number of data points that need to be processed, it was used in this project to classify human actions.

Keywords: Transfer learning, CNN, Model Pre-trained, Precision, Recall, PyTorch, Pandas, NumPy, Seaborn, Matplotlib, Scipy, ResNet18, Confusion Matrix

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28 A method to detect diseased plant leaves using image processing in MATLAB

Paper ID V9I2-1184 · Pages 197-203 · Image Processing

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In the present World scenario, agricultural farming plays a crucial role as most of people depend on it. But in the current scenario, farmers are finding it hard as the plant leaves are being affected by various diseases in the yield. Tracking plant health and finding parasites for the good crop is essential to lessen disease spread and facilitate effective management practices. In order to bring down this problem and to increase the productivity of the crop, we have put forward a technique for detecting diseased leaves rather than examining them manually. Manual monitoring of leaf disease do not give satisfactory result as naked eye observation is an old method that consumes much time for disease recognition and also needs expertise, hence it is non-effective. In view of this, we introduced a modern technique to find out diseases related to leaves. To overcome the limitations of traditional eye observations, we used a digital image processing technique for fast and accurate disease detection of plant leaves. In our proposed system there exists a software solution for the automatic detection of plant leaf diseases using MATLAB software. The proposed approaches involve image pre-processing and feature extraction. The research work carried out has the potential to be used as an effective tool for the early detection and diagnosis of plant leaf diseases, which aids farmers to take preventive

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measures to reduce crop loss due to diseases infecting the crop and aids in enhancing economic growth.

Keywords: Feature Extraction, Image - Processing, Gradients of Image, Laplacian Transform, Diseased Leaf-Diagnosis.

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29 Wave Energy Convertor Technology

Paper ID V9I2-1176 · Pages 204-209 · Mechanical Engineering

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Ocean contains energy in the form of waves and tidal currents. Both can be used to produce electricity. Differential heating of the earth results in pressure variations in the atmosphere, which causes winds to be generated. Winds transfer some of their energy to the water when they pass over the surface of open bodies of water, resulting in the production of waves. The quantity of energy transferred and the magnitude of the ensuing wave are determined by the following factors: a) wind speed, b) wind speed over time, and c) wind distance. Wave energy conversion devices must generate a system of responding forces in which two or more bodies move relative to each other while at least one body interacts with the waves in order to extract this energy. A system like this can be designed to work with a variety of waves. Energy is extracted directly from surface waves or pressure variations below the surface via wave power devices. Generators store the energy taken from the waves. Offshore and onshore systems can both turn wave energy into electricity.

Keywords: Wave Energy Converter, Marine Renewable Energy, Designs

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30 Phytochemical studies in blue-green and green algae

Paper ID V9I2-1185 · Pages 210-216 · Botany

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A Systematic study of plant crude drugs is embraced through the consideration of both primary and secondary metabolites which are derived from the process of metabolism. The primary metabolites such as carbohydrates, proteins, and lipids are used as food for human beings whereas the secondary metabolites such as phenols, alkaloids, flavonoids, lectins, steroids, and saponins are used for therapeutic purposes. The chemical composition of algae varies to some extent based on the growth conditions namely temperature, light, PH, and availability of nutrients. In the present investigation the presence of qualitative and quantitative phytochemicals namely Carbohydrates, proteins, Phenols, and flavonoids were carried out in Blue green alga Microchaete tenera and Green Algae Nitella tenuissima and Sphaeroplea annulina. The estimated carbohydrate rich in Nitella tenuissima (504mg/100gm) as compared to Sphaeroplea annulina (413mg/100gm) and Microchaete tenera, (301gm/100gm). Protein rich in Nitella tenuissima (624gm/100gm) as compared to Microchaete tenera (496mg/100gm).and Sphaeroplea annulina (350mg/100gm) and Phenol rich in Nitella

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tenuissima (252mg/100gm) as compared to Microchaete tenera, (204mg/100gm).and Sphaeroplea annulina (186mg/100gm).

Keywords: Phytochemistry, Primary Metabolites, Secondary Metabolites, Microchaete Tenera, Nitella Tenuissima, Sphaeroplea Annulina

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31 Performance evaluation of Kubernetes cluster federation using Kubefed

Paper ID V9I2-1192 · Pages 217-223 · Computer Science

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We have entered the multi-cloud and hybrid age. The inevitable trend in cloud computing is application-oriented multi-cloud and multi-cluster architecture. Today's cloud applications must abide by a wide range of laws and rules. It is doubtful that a single cluster can follow all the rules. The scope of compliance for each cluster is decreased by the multiple cluster technique. We can move workloads between Kubernetes suppliers to benefit from new features and costs. This paper aims to describe an integration between multiple clusters running on the same cloud and evaluate their performance based on the Kubernetes Cluster Federation system. Some experimental evaluations were carried out with this goal in mind (Cloud Evaluation Experiment Methodology – CEEM) to monitor system resource behavior and availability, including network, disk, CPU, and memory. The test environment consists of a manually deployed Kubernetes cluster that was created. Azure Kubernetes Service (AKS) is the Cloud service provider considered. The Cluster Federation was performed using the Kubernetes Cluster Federation (KubeFed).

Keywords: Cluster, Container, Federation, Kubefed, Kubernetes, Virtualization.

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32 An interesting case of sebaceous horn: A rare case report

Paper ID V9I2-1220 · Pages 224-226 · Surgical

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Sebaceous horn is an erupted cornified dermal nodular lesion that constituted of hyperkeratotic material. It is an unusual cutaneous lesion that is also termed as cornu cutaneum. These are found in areas like scalp, face, neck, and peripheral limbs exposed to solar radiation. Mostly these lesions are benign but underlying pre-malignant or malignant components are also encountered. We present an interesting and a rare case of sebaceous horn in 66-year male who presented to our out-patient department with an animal horn like cutaneous lesion for last 2 years. A 2-2.5 cm, brownish coloured, vertical cone shaped like horny projection was noted on the dorsal aspect of his left forearm. Because of having malignant potential, it is better to excise widely the horny lesion with a rim of 1 cm normal skin. Patient was operated as a day care procedure where wide local excision was performed taking 1cm rim of normal skin margin around the nodular lesion and sent for

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histopathological reporting. Histopathology report shown the lesion to have core of inspissated squamous epithelial debris material with peripheral rim of dead keratin or hyperkeratosis with adjacent normal skin. No malignant cells were found.

Keywords: Sebaceous Horn, Cutaneous Horn, Acathotic Squamous Cell, Hyperkeratosis, Solar Radiation

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33 Legislation of Artificial Intelligence

Paper ID V9I2-1209 · Pages 227-238 · Computer Science And Artificial Intelligence

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Alan Turing, “founder of computer science” , introduced artificial intelligence in his paper - “Computing Machinery and Intelligence” - in 1950. Artificial intelligence (AI), the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings . This piece explores the emerging technologies of artificial intelligence and the regulations and legislations to control its impact in a beneficial way. AI was an evolved solution to support processes and aid humans in their daily lives. While it has many benefits to society such as better medical technology, it also has many ethical downsides. UNESCO, EU, UK and the FDA have come up with specific proposals for regulating the use of AI to maximise the benefits and minimise its drawbacks - the question remains, is it enough? What other solutions can be employed and is legislation of AI technology truly necessary or will it restrict innovation? This paper discusses the effect of AI on society and if regulations made by national and international authorities will become significant for its rapidly growing future.

Keywords: UNESCO, EU, UK, Ethics, Application, Unemployment, Automation, Capitalism, Digital Divide, Market Manipulation, Algorithmic Bias, Discrimination, Human Rights, Human Autonomy, Transparency, Privacy, Security, Dilemmas, Policies, Guidelines

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34 Pedelec-power assist bicycle

Paper ID V9I2-1223 · Pages 239-244 · Electrical Engineering

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In India, like developing countries, is highly dependent on a suitable, flexible, and economical or budget transport system. In India, with this technological upgrade, the number of people using two wheelers is gradually increasing, in 2016, the maximum use of two wheelers in India was 31%, but now it is around 55% and more. The gradual increase in this consumption is now suffering from the cost of fuel and the lack of power, which is limited and cannot be generated. The enormous use of these vehicles leads to environmental impacts as well as carbon emissions. So, in this article, we try to offer a solution to the above problems through our project, which is the "PEDELEC-Power Assist Bike". In this project, we design a bicycle that is a traditional electric booster (EPB) using a proportional booster strategy. The ratio is usually set to 1:1, meaning the motor

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will provide the same amount of assistance as the amount of human torque. The main goal of this project is to design a motor and generator set with dual charge and discharge batteries with suitable controllers that will provide sustainable energy and also a smaller battery capacity will help us travel longer distances.

Keywords: EPB, Pedelec, Battery, Bicycle

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35 AI-based solar fed single phase induction motor drive

Paper ID V9I2-1222 · Pages 245-251 · Electrical Engineering

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These days, induction motors will be employed in more applications, particularly in industries where items will be manufactured using induction motors. This project's primary objective is to use an effective controller and converter to feed solar energy to an induction motor. To get the solar panel's maximum power point (MPPT), we used fuzzy logic based on SEPIC converters in this project. This solar energy is given to the induction motor with the help of the voltage source inverter. By taking the motor speed as feedback we can vary the voltage out of the SEPIC converter with the help of the Arduino Uno. Due to this solar energy will be utilised in an efficient manner.

Keywords: SEPIC, MPPT, PWM, VSI, SPWM

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36 Acid-base titration using plant extracts as natural pH indicators

Paper ID V9I2-1216 · Pages 252-256 · Biotechnology

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The analytical potential of the plant extracts is very promising as seen in its application in acid-base titration. Three plant extracts from Red Hibiscus flower powder (shoe flower) Turmeric powder, Henna Leaves powder were used as an indicator in strong acid-strong base titrations. A sharp and clear colour change was observed from Light Pink to Light Green for Red Hibiscus flower extract. These three extracts were in good agreement with the titre values obtained using phenolphthalein indicator. These flower extracts can be extracted using have a very simple, inexpensive, environmentally friendly procedure and excellent performance with sharp colour changes at the end points of the titration, which can replace the standard indicators being used in conventional laboratories with natural flower indicators.

Keywords: Natural Indicators, Titration, Synthetic Indicators, Plant Extract, Acid-Base Titration, pH Range

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37 IoT Based Smart Solar Inverter for Solar Power Generation

Paper ID V9I2-1181 · Pages 257-260 · Renewable Energy System

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The integration of Internet of Things (IoT) technology in solar power systems has led to the development of smart solar inverters that can efficiently generate and manage solar power. In this paper, we present an IoT-based smart solar inverter for solar power generation. The proposed system consists of a solar panel, a smart inverter, and a battery bank. The smart inverter is equipped with sensors and communication modules that allow it to monitor the solar panel's output and communicate with the battery bank. The system's performance is controlled by an IoT platform that uses algorithms to optimize energy generation and storage. The proposed system is designed to improve energy efficiency, reduce energy costs, and increase the reliability of solar power systems. The experimental results demonstrate that the proposed system can efficiently generate and manage solar power, making it a promising solution for renewable energy generation.

Keywords: Inverter, Solar Panel, IoT, Battery.

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38 Aesthetic enhancement of discolored non-vital teeth – A conservative approach

Paper ID V9I2-1226 · Pages 261-267 · Conservative Dentistry And Endodontics

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Anterior teeth are an integral part of facial aesthetics as they are involved in complex social and cultural interactions and have a high social impact. Discoloration of non-vital teeth is intrinsic in nature and can be of various aetiologies. A conservative treatment modality for managing such cases is through a non-vital bleaching technique. Many methods to bleach non-vital teeth have been suggested. The most recommended procedure is the walking bleach technique. This technique is known to be simple, safer, and more agreeable to both patients as well as dentists. The case reports in the present article aim to demonstrate the successful aesthetic rehabilitation of discolored non-vital maxillary anterior teeth using the walking bleach technique.

Keywords: Aesthetics, Non-Vital Bleaching, Conservative Technique, Walking Bleach Technique

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39 A study of human wildlife conflict and co existence in Jaipur Rajasthan, India.

Paper ID V9I2-1230 · Pages 268-271 · Environment Science Wildlife

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An observational study was carried out for understanding human wildlife conflict, its impact on nature and society and How human can co exist with wild species.

Keywords: Conflict, Co Existence, Mitigation, Leopard

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40 MO-Auth: A Novel approach for authentication in modern applications

Paper ID V9I2-1229 · Pages 272-284 · Web Technology

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Technology has brought massive evolution in the application development process. The trend of online business has enhanced interest in migrating organizations towards modern technologies. Service providers, vendors, and clients are worried about security when valuable credentials of the organizations are placed online over the web. Therefore, security protocols and cryptographic techniques are used to prevent vulnerability. Several authentication techniques have been used to secure information, this article describes some of them. The concepts from three famous techniques were adopted to practice and propose a novel authentication method MO-Auth. Experimental work was conducted by implementing two web-based applications on which MO-Auth was tested. To validate results ISO/IEC 9126 quality characteristics were evaluated for each authentication method including MO-Auth. By considering ISO/IEC 9126 quality frameworks, we have found MO-Auth as easy to use, reliable, efficient, less cost, easy to maintain and much secure authentication method. Moreover, we have also conducted a survey-based on available features in modern applications, which indicates that usage of traditional authentication techniques is not decreased but still being used with the collaboration of modern technologies, while methods like OAuth and Biometrics are newer but their usage will be increased in future.

Keywords: Authentication, Web Security, Web Technology, Information Security

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41 Modern data warehouse & how is it accelerating digital transformation

Paper ID V9I2-1224 · Pages 285-299 · Data Warehousing

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Modern data warehousing is the practice of storing, organizing, and analyzing large volumes of data generated by modern data sources such as cloud-based applications, social media platforms, mobile devices, and the Internet of Things (IoT). This approach to data management has gained increasing importance in recent years as organizations seek to gain insights from their data to drive business value and improve decision-making.

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Modern data warehousing solutions offer a range of advanced features, including scalability, cloud-based architecture, real-time data processing, data integration, and data visualization. These features enable organizations to store and analyze large volumes of structured, semi-structured, and unstructured data from a wide range of sources, providing a single source of truth for decision-making. Overall, modern data warehousing has become an essential component of data-driven decision-making for organizations across a wide range of industries. By leveraging modern data warehousing solutions, organizations can gain valuable insights from their data, improve their competitive position, and drive business success. In this paper, we review modern data warehousing's key concept, technology, and the difference between traditional data warehousing and modern data warehousing.

Keywords: Business Intelligence (BI), Data Warehousing (DW), Data Lake, Modern Data Warehouse, Data Warehouse

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42 Ayurveda-an Indian perspective

Paper ID V9I2-1217 · Pages 300-312 · Business

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The oldest medical system, Ayurveda, is now well-known and well-liked around the world. In addition to being a curative medical system, Ayurveda embraced the management approach, which aims to promote and avoid illness. Ayurveda has a substantial advantage over modern medicine, and it has become tremendous business potential for the growth of India's economy. The demand for herbal food items, nutritious food supplements, and immunity boosters has increased significantly throughout the world as people's awareness of the importance of good health and robust immune systems has expanded. Consumers are focused more on implementing various strategies to preserve long-term health as health and wellness is given more attention due to the shift in healthcare from curative medicine to proactive and preventative treatment. The global market for herbal medications is expanding as a result of the rising desire for all-natural alternatives. Ayurveda is now widely practiced across the world, with a market for its products worth Rs. 515.5 billion in India.

Keywords: Complete Life Science, Ahara (Diet), Asana (Position), Ayurveda (Knowledge Of Longevity), Naturopathy, Homeopathy, Yoga, Allopath, Ethno Medicine, Indian Economy, Raw Materials, Organic, Health Care, Post Covid, Quality Control, Uniformity, Clinical, Private Sector

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43 Removal of turbidity and total dissolved solids by using natural and artificial coagulants

Paper ID V9I2-1282 · Pages 313-325 · Civil Engineering

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Turbidity is the measure of the relative clarity of a liquid. It is an optical characteristic of water and is a measurement of the amount of light that is scattered by material in the water when a light is shined through the water sample. The higher the intensity of scattered light, the higher the turbidity. Turbidity in the water creates both aesthetic and health issues. Surface water treatment plants remove particles because they can cause objectionable appearances, tastes, and odours and can interfere with disinfection. A wide range of natural coagulants, such as moringa seeds, banana peel, jatropha curcas, cassava peel starch, watermelon, pawpaw, beans, nirmali seeds, and okra have been studied previously. Natural coagulants in powder forms are usually added directly to wastewater. The most commonly used inorganic chemical coagulants in water treatment. Aluminium sulfate Al2(SO4)3 is the most commonly used chemical for coagulation in wastewater treatment. Additional commonly used coagulants include sodium aluminate $NaAlO_2$, ferric sulphate Fe2(SO4)3, and ferric chloride FeCl3. Wastewater can be destructive for the public because it contains a variety of organic and inorganic substances, biological substances, toxic inorganic compounds, and the presence of toxic materials. The coagulant chemicals and their associated products are resourceful but these may change the characteristics of water. The wastewater can be harmful for local uses, so we are going to treat this wastewater by removing turbidity and total dissolved solids by using natural & artificial coagulants. In this process, the wastewater will be treated for other uses like in construction for mixing with cement or curing and other works.

Keywords: Turbidity, TDS, Coagulant, Eco Friendly, Filtration

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44 Gul-e-Surkh (Rosa Damascene)- Queen of Flowers A Literary Review

Paper ID V9I2-1238 · Pages 326-331 · Medical Science

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Gul-e-Surkh(Rose) is known as the Queen of flowers because it stands for wealth, love, and purity. Gul-e-Surkh belong to members of the Rosaceae family. Hydrosol and essential oils are extracted from it and utilised as medicine. It is a medicinal plant with a Murakkabul Quwa temperament that is commonly cultivated throughout India. For therapeutic purpose, dried petals are utilised. It has several cosmetic benefits like it acts as natural moisturizer, has soothing effect, tones uneven skin and boosts collagen production as it is rich in vitamin c. In addition to this it is used as a Mullayin (Laxative), Muqawwi-e-Badan (General tonic), Mufarreh (Exhilarant), etc... Ibn Baitar has mentioned about the advantages of Arq-e-Gulaab (Rose water) on brain. This review article addresses the therapeutic applications and medical effectiveness of Gul-e-Surkh.

Keywords: Gul-e-surkh, Rose, Rosacea, Murakkabul Quwa, Hydrosol

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45 The Impact of social media marketing on Small Businesses

Paper ID V9I2-1284 · Pages 332-335 · Entrepreneurship

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Social media has become an integral part of modern marketing strategies, especially for small businesses. The following abstract examines the impact of social media marketing on small businesses. The study finds that social media provides small businesses with various opportunities to reach a wider audience and engage with their target customer group in real time. By creating a social media presence, small businesses are able to surge brand awareness, customer loyalty, and sales. However, social media marketing also presents various challenges such as keeping pace with constantly evolving social media platforms, ways to present content, managing customer feedback, and measuring the return on investment (ROI) of social media marketing campaigns. Overall, the study concludes that social media marketing has a positive impact on small businesses and can provide a competitive advantage in today's digital landscape. Small businesses that are able to leverage social media marketing effectively can enhance their brand image, build customer relationships, and increase profitability.

Keywords: Small Businesses, Small Enterprises, SMEs, Medium Enterprises, Social Media, Social Media Marketing, Online Marketing

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46 Project Progress Monitoring Service Using Geospatial Server

Paper ID V9I2-1236 · Pages 336-343 · Remote Sensing

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The success of a project depends on efficient project monitoring. projects span across long duration and need that the same tasks be performed again and again over a number of brief segments to complete the job. Monitoring their development so becomes difficult. This is a matter of concern meanwhile Monitoring the project's development regularly can help ensure that resources are used and distributed effectively. The current methods of monitoring are either time-consuming, expensive, or necessitate a lot of human efforts. The study's goal is to examine the potential of using ArcGIS Pro to gather and visualize data for improved progress monitoring of linear projects. It also aims to make it possible for users - both operators and clients - to check the status of their projects online through dashboards and use as an operational tool for running their organization efficiently.

Keywords: Project Progress Monitoring, Geospatial, ArcGIS Pro, PostgreSQL, ArcGIS Enterprise, Web Server, Dashboard.

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47 Therapeutic potential of Azadirachta indica (Neem) in skin disorders: A literary Review

Paper ID V9I2-1239 · Pages 344-347 · Medical Science

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Neem (Azadirachta indica) is a medicinal plant also known as Margosa. It is a member of the Meliaceae family and it possess many benefits in curing skin ailments. It also has an antioxidant effect hence it enhances immunity and promotes health. It has been widely used in Unani practice. Neem is being used as a medicine all around the world especially in India in prevention and management of many diseases. It is considered as safe medicinal plant and exhibits very less adverse effects. It has wide variety of properties that can be used in treating many diseases. It possesses antibacterial and anti-inflammatory properties which help in soothing the skin. It contains nutrients like amino acids and polysaccharides. It is also known for its Daf-e- taffun, Daf-e-Ufoonat and Muhallil awram properties hence making it more beneficial to use in skin diseases.

Keywords: Neem, Skin Diseases, Muhallil Awram, Anti-Bacterial

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48 Experimental study of the effect of primary nozzle position on the performance of jet ejector

Paper ID V9I2-1231 · Pages 348-367 · Mechanical Engineering

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In this work the effect of primary nozzle positions relative to the mixing section in an ejector on the performance of the air ejector are investigated. Air jet ejector and four types of nozzles are designed and constructed. Two nozzles are circular and the other two are squared. Then an apparatus is designed and constructed to achieve the ejector performance (enhancing the entrainment ratio). Due to the rapid decreasing of air flow rate coming from air reservoir of the compressor to the ejector, a data acquisition system is used to record different measurements such as pressure, temperature and velocity at different locations on the test apparatus. The convergent nozzle can be moved to study the effect of nozzle positions on the ejector performance. Tests are carried out at three different positions for each nozzle, the distance between it was equal. At the 1st position, the exit section of the primary nozzle is located just at the inlet plane of the mixing section of the ejector. At the 2nd position, the exit section of the primary nozzle is shifted 8.5 mm before the

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inlet plane of the mixing section. For the 3rd position, the exit section of the primary nozzle is shifted 17 mm before the inlet plane of the mixing section. From detailed analysis of experimental results, it is found that: The performance of the ejector is affected by the nozzle position, and the optimum position which achieves a maximum entrainment ratio for all nozzles is at position (1), (nearest position to mixing section of the ejector. But the entrainment ratio increases when the nozzle is placed at position (2) in case of the small squared nozzle. Position (3) is the worst position for all nozzle and achieves minimum entrainment ratio. Regardless the position of the primary nozzle, there is a strong relation between the nozzle exit area and the performance of the ejector, i.e. decreasing of primary nozzle exit area increases ejector entrainment ratio.

Keywords: Ejector, Air Working Fluid, Nozzle Positions, Circular Nozzle, Entrainment Ratio.

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49 A survey to understand the doctors' perception of laboratory diagnostics

Paper ID V9I2-1289 · Pages 368-377 · Diagnostics

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Clinical laboratories play a crucial role in the healthcare system by assisting doctors in diagnosing and treating patients. In India, there are numerous diagnostic facilities available to doctors and patients, but chain laboratory facilities have demonstrated some advantages over traditional laboratory facilities. To gain insight into the perspective of doctors regarding chain diagnostic facilities, we conducted a survey that focused on Thyrocare Laboratories Ltd, one of the oldest and most established chains in India. A total of 1038 doctors from various specialties and regions were surveyed through both online and offline channels, and the results indicated that almost all doctors (98%) considered laboratory testing to be important for diagnosis. Among these doctors, 83% were aware of Thyrocare Laboratories. Additionally, 9 out of 10 doctors aware of Thyrocare Laboratories stated that they would recommend Thyrocare to patients for pathology evaluations (91%), that the reports from Thyrocare were accurate and reliable (92%), and that their patients had a satisfactory experience with Thyrocare (93%). These survey findings indicate that Thyrocare has a strong market position and is highly regarded for delivering high-quality reliable test results.

Keywords: Pathology, Chain Laboratory, Diagnosis, Testing, Accuracy, Reliability

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50 Clinical audit on diagnosis and management of hypertension in a primary medical care setting in Sri Lanka

Paper ID V9I2-1241 · Pages 378-385 · Health

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Hypertension has been a leading cause of premature deaths worldwide and it is more prominent in low and middle-income countries and rising. Proper diagnosis and management of hypertension can reduce complications and disability. A new protocol to manage hypertension in primary medical care centers was introduced by American Heart Association to reduce the cost of treatment while managing the patients properly. It was introduced in PMCs of Kalutara district in Sri Lanka with the help of the Resolve to save lives organization. This clinical audit was conducted in 3 PMCs with 163 participants to identify lapses before scaling up the project to more PMCs. It was found that the mean time taken from the first BP measurement to the second measurement in the 140-159/90-99mmHg group (Group A) was 1.07 weeks (SD=2.04 weeks) while the protocol requires measuring the second value between 2 to 4 weeks. Out of basic investigations, FBS and Serum Cholesterol levels were done in 56.4% and 38% of the participants respectively while ECG and UFRs completed in the study were very less. Further, 55.4% (n=87) of the participants aged 80 years or less were managed with 2 drugs according to the protocol while only 20% (n=1) of the patients aged more than 80 years were managed with 1 drug according to the protocol. Only 22 (45.8%) out of 48 participants who required stepping up of drug management was correctly done. Furthermore, the variation between the 3 hospitals in results was, considerable. The requirement of training for healthcare workers in PMCs to standardise the management was emphasized while the resource allocation for laboratory services for investigations was highlighted after the study.

Keywords: Clinical Audit, Hypertension, Diagnosis And Management, Primary Medical Care Centres, Kalutara, Sri Lanka

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51 A perspective of the residents on the annoyances and problems of street trees in Visakhapatnam city, Andhra Pradesh, India.

Paper ID V9I2-1295 · Pages 386-392 · Urban Design

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Street trees are an integral component of urban resident’s life. The environmental, economic, and social benefits they provide to residential and commercial areas are crucial for the maintenance of healthy communities. Urban areas cannot function properly without street trees. Despite trees' many benefits, it is

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important to remember that if they are not properly planned, planted, and maintained, they can become a source of trouble, additional expense, and even danger. Since most of this study is conducted in the Visakhapatnam metropolitan city, it is unclear if these results may be generalized to other city communities or nations. A one-way ANOVA test is performed to see any significant difference in the overall opinion of each annoying factor given by the local neighborhood residents from different study areas in Visakhapatnam city. Generally, people like street trees and their surroundings, and six community respondents rated annoyances as more serious. According to questionnaire surveys, hidden traffic signs and preventing sunlight from entering homes are two of the greatest annoyances of street trees. Before proceeding to the next and final phase of the investigation, they will undoubtedly generate some preliminary ideas for potential responses. All of these must be completed so that suitable street trees can be incorporated into the final design in the future.

Keywords: Street Trees, Annoyance, Perceptions, Annoyance, and Neighborhoods

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52 Clusteroids App

Paper ID V9I2-1277 · Pages 393-397 · Computer Science And Engineering

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Clusteroids is a comprehensive Flutter-based mobile application designed to cater to the needs of various users in educational institutions. The app comprises five modules, namely Admin, Student, Teacher, Management, and Alumni, each equipped with unique features and functionalities. The admin module allows authorized personnel to manage the app's content, user accounts, and various settings. The student module provides access to student-specific information such as schedules, grades, attendance records, and other academic-related details. The Teacher module enables teachers to access their class schedules, manage attendance records, grade assignments, and communicate with students and parents. The Management module allows institutional management employees to monitor student and staff records, track finances, manage human resources, and perform other administrative functions. The Alumni module enables former students to stay connected with the institution, access their academic records, and participate in alumni events.

Keywords: Clusteroids, Admin, Student, Teacher, Management, Alumni

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53 Assessment of Steering Knuckle by DFMAE Method

Paper ID V9I2-1297 · Pages 398-402 · Mechanical Design

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Steering knuckle is the main part of the steering and suspension system various link of suspension and steering

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are linked to it and depend on the steering knuckle. Therefore, it requires high precision, quality and durability. The strength component is always in demand for race car application. Earlier if the knuckle fails the design team used to modify the design part by trial and error method. Now we are using DFMAE method followed by experimental analysis. The two step process has been used for the same. First part involves modeling and analysis of steering knuckle by CATIA V5 R21 and ANSYS 16.0. The second step is experimental stress analysis by using strain gauge. Strain gauge is component which senses the stress acting on component and the give the result in form of stress vs time. In automotive suspension, the knuckle is the main part through the suspension wishbone link are connected and the suspension spring are on the wishbone. The hub and braking systems are mounted on the steering knuckle to complete the wheel assembly. The wheel and tyre assembly attach to the hub or spindle of the knuckle where the tire/wheel rotates while being held in a stable plane of motion by the knuckle/suspension assembly. Failure region were identified from the static and dynamic analysis and results compared to experimental analysis by using strain gauge. And this analysis carried out under all operating conditions.

Keywords: DFMAE Method, Stress Analysis, Strain Gauge

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54 MARZ-E-WARM-E-AANA/ WARM-E-RAHIM (PELVIC INFLAMMATORY DISEASE): A REVIEW

Paper ID V9I2-1237 · Pages 403-406 · College

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Pelvic inflammatory disease (PID) is the commonest disease of the reproductive-aged, sexually active women, that leads to serious complications if left untreated. It is a polymicrobial infection caused by chlamydia, trichomonas but can occur from other sources of bacteria. PID is diagnosed in more than one million women each year in the United States. In classical Unani texts, Waram-Al-Rahim manifests specific as well as associated symptoms due to anatomical proximity of the uterus, and other causes like derangement in Akhlat, asbab-i-badiya o sabiqa etc causing the Rahim to easily affected & disturbed Af'al-i- Tabiyya which if it is not treated adequately, it becomes warm al rahim sulab which is difficult to treat. Various compound formulations are mentioned in Unani classical text for Waram-Al-Rahim possessing the properties of Musaffi-E-Khoon, muhallil warm, dafia'h ta'ffun, dafia'h huma, muqawiyat, Qabizat, Radi, etc. This review article gives a detailed description of waram al-rahim including its causes, pathogenesis, sign and symptoms, and principle of treatment in the Unani system of medicine.

Keywords: Waram al-Rahim, Pelvic Inflammatory Disease, Unani System, Akhlat

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55 Kafe Darya (Cuttlefish bone): “Therapeutic potential in Unani system of medicine: A Comprehensive review”

Paper ID V9I2-1240 · Pages 407-410 · Medical Science

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Kafe Darya (cuttlefish bone) is one of the most important animal-origin drugs used in the Unani system of medicine for various disorders. It is used as an ingredient in various unani formulations. Over 200 animal-origin drugs are used in the Unani system for treating various ailments, and ‘kafe dariya’ is one of the most important among them. There are five to six types of ‘kafe dariya,’ each with different properties and uses. ‘Kafe dariya’ is used externally to treat skin inflammation, anti-inflammatory (muhalil), pigmentation, and other skin diseases such as ringworms and scabies. It is also used internally for treating headaches, insomnia, gonorrhoea, and renal calculi (mufttihwamukhrijehasa). ‘Kafe dariya’ is rich in calcium and other bioinorganic elements such as magnesium, strontium, iron, and trace amounts of copper and zinc, making it an excellent source of these nutrients.

Keywords: Kafe Darya, Cuttlefish Bone, Muhalil, Mufttihwamukhrijehasa.

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56 Accurate ball detection in field hockey videos using YOLOV8 algorithm

Paper ID V9I2-1305 · Pages 411-418 · Deep Learning

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Accurately detecting the ball in field hockey videos is crucial for various applications such as player tracking, tactical analysis, and performance evaluation. This paper presents a detailed method for accurate ball detection using the YOLOv8 algorithm, which is renowned for its accuracy and real-time object detection capabilities. The proposed approach involves training the YOLOv8 model on a specialized dataset comprising annotated field hockey videos to enable precise ball identification and localization. Experimental evaluation using comprehensive metrics, including precision, recall, and mean Average Precision (mAP) demonstrates the effectiveness of the proposed method, showcasing high levels of accuracy and efficiency. By automating the ball detection process, this approach significantly reduces manual effort in field hockey video analysis and opens opportunities for advanced analytics, providing deeper insights into player behavior, strategic patterns, and overall game dynamics. The proposed method empowers researchers, coaches, and analysts to gain a comprehensive understanding of field hockey matches and make data-driven decisions to enhance team performance.

Keywords: Ball detection, Object Detection, YOLOv8, Field Hockey, Video Analysis

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57 DXPs Digital Experience Platforms transforming fintech applications: Revolutionizing Customer Engagement and Financial Services

Paper ID V9I2-1309 · Pages 419-423 · Digital Experience Planforms

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This research paper explores the application of Digital Experience Platforms (DXPs) in the field of financial technology (fintech) and their impact on customer engagement and the delivery of financial services. DXPs have emerged as transformative solutions that enable fintech companies to provide personalized and seamless digital experiences to their customers. This paper examines the specific use cases of DXPs in fintech, the benefits they offer to both customers and financial institutions, and the challenges involved in their implementation. Through a comprehensive analysis of literature and case studies, this research aims to shed light on the significance of DXPs in shaping the future of fintech. Digital experience platforms has capabilities to transform fintech applications. In this paper we will evaluate & compare two DXP solutions i.e. liferay DXP & Backbase DXPs along with that we will look into Digital transformation Strategy, Digitization of fintech applications, also common limitation where we should avoid DXPs.

Keywords: DXP, Digital Experience Platforms, Liferay, Backbase, Fintech integration, Banking and Finance Portal Solutions

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58 Marz akyas khusytur rahem (polycystic ovarian disease): A review

Paper ID V9I2-1288 · Pages 424-426 · Medical Science

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Polycystic ovarian disease (PCOD) is a common and pervasive endocrine disorder with multiple phenotypes and varied presentations. It starts to appear at 15-25 years of age and it may take years for its clinical presentation to appear. The incidence of PCOD is 4-22%. The symptoms of PCOD include irregular periods, hirsutism, acne, obesity, etc. PCOD is observed as a lifestyle disorder associated with an increased risk of reproductive problems including infertility, recurrent miscarriage, endometrial cancer, late menopause, and metabolic aberrations including insulin resistance, type 2 diabetes mellitus, dyslipidemia, and cardiovascular diseases. Unani concept: The Unani word for PCOD is Marz Akyas Khusytur Rehm. Unani physicians have classified this disease under the following headings: obesity, phlegmatic diseases, amenorrhea, and liver disorders. Unani concept of PCOD is primarily based on the dominance of khilte Brigham (Phlegm). It has been given in Unani classical books that sue mizaj barid (Abnormal cold temperament) of the liver may lead to abnormal production

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of balgham (phlegm). Ibne Sena and majusi mentioned the causes of ehtebaas e tams(amenorrhea) are khilte Brigham, and sue mizaj barid of reham and same mufarrit (Obesity). Again khilte Brigham is one of the causes of obesity. Due to obesity narrowing of the lumen of blood vessels develops and reduces blood circulation and sue mizaj barid causes an increase in the viscosity of humors. Unani physicians have recommended regular induction of menstruation as one of the treatment modalities applied for women who have developed masculine features suggestive of PCOD. They have given a line of management based on correction of temperament, menstrual regulation by use of emmenagogue drugs, and the local application of herbs to reduce the severity of hair growth, acne, and hyperpigmentation due to PCOD.

Keywords: PCOD, Marz Akyas Khusytur Rahem, Phlegmatic diseases, Unani Medicine

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59 Operational energy demand and consumption in buildings & construction sector in India

Paper ID V9I2-1322 · Pages 427-440 · Civil & Environmental Engineering

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The Buildings & Construction sector is responsible for more than one-third of the Energy Consumption in India, of which building operational energy is a large contributor. The Bureau of Energy Efficiency (BEE) in India, predicts that 40% of the total building stock that will exist at the end of two decades from now, is yet to be built, which means India will witness an unprecedented construction boom leading to further increase in energy demand in this sector. To contain Greenhouse Gas (GHG) emissions and reduce the carbon footprint of buildings, both new and existing, sustainable design strategies and technologies must be applied. This paper highlights the performance and status of countries worldwide to fight climate change, where India stands - on its path to achieving net zero targets. It also reviews key aspects of building sustainability in existing and new buildings, and energy saving potential of old and new construction. Energy Conservation Measures are simulated using computer models for Building Performance Assessment - a case study of a LEED India Gold-rated building in Chennai is presented.

Keywords: Operational Energy, Carbon Emissions, Greenhouse Gases, New Construction, Retrofits, Energy Simulation, Building Energy Performance, ECMs, Climate Change, And Net Zero

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60 Women Empowerment and Microfinance in India

Paper ID V9I2-1317 · Pages 441-454 · Economics

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Microfinance is a crucial practise that provides modest, no-collateral loans or other forms of financial support to persons who are underserved, mostly to help such regions flourish without having access to credit. Savings, credits, insurance, remittances, loans, housing, and money are all part of microfinance services. These services give women access to a range of activities that are quite effective in reducing their patriarchal control over those assets. Thus, it promotes gender equality as well as economic advancement. By boosting their bravery

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and self-esteem and enabling the creation of various networks with other women in their community, microfinance is an important tool for empowering women. Additionally, it enhances their capacity to make decisions for their home.

Keywords: Women Empowerment, Empirical Study, Micro Finance, Shg (Self Finance Group), Self-Finance World Bank, Rural Banking, Micro Lending, Collaborations, Sustainability, Financial Service, Poverty Elimination Programme, Bank Linkage Programme, Micro Entrepreneurs, Reallocation of Powers.

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61 Acid reflux in juveniles

Paper ID V9I2-1325 · Pages 455-462 · Participants Observation

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GER(Gastroesophageal Reflux) is a condition rarely found in juveniles. The present study investigates the effect of diet on teenagers(N=69) getting GER and whether GER is present among juveniles. The primary reason for occasional acid reflux in teenagers is spicy food and irregular timings between meals. Most juveniles have GER and not GERD (Gastroesophageal Reflux). The major contributor to the reason for acid reflux in juveniles is diet.

Keywords: GER, Spicy Food, Irregular Timings, Acid Reflux, Juveniles.

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62 Usr-E-Tams(Dysmenorrhoea)-A systematic review of Unani and Conventional Medicine

Paper ID V9I2-1320 · Pages 463-468 · Medical Science

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Usre tams (dysmenorrhoea) is a prevalent condition that most frequently affects females in their teen years. Despite the fact that it can be seen at any stage of life, it has a detrimental impact on women's quality of life. It is the main reason why women who are of reproductive age miss work and school. After marriage, this condition usually returns to normal, although in some patients it may still exists. The term "Usre Tams" is used in Unani literature to refer to all characteristics of dysmenorrhoea, including aetiology, pathophysiology, clinical presentation, diagnosis, and therapy. Numerous single and compound medications that have been shown to be considerably more effective for dysmenorrhoea and are unlikely to have any side effects, as seen in conventional medicine, are stated in the Unani system of medicine. Here is a review.

Keywords: Usre tams, Dysmenorrhoea, Unani concept, herbal medicines, Quality of life

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63 HR practices in Jindal Steel and power ltd.

Paper ID V9I2-1329 · Pages 469-477 · Commerce

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This study investigates the link between organizational employee retention and human resource practices. The study, which tries to uncover the important aspects that contribute to employee retention, is based on a survey of the available literature on human resource practices and employee retention. The study also explores the role of different human resource practices in promoting employee retention, including recruitment and selection, training and development, compensation and benefits, and employee engagement. The study concludes that effective human resource practices are essential for employee retention and that organizations should focus on implementing a comprehensive set of practices that address the needs and expectations of employees. The results of this study have significant ramifications for businesses hoping to increase employee retention rates and build a more motivated and engaged staff.

Keywords: HR Practices, Employee Retention, Recruitment, and Selection

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64 Design & Fabrication of Advance Forklift

Paper ID V9I2-1339 · Pages 478-486 · Mechanical

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This abstract provides a concise overview of the research conducted on forklifts to enhance their performance and efficiency. The study focused on exploring improvements to the self-propelled nature of forklifts, aiming to optimize their overall functionality. By analyzing factors such as power sources, lifting mechanisms, maneuverability, and control systems, researchers identified areas for enhancement. The research incorporated advanced methodologies and innovative technologies to propose modifications that improve weight distribution, stability, maneuvering precision, and safety. The results of this research contribute to the evolution of forklifts as fundamental transportation tools, making them more efficient and effective in various industrial settings.

Keywords: Mechanism, Forklifts, and Modification.

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65 Assessment of the seismic vulnerability of san guillermo parish church and san agustin parish church in Pampanga

Paper ID V9I2-1340 · Pages 487-515 · Civil Engineering

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The Pacific Ring of Fire is the location to which where the Philippines is located making it vulnerable to seismic activities. Because of this, heritage churches are in need of seismic assessment, not only for the community to know the structures' safeness when an earthquake occurs but also for the local government to allocate funds for the preservation, and restoration of these structures. This study was intended to assess the vulnerability of San Guillermo Parish Church and San Agustin Parish Church to seismic hazards using rapid visual screening. The researchers chose RVS as a method to be used for the seismic vulnerability assessment of San Agustin Parish Church and San Guillermo Parish Church because it is a straightforward approach that negates the need for intricate numerical analysis while yet being accurate. Churches in Bacolor and Lubao Pampanga that are considered as heritage are selected in this research. In the community survey, there were 226 respondents from of barangay Cabambangan in Bacolor, Pampanga and 345 respondents from barangay San Nicolas 1st in Lubao, Pampanga, ranging between 15 and 65 years old and above. Results revealed that the San Guillermo Parish Church and San Agustin Parish Church both scored 0.6 and lie in damage grade 3 which results in substantial to heavy damage, which means it is needed for a detailed evaluation and retrofitting. In conclusion, despite the churches being old and may suffer substantial to major damages when there's a major earthquake, the findings of this study showed that most people want to ensure that the churches are accurately preserved, since they have been considered as historical heritage and tourist spots in their town.

Keywords: Bacolor, Community Survey, Earthquake, Historic Church, Lubao, Rapid Visual Screening

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66 A Study on Factors Affecting Investment Decision

Paper ID V9I2-1331 · Pages 516-527 · Commerce

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Investment decisions play a crucial role in the success of individuals, businesses, and economies. Understanding the factors that influence these decisions is essential for investors, financial advisors, and policymakers. This article provides a comprehensive review of the key factors affecting investment decisions, drawing from a wide range of academic literature and empirical studies. The article begins with the importance of psychological factors in investment decisions. It examines behavioral biases, including anchoring, loss aversion, and herding behavior, and their impact on investment choices. Additionally, the article explores the

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influence of external factors on investment decisions. It examines macroeconomic factors, including interest rates, inflation, and fiscal policies, and how they shape investment behavior. It also considers regulatory factors, market structure, and technological advancements as important external determinants. The article addresses the impact of investor demographics on investment decisions. It investigates how factors like age, income, education, and financial literacy influence risk preferences, investment goals, and asset allocation choices. By providing a comprehensive review of these factors, this article contributes to a deeper understanding of the complex dynamics underlying investment decisions. It offers valuable insights for investors, financial professionals, and policymakers, enabling them to make informed decisions and design effective strategies in the dynamic world of investing.

Keywords: Investment Decisions, Risk Tolerance, Financial Literacy

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67 Spent coffee grounds as partial replacement of fine aggregates in concrete hollow blocks

Paper ID V9I2-1349 · Pages 528-536 · Civil Engineering

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In the Philippines, general garbage is one of the major issues, and the majority of coffee grounds are thrown away and added to general waste. Therefore, in order to aid the community in lessening its growing waste issue, researchers are studying the use of Spent Coffee Grounds (SCG). The objectives of this study are to design a Non-load bearing Concrete Hollow Block (CHB) with SCG as partial replacement of fine aggregates with the given percentages of 5%, 10%, and 15%, to evaluate the CHB with the SCG in terms of Compressive Strength Test and Water Absorption Test and lastly, to compare the quality and cost of the CHB with SCG to the standard CHB. The study used experimental research to obtain the results needed. The researchers produced CHB with 5%, 10%, and 15% replacement of fine aggregates cured for 7, 14, and 28 days. The study includes Compressive Strength Test and Water Absorption Test that were performed in testing centers. The major findings of the study are: the experimental block with 5% SCG and cured for 28 days was measured to have the highest compressive strength; the experimental block with 15% SCG and cured for 7 days was measured to have the lowest compressive strength; in Water Absorption Test, an increase is seen at the maximum replacement of 15%, and a drop is generally seen between 0% and 5% replacement; it was observed that samples that had been cured for 28 days with 5% replacement had the highest percentage of moisture, while samples that had been cured for 7 days with 15% replacement showed the least amount of water absorption on all samples. Based on the analysis of the findings, the researchers concluded that SCG has the potential as

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partial replacement of fine aggregates in non-load-bearing CHB if only a significant amount of spent coffee grounds is added.

Keywords: Spent Coffee Grounds (SCG), Non-Load Bearing Concrete Hollow Block (CHB), Compressive Strength Test, Water Absorption Test

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68 Recycling of plastic waste as a construction material: An experimental study of low-density polyethylene (LDPE) as partial replacement to coarse aggregates in the concrete mixture

Paper ID V9I2-1341 · Pages 537-546 · Civil Engineering

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This research paper investigated the potential use of low-density polyethylene (LDPE) plastic bags as a partial replacement for coarse aggregates in concrete. This study aimed to reduce waste plastic accumulation in the environment by utilizing it practically and sustainably as a construction material. The compressive, flexural, and split tensile strength tests were conducted on cylindrical and beam concrete specimens with different concentrations of low-density polyethylene coarse aggregates (LDPECA) (10%, 20%, and 30%). The test results show that the compressive strength of concrete decreased with an increasing percentage of LDPECA, indicating that it has a negative impact on the strength of concrete. The split tensile strength also decreased with an increasing percentage of LDPECA, but the flexural strength increased with an increasing percentage of LDPECA. In the study, it was shown that LDPE plastic bags as a partial replacement of coarse aggregate in concrete has promising results, but further investigations and experiments are necessary to fully understand the proper application of LDPECA. Further studies could use lower percentages of LDPECA and use admixtures to account for the loss of compressive strength. It may be possible to reduce the amount of plastic waste that builds up in the environment by adding LDPE plastic waste material to concrete. This may also encourage the use of more environmentally friendly materials for construction.

Keywords: Low-Density Polyethylene (LDPE), Waste Plastic, Low-Density Polyethylene Coarse Aggregates (LDPECA)

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69 Can Trauma Stimulate Growth in an Individual?

Paper ID V9I2-1346 · Pages 547-558 · Psychology

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The purpose of this study was to determine whether emotional trauma can stimulate growth in an individual irrespective of one's age. A survey research design was utilized to carry out this study using the PTGI (post traumatic growth inventory). Findings indicate no relation between age and growth post trauma indicating that emotional maturity can take place at any time irrespective of age and we can say that PTG leads to wellbeing, the degree of well-being though still cannot be inferred.

Keywords: Post Traumatic growth, Social-Emotional development, Positive Psychology, Adolescents, Emotional maturity, General well-being, Post Traumatic Stress, and Erickson's theory of crises development.

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70 Flood mitigation system: Proposed permeable concrete road and drainage on Parian, Mexico Pampanga

Paper ID V9I2-1361 · Pages 559-575 · Transportation Engineering

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When water overflows onto normally dry ground, flooding occurs. Heavy rains, clogged drainage systems, and occasionally failed levees or dams can all result in flooding. This study was conducted to calculate the maximum load-bearing capacity of the permeable concrete used in the road and drainage system and to test the infiltration rate of the permeable concrete. To identify the major issue of water stagnation and to provide a solution, a thorough investigation was conducted in the area, focusing on the Barangay Parian Mexico, Pampanga. In order to support the study and determine the appropriate mixture ratio for permeable concrete, data were gathered and analyzed. Following the data collection, a mixture with a 1:3:0 ratio of cement, aggregates, and water was produced. Using two sizes of coarse aggregates 1 inch and ¾ inch it was cured for seven and fourteen days, respectively. The compressive strength of the porous concrete was measured once the curing process was complete. The results for the 1-inch size gravel after curing for 7 days varied between 996 to 1279 PSI on average. However, the results of its 14 days of compression testing ranged from 900 to 1360 PSI on average. On the 28 days of curing the average strength is between 1111-1505 PSI. Upon trying the use of ¾ inch size of aggregates, the results of its compressive strength under 7 days curing was averaging from 1009 to 1137 PSI. Lastly, the compressive strength of 3/4-size gravel after 7 days of curing was between 1009 to 1137. Due to its increased infiltration capacity of 1312.982 inc/hr, 21.883 inc/sec, or 555.829 mm/sec, 0.556 m/sec, permeable concrete has a greater potential to be used as a solution to minimize flooding difficulties. The permeable concrete road must, however, adhere to the required standards for provincial highways because the planned location is a provincial route. However, permeable concrete has a high likelihood of being used to reduce flooding problems in terms of infiltration. The results from the compressive testing machine did not meet the minimum requirements for a provincial road's maximum load-bearing

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capacity.

Keywords: Brgy. Parian, Mexico, Pampanga, Permeable Concrete, Coarse Aggregate, Flood, Curing

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71 PROJECT RESCUER: Response to Community Underlying Earthquake Risks from the Unheeded Discovery of Lubao Fault through Awareness Assessment and Modification of Existing Evacuation Plan

Paper ID V9I2-1347 · Pages 576-599 · Engineering And Disaster Management

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Modification of evacuation systems is sometimes hindered by restrictions that include the lack of information and publicity regarding the new discovery of an environmental concern such as a fault line. The safety and well-being of residents can become significantly affected as a result of these constraints. The main purpose of this research study is to assess the sense of awareness of the local residents in Brgy. Baruya, Lubao, Pampanga towards the discovery of the Lubao Fault and to propose some modifications in their existing evacuation plan. A survey questionnaire was administered to the 357 residents of Barangay Baruya who were extracted through the use of a simple random technique. The results revealed that the focused population stands to disagree that they know the Lubao Fault and its attributes in terms of the highest magnitude and the underlying risks it can produce. Moreover, a structured interview was conducted with the Lubao Disaster and Risk Reduction Management Office (LDRRMO). The summary of transcribed answers indicated that they have an available general evacuation system and do not hold separate evacuation procedures in an earthquake situation. The community of Baruya was not thus far given the particular earthquake preparations that are purposively intended for the potential strike of the Lubao Fault. The Jose Abad Santos Avenue and the Lubao Bypass Road were set to be the routes of evacuation mobility. Available rescue vehicles and the aforementioned road networks were optimized in three cases. Open safe spaces and danger zones during earthquakes were identified through community evaluation and utilization of the HazardHunterPH tool. The proposed safety signages were provided with specifications. Overall, the areas covered by the modification in this present study are all open for integration into the future earthquake evacuation plan of Lubao, Pampanga.

Keywords: Lubao Fault, Awareness, Modification, Earthquake Evacuation Plan

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72 **An investigation study on pulverized eggshell as a partial replacement of cement for non-load bearing concrete hollow blocks**

Paper ID V9I2-1355 · Pages 600-610 · Civil Engineering

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In order to minimize the problem and develop a useful, practical, and affordable construction material, the researchers discovered the use of waste materials. Because of the scarcity, the researchers are motivated to utilize the solid waste generated by households and companies that use eggs in their production of goods. The researchers propose using Egg Shells to develop an alternative cement for the concrete mixture. The study has three main objectives: (1) to determine the 7-day, 14-day, and 28-day compressive strengths of concrete when pulverized egg shells are used as a partial replacement for cement; (2) to determine the water absorption percentage of the concrete when the pulverized eggshell is used as a partial replacement for cement in concrete; and (3) to perform a cost analysis in the preparation of a concrete mix with pulverized eggshell as compared to the standard concrete mixture. The study involves cost analysis and two tests: compressive strength and water absorption. To achieve the result from the compressive test, the researchers made CHB specimens consisting of nine for each experimental (5%, 10%, and 15% cement partial replacement) setup and nine standard concrete mixtures for each different curing age (7, 14, and 28 days). Based on the analysis of the findings, the researchers conclude that eggshells can be a partial replacement for cement for non-load-bearing concrete hollow blocks. The samples were tested using the Universal Testing Machine (UTM), and the results show that the concrete samples with 10% replacement of PES have higher compressive strength than the standard concrete samples, all of the specimens have passed the ASTM C129 standards in both the compressive strength test and the water absorption test. Also, using pulverized egg shells can reduce the cost of the project. However, only a 10% replacement of eggshell is highly recommended.

Keywords: Waste Materials, Concrete Mixture, Compressive Strength, Water Absorption, Cost Analysis, Pulverized Egg Shell, Universal Testing Machine

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73 Proposed Design of the Existing Dike along Sitio Delta, Consuelo, Macabebe, Pampanga

Paper ID V9I2-1366 · Pages 611-620 · Civil Engineering

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Dikes are structures that prevent overflow to the inland ground and must be built on a continuing basis to protect flood-prone areas. To have a long service life, dikes must be built according to design standards, and failure to do so my result in the structure failing. Failure on some parts of Consuelo Dike motivated the researchers to come up with the study. The present project study aimed to propose a redesign of the dike along Sitio Delta, Consuelo, Macabebe, and Pampanga. Before determining the parameters needed in designing, the researchers identified first the causes of the failure of the dike through the gathered or collected data from the respondents' observations and experiences. Then, researchers assessed the present condition of the existing dike through site analysis and actual observation. The data collection procedure was carried out by obtaining secondary data from the Municipality of Macabebe and the Department of Public Works and Highways (DPWH). This includes the result of soil sample tests, past maximum flood levels, river profiling, geotechnical investigations, and other tests made regarding the dike. The findings of the study helped the residents of Barangay Consuelo deal with the consequences of dike failure. The findings provided useful data to the Local Government Unit of Macabebe, Pampanga, which can be used as a reference and guide to the development of the existing Consuelo Dike design. Researchers may use the findings to identify additional areas of concern and recommend appropriate interventions.

Keywords: Redesign of Dike, Dike with Slope Protection, Slope Protection, GEO 5, Concrete Slope Protection, Revetment, Flood Protecting Structures

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74 Waste Plastic Brick

Paper ID V9I2-1376 · Pages 621-626 · Civil Engineering

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Brick is one of the very common and important construction materials which is used in all masonry work. A

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large land area is used. for acquiring the clay for brick making. The word replacement has become a very common thing worldwide. More land area is being acquired for clay in brick making. This paper outlines the utilization of plastic waste in construction industries. Plastic waste use in the construction industries is increasing rapidly and the world's recycling rate of either plastic waste specifically is still low. The production of bricks is non-eco-friendly and a waste-generating process because of the greenhouse gases released. Utilizing plastic as construction materials, especially in the production of bricks is one of the promising steps towards sustainable resources and waste management. Plastic waste can substitute either partially or completely one or more of the materials in brick production. To make this reduced replacement of waste materials can be done. This was then molded into bricks with a mold of size 190x90x90 mm. Further research based on recent research and a better understanding of the utilization of plastic waste in bricks is needed to produce high-durability and quality bricks as well as to achieve the optimum balance in all aspects, especially in terms of cost and functionality.

Keywords: Plastic, Sand, Brick

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75 Competency-based assessment of the civil engineering program under the new learning modalities: A multi-perspective triangulation analysis

Paper ID V9I2-1368 · Pages 627-653 · Civil Engineering Education

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In a rapidly advancing world, civil engineering students should be able to adapt to the dynamic competencies valued in the industry to succeed in their future careers. This study aims to fill a research gap by analyzing the competencies acquired through the new learning modalities. Its significance extends to multiple sectors, providing growth for students, improving teaching methods for faculty, informing hiring decisions for construction companies, enhancing educational systems for universities, assisting curriculum programmers, and offering insights for future researchers. The study examined the competencies of civil engineering students under new learning modalities, exploring self-assessments, professors' perspectives, and construction companies' viewpoints, it also uncovered the intricate relationships between these perspectives. Additionally, this study compared the acquired competencies of students with the valued competencies in the industry. This study utilized a mixed-method research design, specifically triangulation. The study surveyed eighty (80) students, sixteen (16) faculty members, and ten (10) construction companies through a purposive sampling technique. Validated questionnaires and structured interviews were used as research instruments. Furthermore, the quantitative and qualitative data were analyzed accurately and systematically. The findings of

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the study revealed that civil engineering students possess a strong foundation in ethical responsibilities, teamwork, and leadership, as mentioned by the participants, who believe that ethical responsibilities have been instilled in students since childhood. However, the students also demonstrate a need for further development in engineering mechanics, design, and managing risk and uncertainty. From the perspective of professors and companies, students need to have knowledge and mastery of design, risk, and uncertainty which are valued competencies in the industry. In conclusion, the study emphasizes the significance of aligning academic and industry expectations for preparing successful civil engineering students. While competencies from new learning methods are generally effective, technical improvements are required. Varying perspectives highlight the need for an enhanced curriculum to meet industry demands, with strong support for the formal integration of hybrid learning.

Keywords: Hybrid Learning, T-Test, Thematic Analysis, Skills

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76 Plastic waste bottles and bamboo powder sawdust as a partial replacement for fine aggregates in the production of concrete hollow blocks

Paper ID V9I2-1364 · Pages 654-662 · Civil Engineering

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Polyethylene Terephthalate (PET) and Bamboo Sawdust take an exceptionally long time to decompose. These wastes can cause detrimental pollutants that can have an impact on the environment in the remote future. To help decrease pollution, these substances can be used as an alternative material in producing concrete hollow blocks which are a key item used in construction. The purpose of this study was to test the performance of PET particles and bamboo sawdust as an example partial replacement for the use of fine aggregates in the manufacture of concrete hollow blocks. PET plastics were cut into small pieces at least 1 mm in diameter and bamboo powder sawdust was collected. Both the compressive strength and weight classification percentage were determined by testing the hollow blocks. Four set-ups with differing percentages of PET particles (0, 5%, 10%, 15%) with BSD (1%) were prepared to partially replace the volume of sand. The block dimension was 4inx 20cm x 40cm and a 1:4 cement-to-sand ratio having a 0.5 to 0.55 water-cement ratio was used. Forty-eight(48) hollow blocks were produced and underwent curing times of 7, 14, and 28 days and were examinedafterward. According to the findings of the study, it was seen that as the alternative materials in the blocksdecrease, their respective compressive strength increases. There were no consistent results observed with thedensity. The CHB with 5% PET and 1% bamboo sawdust cured for 7 days was discovered to be the desirableproportion in producing CHB as it obtained the highest average compressive strength and greatly reached therequired average tensile strength of the Department of Public Works and Highways (DPWH) and ASTM C129

Keywords: Polyethylene Terephtalate (PET), Bamboo Sawdust (BSD)

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77 Investigating the effect of waste cooking oil and waste engine oil on aged bitumen

Paper ID V9I2-1356 · Pages 663-669 · Civil Engeineering

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In order to determine if used engine oil and used cooking oil can be used to recycle old asphalt, the impact of these substances on the improvement of the material's physical properties was investigated. Aged asphalt binders with 5 hours of aging were obtained using an indoor test simulation with the Thin Film Oven Test (TFOT) at 163°C. Then, three different dosages of waste engine oil and waste cooking oil were added to investigate performance improvements. The findings clearly demonstrated that waste engine oil and waste cooking oil could effectively soften and recover the workability of aged asphalt. Furthermore, if the content of waste engine oil or waste cooking oil was appropriate, the performance of aged asphalts could be improved to that of virgin asphalt. Overall, the good applicability would provide waste oil with a much broader range of services in the asphalt pavement recycling field. It also provided a method for creating a new rejuvenating agent using the two waste oils to improve the properties of bitumen. Furthermore, it realized waste recycling and environmental protection.

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Keywords: Bitumen Binder, Aged Binder, Rejuvenating, Properties Improvement, Waste Engine Oil, Waste Cooking Oil

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Evaluation of the Performance and Skills of the Civil Engineering Students Batch 2023 and Civil Engineering Instructors of Don Honorio Ventura State University with the Transition of Different Learning Setups

Paper ID V9I2-1357 · Pages 670-680 · Curricular Studies In Engineering Education

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The government decided to temporarily close all educational institutions due to the COVID-19 pandemic for the protection of students, teachers, and the school community. This paper intended to evaluate the performance and skills of the Civil Engineering Students Batch 2023 of Don Honorio Ventura State University and Civil Engineering Instructors who experienced the transition of education to different learning setups. A descriptive-quantitative study design has been utilized wherein analyzing data, statistical treatments such as weighted mean, standard deviation, and analysis of variance, were used in order to identify the particular problems. Survey questionnaires were used in this study where 251 4th-year Civil Engineering Students and 14 Civil Engineering Instructors served as the respondents. The results revealed that the traditional learning setup was found to be the most effective platform for the students and instructors that suits their chosen program. While the students' performance and skills during online learning varied in terms of adaptability and convenience. Blended Learning is the balance method between traditional and digital learning approaches. On the other hand, the level of agreement of the instructors in the Civil Engineering Department regarding the different educational setups also varied. They generally prevailed that face-to-face classes were the most efficient way to impart proficiency on certain topics and enhance students' skills with regard to the civil engineering program. The results will serve as the foundation for developing an academic intervention program for Civil Engineering Students in order to adapt to the academic transition Keywords: Transition, Different Learning Setups, Performance, and Skills

Keywords: Transition, Different Learning Setups, Performance, and Skills

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79 Statistical Analysis of Per Capita GDP and Infant Mortality Rate – An Indian Perspective

Paper ID V9I2-1350 · Pages 681-695 · Economics And Statistics

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This study examines the most basic question: To what degree does economic expansion, as shown by GDP growth, result in a decline in mortality? Over the last few decades, many public health programs in developing nations like India have placed a strong emphasis on the health outcomes of children. Macroeconomic growth is frequently regarded as a crucial policy tool for enhancing health in India with its low per capita GDP. The assumption is that economic growth will raise average incomes for people, especially for the poor, and that this will improve life quality by allowing for better-quality consumption of goods and access to health care services as well as better housing and sanitation. However, does this also result in a decrease in infant mortality?

Keywords: Standard Deviation, central tendency, cumulative frequency distribution, GDP (Gross Domestic Product), National Income, IMR (Infant mortality rate), Cerebral palsy, Developmental delay, neonatal deaths, saliva, immunity, vaccination, consumer confidence, economic recession, maternal, economic crisis, life expectancy

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80 Project aslag: an assessment of material application between photoluminescent line marking and traditional line marking at Santa Rita and Porac mega dike in Pampanga

Paper ID V9I2-1352 · Pages 696-709 · Civil Engineering

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Car accidents happen around the world, it does no matter if it is a third-world or first-world country. Stopping accidents from happening is impossible, but prevention and lessening the chances of road accidents are the next ideal step. Hence, this study in Sta. Rita and Porac Mega dike was conducted to assess the effectiveness of photoluminescent line markings to lessen the accidents in the area due to this area having virtually few streetlights, having an elevated road that is several feet above, and being a common route for cars, trucks, and motorcycles. Raosoft was used to determine the minimum recommended population. With a total population size of 20,000, a margin of error of 10%, and a 90% confidence level, the minimum recommended sample size is 68. The major instrument that has been used in this study was a survey questionnaire. The questionnaire was validated by a research expert, a statistician, and an engineer. This study proved the effectiveness of photoluminescent line marking and is also helpful in reducing accidents along the Sta. Rita and Porac Mega dike. Likewise, it can be used as a guide for the motorist. It can also be easily seen because it is glow-in-the-

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dark paint. Further, findings about the durability of the photoluminescent line marking indicated that it is reliable in terms of quality and longevity.

Keywords: Photoluminescent, Glow in the Dark, Line Markings, Sta. Rita and Porac Mega Dike

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81 A Suitability Analysis of Vertical Garden System: Cases in the City of San Fernando, Pampanga, Philippines

Paper ID V9I2-1360 · Pages 710-732 · Environmental Engineering

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Urban heat island refers to the phenomenon in which urbanized areas experience significantly higher temperatures compared to surrounding rural or natural landscapes. Vertical gardens and other greenery methods have emerged as potential solutions to mitigate the effects of urban heat islands and create sustainable cities that foster a livable and secure quality of life. This research study explores the suitability of implementing vertical garden systems in existing structures in the City of San Fernando, Pampanga, Philippines. The main objective is to create a checklist that can be used as a tool to assess and determine the appropriate design for the selected structures. Two vertical garden designs were provided: The Attached System and Free-Standing System, and these designed systems were modified depending on each case. A structured survey was also conducted among the participants, who are a residential structure owner, a commercial structure owner, and an institutional structure owner, to know the possible reason for adapting the system. The findings of this study provide valuable insights into the feasibility of vertical garden systems, which can significantly influence the extent to which these systems are embraced and integrated into existing structures.

Keywords: Urban Heat Island, UHI Intervention System, Attached Vertical Garden, Free-Standing Vertical Garden

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82 Two stage planetary gear system configured as auxiliary power drive for robots

Paper ID V9I2-1337 · Pages 733-736 · Mechatronics

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This research paper address a novel auxiliary power drive design problem with planetary gear system. The proposed configuration can produce dynamic obstacle avoidance and robot safe evacuation during power

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failure. The proposed system uses two stage planetary gear systems. First stage acts as a speed reduction phase connected to constant power source such as engine. Since dynamic controls and system output are applied to the second stage, system dependency at first stage is reduced. In this proposed configuration, the second stage can be used to alter the output of first stage by increasing or decreasing speed. Further in case of first stage power failure for any reason, the second stage alone can produce the necessary output to evacuate the robot safely. This article covers the basic mechanical design.

Keywords: Planetary Gear System, Variable Speed And Direction, Dynamic Obstacle Avoidance, Robot Safe Evacuation During Power Failure

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83 Rice Husk Ash (RHA) and Sugarcane Bagasse Ash (SCBA) as partial replacement of cement for concrete hollow block (CHB)

Paper ID V9I2-1359 · Pages 737-754 · Civil Engineering

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Much research had established the use of major crops as an additive and/or replacement in the construction. This study utilized and determined the optimum amount of rice husk ash (RHA) and sugarcane bagasse ash (SCBA) as partial replacements of cement in a 1:4 ratio of cement to the sand mixture in developing concrete hollow blocks (CHB) by testing its compressive strength, water absorption, and fineness of cement mixture. Five set-ups were identified in this paper in terms of percentage replacement on the amount (0%, 2.5%, 5%, 7.5%, and 10%). The result showed an increase in fineness residue from 0%-10% cement mixture. The compressive strength test results showed an increase in compressive strength of 0-10%, with a significant drop at 7.5%. On the other hand, the water absorption test displayed an increase in moisture content from 0% to 10% replacement. 86.67% have met the DPWH and ASTM strength requirements, and all cement mixtures are below 10%, not exceeding the minimum requirement. Further analyses of the results were discussed as well. In conclusion, 5% each of RHA and SCBA was used as the optimum replacement to cement in terms of compressive strength for non-load-bearing CHBs.

Keywords: Fineness, Compressive Strength, Water Absorption

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Simulation Study: Effectiveness of Unified Vehicular Volume Reduction Program (UVVRP) at Dolores Junction, San Fernando, Pampanga using PTV Vissim Software

Paper ID V9I2-1353 · Pages 755-769 · Transportation Engineering

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Traffic Congestion is considered one of the main problems that people around the world have to deal with. This problem can not only affect a certain individual life, but it can also lead to an economic crisis when not treated. Many have tried a lot of methods or strategies to redSuce traffic congestion, some are effective, and some are not. In the city of Manila, a number coding scheme known as Unified Volume Vehicular Reduction Program (UVVRP), is a very popular used method to alleviate traffic congestion in the area. Dolores Intersection at San Fernando, Pampanga is an intersection between MacArthur Highway and Olongapo-Gapan Road, and it is known to be the most used intersection in Pampanga. Therefore, at a certain hour, traffic congestion exists in the locale. This study about a simulation study of the effectiveness of UVVRP using PTV Vissim, helped the researchers as it identified the impact of having a volume reduction scheme on a certain time at Dolores Intersection. In this study, the researchers gathered data that are important to make the simulation work and produce precise results about the influence of the volume reduction at the research locale. The volume reduction that was simulated on the software PTV Vissim significantly impacted the traffic flow and reduced the traffic congestion happening during the peak hour at Dolores Intersection. Unfortunately, the researchers failed to gather data about the list of plate numbers of the vehicles passing through the intersection from the Land Transportation Office and decided to just used percentage reduction as a basis for not allowing a certain digit on the road. The researchers recommend further improving the study by collecting all the necessary data needed.

Keywords: Traffic Flow, Level of Service, Peak Hour Factor, Geometric Layout

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85 A proposed pico-hydropower technology applying the modified principle of heron’s siphon for renewable electrical energy generation and storage for street lamps in Camias, Porac, Pampanga

Paper ID V9I2-1333 · Pages 770-793 · Civil Engineering

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Energy affects the economy, environment, and human progress. Due to modernity, energy powers most basic human needs and activities, including illumination, ventilation, movement, and security. Rapid urbanization and energy poverty have led to the need for more, better, and greener resources. This study used pico-hydropower to solve Barangay Camias, Porac, Pampanga's streetlamp system's electrical problem. Data was collected and analyzed to support the study and the power outage in Barangay Camias, Porac, Pampanga. Pico-hydropower concept and design follow. Geometric dimensioning was explained. After designing, prototype construction began. The study's siphon system used a five-gallon water jug and 20mm uPVC pipes. Hydraulic turbines were made using discarded cooling fan alternators. The generator employed a 12-volt DC motor, 3V 1000mAh rechargeable battery, and a circuit breaker. Researchers employed 1.5-V LED lights. The prototype testing yielded 2.6 V. 90mA generates 0.234W. The theoretical power (0.3190W), minimum efficient power (0.1914W), and maximum efficient power (0.2552W) were compared to the generated power. Reverse engineering calculated a 30W LED streetlight design similitude. The pico-hydropower plant prototype generated a 0.234W or 2.6V which is within the average efficient power, proving the design's efficiency and viability.

Keywords: Pico-Hydropower, Heron’s Siphon, Prototype, Efficiency, Viability

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86 Maximum Power Point Tracking (MPPT) for a PV System Using a P&O Algorithm for Rapid and Accurate Response to Ambient Conditions

Paper ID V9I2-1338 · Pages 794-808 · Power Engineeering

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In order to maximize the efficiency of PV systems, this research proposes a new method of MPPT known as enhanced adaptive perturb and observe (EA-P&O). The objective is to address issues with conventional P&O, such as its propensity for steady-state oscillation, it's unreliable tracking, and its inability to spot the global peak when it is obscured in some way. To address the first two problems, we introduce a unique oscillation

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detection mechanism and a dynamic boundary condition. A sophisticated forecasting system is currently being created to monitor the worldwide peak on a continuous basis. The fact that open-circuit voltage can be determined without the inclusion of external sensors is still another perk. To ensure the concept is feasible, we run simulations in Matlab under rigorous dynamic irradiance and partial shading circumstances. Adding more experimental proof with the help of a buck-boost converter and a dSpace DS1104 DSP processor. The algorithm is compared to the artificial bee colony, modified incremental conduction, cuckoo search, and hybrid ant colony Optimization-P&O, all of which are well-known MPPT approaches. The results show that the suggested method succeeds where others fail when trying to follow the global peak in varying degrees of partial shade. Additionally, the tracking speed has been multiplied by three, while maintaining 99% accuracy.

Keywords: MPPT, PV, Solar, Tracking MPP, Optimization

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87 A study to examine the efficacy of nurse-driven client-centered behavioral therapy intervention on sexuality among the middle adulthood

Paper ID V9I2-1390 · Pages 809-814 · Ph.d Nursing

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Background: Middle adulthood is the time of life between ages 40 and 65. During this time, people's sexuality changes. The physical transformations body undergoes as age have a major influence on your sexuality. Declining hormone levels and changes in neurological and circulatory functioning may lead to sexual problems. Therefore, the goal of the current study is to assess the efficacy of nurse-driven client-centered behavioral therapy intervention on sexuality in middle adulthood. Methods: The research approach adopted for the study was a true experimental design. The selection of subject was done by the Purposive Sampling technique method and the sample consists of 60 middle adults residing in Achankuttapatty, Salem, Tamil Nadu. The data was collected by administering Multidimensional Sexuality Questionnaire (MSCQ) questionnaires The validity and reliability of the tool were obtained. The collected data were analyzed by using descriptive and inferential statistics in terms of Frequency, Percentage distribution and chi-square test, and independent ‘t-test. Results: the majority of the sample group were 40-50 old, were male, had primary education, work profile of temporary employment, and earn below 10000 per month. there was a statistical significance was noted in the independent t-test between pre and post-test mean scores. it was found that the efficacy of nurse-driven client-centered behavioral therapy intervention on sexuality among middle adulthood was statistically significant.

Keywords: Behavioral Therapy, Sexuality, Middle Adulthood. Behavioral Therapy, Sexuality, Middle Adulthood. Behavioral Therapy, Sexuality, Middle Adulthood. Behavioral Therapy, Sexuality, Middle Adulthood. Behavioral Therapy, Sexuality, Middle Adulthood

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88 Nitrate Contamination in the Groundwater in and around Jangaon District, Telangana, India.

Paper ID V9I2-1393 · Pages 815-823 · Ground Water

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Groundwater forms the major source of drinking water in the rural areas of most of the developing nations of the world. Presence of high concentration of nitrate in groundwater is a major problem in many countries as it causes health related problems. The present study is carried out to understand the distribution of nitrate concentration in groundwater in parts of Jangaon District, Telangana, India. Though groundwater is the major drinking water source, deterioration in its quality is going unchecked. In rural areas, the nitrate contamination is uncontrolled and much attention has not been drawn towards this anthropogenic pollution. In the study area 30 groundwater samples have been collected and analyzed for the major ions such as Electrical Conductivity (EC), pH, Total Dissolved Solids (TDS), Na+, K+, Ca2+, Mg2+, Cl-, HCO3-, CO3-, SO4-, NO3-and F-. The study revealed that 39% of the samples were found to be unsuitable for drinking purposes due to excess nitrate (>45 mg/l) content in the groundwater. High Nitrate concentration may cause blue baby syndrome or methemoglobinemia.

Keywords: Groundwater, Nitrate, Contamination, Jangaon District.

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89 Finite Element Approach for Beam-Column Joint Analysis In Reinforced Concrete Structure

Paper ID V9I2-1391 · Pages 824-833 · Civil Engineering

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There are Different Methods have been used In Order to assess the behavior of Beams Columns with respect to Shear, Torsion, Buckling, etc. of the Reinforced Concrete Structure. Generally, the behaviors of these structure components are analyzed experimentally. With the Advanced progress in numerical tools like Finite Element Method, it becomes easy to model and analyze the complex and detailed behavior of structural members like Beam, Column and Joints. In this present paper Models of Beam-Column Joints subjected to axial and uniformly distributed loading are used. The Nonlinear Finite Element Analysis is used to analyze Beam-Column Joint thoroughly with the FEM software ANSYS.

Keywords: Shear, Torsion, Buckling, Beam-Column Joint, Nonlinear Finite Element Analysis, ANSYS

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90 Assessment of Effectiveness of Solid Waste Management in the Municipality of Santo Tomas, Pampanga

Paper ID V9I2-1388 · Pages 834-844 · Quantitative Research

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This study focuses on the effectiveness of the implementation of the plan for the management of solid waste. The study will be focused on the municipality of Santo Tomas, Pampanga. Residents of seven barangays have almost the same level of knowledge about implementing RA 9003. Looking into the strategies and solutions, the sampling methods approach was used as a framework. The data was gathered using sampling methods, and researchers developed questions for survey questionnaires. The study administered the assessment to the total of ninety-one (91) respondents as stakeholders and ten percent (10%) of the total population with the total of four thousand two hundred eighty-five (4,285). This research found that stakeholders who participated in the survey had a high level of solid waste management. The result data demonstrate that from the group of residents, barangay Santo Rosario obtained the overall highest mean for the three parts of the assessment. The municipality Local Government Unit has given a program which each barangay plastic sachets residuals will be donating their collected waste in Holcim Philippines a cement manufacturer and re-produces it. Based on the results a guideline in identifying safe, effective and sustainable Waste Management Practices in Santo Tomas, Pampanga was developed. This guideline will not only help the barangays to implement the practices implementing RA 9003, also it will help the community to be aware of their roles and the strategies in Solid Waste Management.

Keywords: Solid Waste Management, Implementation, Strategies in SWM, Awareness in SWM, Ecological Solid Waste Management, Santo Tomas

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91 A study to explore the impact of homophobia on the lives of lgbtqia+ individuals

Paper ID V9I2-1380 · Pages 845-861 · Psychology

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This dissertation explores the impact of homophobia on LGBTQIA+ individuals, focusing on lesbian, gay, bisexual, transgender, queer, intersex, asexual, and other gender identities. Homophobia, defined as an irrational fear or hatred of LGBTQIA+ individuals, can manifest in various forms such as discrimination, bullying, harassment, violence, and denial of basic human rights. A sample of 100 college students was used to measure

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homophobia levels by the Italian version of the Homophobia Scale Questionnaire and ANOVA was conducted to examine if there were significant differences in the mean of the response variable across different treatment groups. The results indicated that there is a substantial difference in the mean of TREATMENT across the various treatment groups, with a significant F ratio. The rejection of the null hypothesis suggests that the impact of homophobia on the lives of LGBTQIA+ individuals varies significantly depending on the level of homophobia experienced. This study contributes to the existing literature by shedding light on the detrimental effects of homophobia on the lives of LGBTQIA+ individuals. The findings emphasize the urgent need for creating awareness, fostering inclusivity, and implementing measures to combat homophobia in order to ensure the well-being and equal rights of LGBTQIA+ individuals in society.

Keywords: LGBTQIA+,Homophobia, Internalized Homophobia, Individuals

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92 Penetration testing in several universities in saudi arabia using black box method

Paper ID V9I2-1404 · Pages 862-875 · Information Technology

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We live in a very modern era where the presence of the Internet has become one of the necessities of life and to facilitate daily and hard work. The presence of the Internet is important, but not all people use it in the right way. There are those who prevent the appropriation or theft of information be secure through the presence of some gaps in the web, so researcher will do some examinations on some university website in Saudi Arabia and analysis of the types of vulnerabilities using the OWASP ZAP bracket and use Black box method,It’s testing the functionality without peering into internal structures. The result from this research is to measure the security of university websites in KSA.

Keywords: Website, OWASP ZAP, Black Box, Secure, Vulnerabilities

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93 Risk and hazard mitigation of cement-related activities in the city of san fernando, pampanga: An investigation of construction workers' awareness and propose safety measure

Paper ID V9I2-1403 · Pages 876-888 · Construction Engineering

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The construction industry in the Philippines is a major contributor to the economy of the nation, playing a significant role in the development of its infrastructure. One of the most significant and commonly used construction materials is cement, and workers are exposed to it. The use of cement on construction sites in the Philippines can pose several risks. These risks can include air quality issues, skin irritation, and inflammation of the airways due to the release of hazardous chemicals and dust. One of the major problems on construction sites in the Philippines is workers' safety. Construction sites often have dangerous conditions and other hazards. This study assessed the awareness of construction workers on the risks and hazards associated with cement-related activities. A sample size calculator was used in the selection of 193 respondents from different new construction companies in the City of San Fernando, Pampanga. A survey questionnaire containing close-ended questions was validated by a psychometrician, safety engineer, and statistician and used to determine the awareness of construction workers. Furthermore, based on the results of the survey, the majority of the construction workers were aware of cement-related risks and hazards. And 53.89% of the respondents experienced headaches, 49.74% experienced eye irritation, 32.64% also experienced chest tightness, 65.28% of the respondents experienced skin itching and irritation, and 27.98% had a cough and phlegm. Lastly, 32.12% experienced difficulty in breathing. From here, the results suggest that construction workers must be made more aware of the health effects of cement exposure and utilization of personal protective equipment must be strictly imposed in the construction sites.

Keywords: City Of San Fernando, Pampanga, Risk and Hazard Mitigation, Cement Related, Awareness, Safety Measure.

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94 The Environmental Impact of Tourism on Mountain States in India

Paper ID V9I2-1406 · Pages 889-894 · Environment

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The Mountainous regions of India are suffering a great environmental impact due to increased tourism. This paper plans to explore the different Mountain States as case studies, showing the impact that tourism has had on the environment of these particular states, which include Himachal Pradesh, Jammu and Kashmir, Uttarakhand, and Sikkim.

Keywords: Tourism in Indian States, Impact of Tourism, Mountain States In India, Tourism Policy, Environmental Damage Due to Tourism

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95 Unhealthy Eating patterns amongst Indian Adolescent Girls

Paper ID V9I2-1405 · Pages 895-901 · Psychology

Jia Gunthey, Student, Independent Researcher

There can be multiple factors that may influence unhealthy eating patterns amongst adolescents, such as peer influence or social media. In this study conducted on girls aged 14-17 (n=60) from one school, it was found through a self-reported questionnaire that the majority of the participants show symptoms of unhealthy eating patterns, and while the hypothesized factors are not so influential, the paper suggests the correlations between different eating behaviors that may possibly lead to future developments of disordered eating. Additionally, the paper looks at the limitations that come along when a study like this is conducted, and how other factors such as culture can play a large role in the study of behavior. Due to the self-reported nature of the data, the results are what the adolescents perceive to be influential factors. The difference between eating disorders and unhealthy eating patterns is discussed, because the two are not the same, and have to be differentiated in order to understand this paper.

Keywords: Eating Habits, Unhealthy Eating Habits, Indian Adolescent Girls, Peer Influence, Social Media, Negative Food Attitudes In Adolescents.

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96 Eating Behavior among College Going Girls and its Impact on Nutritional Status

Paper ID V9I2-1414 · Pages 902-906 · Nutrition And Dietetics

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College students are at risk of making poor dietary choices that can cause significant health problems. The present study was done to assess the eating behavior among college-going girls, calculate their BMI & assessment their nutritional status, assess the relationship between stress and eating behavior, and conduct awareness on healthy eating patterns and healthy diet options. The study comprises 200 subjects in the age group of 18-25 years in Thrissur district. A specially designed questionnaire was formulated to elicit the anthropometric details, dietary pattern analysis, stress, and physical activity of the selected subjects. The questionnaire form was distributed among the samples through an online platform. The data obtained from the survey and the correlation between BMI and Eating Behavior, stress, and eating behavior were analyzed using Microsoft Excel Office. The study showed that most of them had regular meals and prefer healthy foods daily

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thus their nutritional status was normal. But when the relationship between stress and eating behavior was analyzed the majority of the students had the tendency to eat less and had unhealthy food while they are stressed in academics. Hence, an awareness class about the healthy diet was conducted based on the result of the data obtained from the survey method.

Keywords: Eating Behavior, Body Mass Index, College Students, Healthy Foods

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97 A study of sudden discomfort of heart patients by advancing the existing wheelchairs

Paper ID V9I2-1396 · Pages 907-916 · Mechanical

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The field of mobility aids and healthcare is constantly evolving, with new technologies and methodologies being developed to improve the quality of life for individuals with disabilities and medical conditions. This study focuses on the needs of wheelchair users and heart/stroke patients, who face unique challenges and discomforts that require specialized solutions. To address these challenges, this study explores innovative research methodologies to better understand the needs of wheelchair users and heart/stroke patients. This paper is divided into two phases, with the first phase providing a comprehensive review of the proposed solution and its features, including a dual-drive system, hybrid chair and bed design, health monitoring using medical electronics, voice assistant feature, and medical alarming. This phase also includes a deployment plan, use cases, target users, and expected outcomes, pains, and gains of the proposed solution. The second phase of the paper focuses on the research work involved in the development of the proposed solution. This phase includes engineering calculations, design, and CAD modelling of the advanced wheelchair, as well as static structural strength analysis and selection and integration of sensors and other components required for proper functioning. The goal of the review is to ideate as well as develop a solution that can help overcome these challenges and provide rehabilitation for a better quality of life. The review article also presents a clear discussion on the pains and gains addressed by the proposed solution. The primary pains include impairments in basic functions, experiences of disability, the need for caretakers, forgetfulness in medication adherence, and cognitive problems and anger. In contrast, the primary gains offered by the prototype are the ability to alert caretakers of changes in the patient's body condition, dual-mode drive control, reduced need for caretakers, medication adherence alerts, and the prevention of psychological depression. The outcome of the research study is expected to be a fully functional prototype that meets the needs of stroke and heart attack patients, whose success can be quantified through the level of improvement in the quality of life of patients and their caregivers.

Keywords: Heart Patient, Wheelchair, Lora Technology, Dual Drive System

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Dietary pattern and nutritional status of working and non-working women (25-45 years)

Paper ID V9I2-1416 · Pages 917-922 · Nutrition And Dietetics

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The present study was carried out to assess the “Dietary Pattern and Nutritional Status of Working and Non-Working Women”. The study was conducted among hundred samples of women consisting of 50 working and 50 non-working women from the Thrissur district in the age group of 25-45 years. The objectives of the study were to understand the socio-economic status of working and non-working women and to study dietary patterns and nutritional intake of working and non-working women and to assess the nutritional status of working and non-working women and to find out the nutritional knowledge of working and non-working women. The data was collected from the subjects by using a questionnaire in Google form, due to the pandemic situation of Covid-19. The collected information on Socio-personal and economic status, dietary profile, snacking behavior, food consumption pattern, nutrient intake, nutritional status, nutritional knowledge, etc. The nutritional status of working and non-working women was collected by taking anthropometric measurements and biochemical examinations. The information about dietary intake was collected by the 24-hour dietary recall method. Nutrient intake was calculated and compared to RDA. The results were statistically analyzed using normal standard tests. The study revealed that Out of 100 respondents, forty-eight percent of working and sixty percent of non-working women belonged to the age group of 25–35 years and fifty-two percent of working and thirty-four percentage of non-working women belonged to the age group of 35-45 years. Sixty percent of working and seventy percent of non-working women were married whereas about one-third from each group was unmarried. The majority of working and non-working women had nuclear families and forty four percent of working and twenty percent of non-working women had joint family systems respectively. The educational levels revealed that most of the women in both working and non-working were highly educated. On the basis of food habits, the majority of women in both working and non-working were non-vegetarian. The highest percentage of the subjects used to take breakfast, lunch, and dinner regularly. And the majority of both the respondents were used to taking evening snacks than the snacks in the mid-morning. A higher percentage of non-working women were irregular in meals than working women. The majority of working women were used to skip meals in the morning and the non-working women were in the lunchtime. The result of the food frequency consumption pattern includes the major chunk of subjects selected rice as the most preferred cereal for daily intake. The rest of the cereals were consumed weekly and monthly. Both the working and nonworking women used pulses a weekly and monthly basis. The green leafy vegetables were used at least weekly once or monthly in their diets in both working and non-working women. The consumption of fruits and vegetables was more taken on a weekly and monthly basis, some taken as daily. The seasonal fruits were taken in occasionally or seasonally by both working and non-working women. Both respondents were like to have milk, as daily or weekly, and some were taken as monthly and occasionally. Tea was consumed frequently. They were also used to consume curd, butter milk, and paneer on as weekly or monthly basis. Most working and non-working women preferred nonvegetarian diets used weekly or monthly. Sugar is consumed by both working and non-working women daily. Fats and oils were also used by working and non-working women daily. The average daily nutrient intake by working and non-working women reveals that energy, calcium, iron, and vitamin C were significantly lower than the RDA. There was no significant difference in the intake of protein by working but in non-working women, it is significantly lower than the RDA. The intakes of β carotene by both groups were not

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significant to their RDA and also in between them. The mean height, weight, BMI level, and Hemoglobin level of working women and non-working women were not significant to each other. The majority of non-working women had a BMI within the normal range. And the majority of respondents both working and non-working were non -anemic. The majority of working women had good knowledge than the non-working women regarding the selection of food items, nutrient conservation, normal nutrition, therapeutic nutrition, and human nutrition. Data revealed that both working and non-working women follow good nutritional practices regarding pre-processing methods, cutting, cooking, nutritional improvements, and serving.

Keywords: BMI, Nutritional Status, Dietary Pattern, Working And Nonworking Women, Arthrometric Measurements

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99 The use of Long-Lasting Insecticidal Nets (LLINs) to combat malaria and its economic consequences in India

Paper ID V9I2-1401 · Pages 923-947 · Health And Economics

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A potentially fatal illness called malaria is transmitted to people by certain kinds of mosquitoes. Malaria can have severe detrimental effects on citizens in a society, including increased mortality, and adverse consequences on the economy, living standards, and healthcare. One of the most effective ways to avoid malaria is to sleep beneath Long-lasting insecticidal nets (LLIN) because they provide a chemical and physical barrier for mosquitoes. In addition to being prevented from biting someone sleeping beneath an LLIN by the netting, mosquitoes that attempt to do so are additionally killed by the pesticide covering. However, these LLINs are under-supplied in nations like India which accounts for 3% of the global malaria burden, per the WMR 2019. This is an effective solution that is not distributed to everyone and is one that not everyone knows about, which is why it fails to solve the problem. The widespread distribution of LLINs can help eradicate Malaria in India and save countless lives.

Keywords: Malaria, Insects, Mosquitoes, Insecticide, Bed-nets, India, Maharashtra, Insecticidal Nets, Economics, Anopheles Mosquitoes, World Health Organisation, Disease, Mortality, Rural.

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100 SiLab: A Fire Safety Information Laboratory Website on Selected Small-Medium Construction Companies in the City of San Fernando, Pampanga

Paper ID V9I2-1418 · Pages 948-959 · Civil Engineering

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Fire can cause damage and danger to many structures and spaces. Thus, building fires are now viewed as a significant threat to both human life and economic output in the Philippines. A significant portion of the risk factors that trigger fire can't be entirely avoided, yet they can be mitigated. As an effect, fire safety became an essential factor to consider in buildings. However, a growing concern has emerged over implementing effective fire safety measures in terms of lowering the risk of a fire occurring, minimizing the loss and damage it causes to buildings, and ensuring building fire safety. It has been shown that small - medium construction companies rarely conduct a fire risk assessment. They only assess after construction is over or before they issue an occupancy permit, and fire safety is not considered in the future. This study assessed the level of fire safety of the small-medium construction companies of the City of San Fernando, Pampanga using fire safety assessment. The risk-index score provided by the Bureau of Fire Protection Region III and the fire safety scores of the participants were used to calculate their fire safety level. The researchers utilized quantitative research approaches, particularly descriptive-quantitative design. The information required for analysis and interpretation was gathered using survey questionnaires. The results of the study have shown that building characteristics have a significant influence on the fire safety level of participating construction companies. The vast majority of the participating construction companies were identified as having medium fire safety levels, which account for 45 percent of the population. Exit features, fire protection systems, fire alarm systems, electrical wiring, areas of safe refuge, firefighters' accessibility, and training and drills all directly impact the level of safety of companies.

Keywords: Descriptive-Quantitative, Fire Code of the Philippines, Hazard Identification, Occupational Safety Health Standards, Risk-index Score

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101 Revival strategies for Xiaomi India toward a corrected consumer perception in today’s affordable and emerging markets

Paper ID V9I2-1421 · Pages 960-963 · Management

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Xiaomi Corporation is a Chinese manufacturer that designs consumer electronics relating to software, home

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appliances, and household items. It is the second-largest manufacturer of smartphones in the world. With their price penetration strategy, they were able to become the bestselling smartphone sold in India, under the brand name Poco F1. Xiaomi held over 28% of the market share in India's smartphone market in 2018, which gradually came down to 15% in 2023. However, the share of other Chinese brands in India's smartphone market has only increased. This paper intends to understand the reasons for the downfall of the smartphone giant and some revival strategies to make a comeback again in the subcontinent.

Keywords: Xiaomi, Smartphone, Downfall, Make In India, Revival, Premium Market, Penetration Strategy

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102 Cryptocurrency impact & potential in Indian and global Scenario

Paper ID V9I2-1423 · Pages 964-977 · Cryptocurrency

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Cryptocurrency systems enable secure online payments in the form of virtual tokens. Tokens are represented by ledger entries that are kept internally by the system. Cryptocurrencies have gained popularity due to the decentralized concepts they represent, as well as the potential for significant rewards, but their uncertainty remains high, and these assets have a larger risk of loss than many traditional investments. Users produce bitcoins by giving processing power to verify other users' transactions, a process known as mining. It is important to note that digital currency transactions are taxable in India, provided the person earning the gains is an Indian tax resident, and that the government is developing new financial technology in the form of digital currencies to capitalize on the benefits of blockchain technology.

Keywords: Crypto, Cryptocurrency, Virtual Tokens, Rewards, Currency, Digital Currency, Bitcoins, Investment, Financial, Capitalize, Impact, Payment, Medium of Trade

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103 Utilization of artificial intelligence for disease diagnosis, personalized treatment plans, and drug discovery to enhance healthcare outcomes in India

Paper ID V9I2-1425 · Pages 978-982 · Artificial Intelligence

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Advancements in Artificial Intelligence (AI) have revolutionized various industries, and healthcare is no exception. This journal document explores the potential impact of AI in three crucial areas of medical practice: disease diagnosis, personalized treatment plans, and drug discovery. The integration of AI technologies into these aspects of healthcare has shown promising results, offering the potential to significantly improve healthcare outcomes. The first section investigates the application of AI in disease diagnosis. AI-powered algorithms have demonstrated remarkable capabilities in analyzing complex medical data, including imaging, genetic information, and patient histories. By leveraging machine learning and pattern recognition, AI systems can accurately detect early signs of diseases and assist healthcare professionals in making quicker and more precise diagnoses. Early detection can lead to timely intervention, ultimately improving patient prognosis and

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reducing the burden on healthcare systems. The second section focuses on personalized treatment plans. Traditional medicine often relies on standardized treatment protocols, but individual variations in patient's genetic makeup, lifestyle, and environmental factors can significantly influence treatment efficacy. AI models can process vast amounts of patient data and generate personalized treatment recommendations based on specific patient profiles. These tailored treatment plans have the potential to enhance patient response to therapies, minimize adverse effects, and optimize healthcare resource allocation. The third section delves into the transformative potential of AI in drug discovery. Developing new pharmaceuticals is a time-consuming and costly process. AI-powered drug discovery platforms can accelerate the identification of potential drug candidates, significantly reducing the time and resources required for drug development. By analyzing molecular structures, biological interactions, and clinical data, AI can propose novel drug targets and repurpose existing medications for new therapeutic uses, expanding the scope of treatment options and speeding up the delivery of innovative therapies to patients. This journal document compiles recent research findings, case studies, and practical implementations of AI in disease diagnosis, personalized treatment plans, and drug discovery. It emphasizes the benefits of harnessing AI's analytical capabilities to enhance healthcare outcomes and foster more patient-centric and efficient medical practices. Despite the promising prospects, challenges related to data privacy, ethical considerations, and integration into clinical workflows must also be addressed for the widespread and responsible implementation of AI in healthcare.

Keywords: Artificial Intelligence (AI), Disease Diagnosis, Personalized Treatment Plans, Drug Discovery, Healthcare Outcomes, Machine Learning, Medical Imaging, Precision Medicine, Pharmacogenomics, Drug Target Identification, Clinical Decision Support, Healthcare Innovation, Data Analytics, Healthcare Technology, Patient-Centric Care, Biomarker Discovery, Drug Repurposing, Electronic Health Records (EHR), Healthcare Efficiency, Ethical Considerations

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104 Investigating the Relationship between media representation and social attitudes towards LGBTQ Individuals in India

Paper ID V9I2-1420 · Pages 983-988 · Media Studies

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This paper delves into the intricate relationship between media representation of the LGBTQ community and the corresponding social attitudes toward them in India. With the diverse backdrop of the nation, the LGBTQ community faces a complex stance. A pivotal influencer of public perception and opinion in India is the film and entertainment industry, making it an important focal point of this study. By analyzing the impact of various movies on perceptions of the LGBTQ community, this paper highlights the industry's potential to drive transformative change in majority opinions.

Keywords: LGBTQ, Media Representation, Social Attitudes, India, Film Portrayal

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105 Study on the development and optimization of low-cost exoskeletons for Indian soldiers

Paper ID V9I2-1422 · Pages 989-994 · Robotics

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This research study aims to investigate the design, development, and optimization of low-cost exoskeleton technology to enhance the physical capabilities of Indian soldiers. Exoskeletons hold tremendous potential in augmenting soldiers' strength and endurance, leading to improved performance during combat and operational tasks. However, the high costs associated with existing exoskeleton solutions often limit their widespread adoption, especially in resource-constrained settings like the Indian military. To address this challenge, the research will focus on the development of affordable exoskeleton prototypes without compromising on quality or effectiveness. The study will begin with a comprehensive review of existing exoskeleton designs, materials, and control mechanisms, identifying key factors influencing their cost. Based on this analysis, novel, and cost-effective approaches will be proposed, aiming to reduce production expenses while maintaining functionality and reliability. The design phase will leverage computer-aided modeling and simulation techniques to optimize the exoskeleton's structural integrity, ergonomics, and performance. Prototypes will be fabricated using locally available materials and manufacturing processes to reduce costs and ensure practicality for Indian military deployment. Moreover, the study will explore potential integration with advanced sensors and actuators, allowing for adaptive and intelligent control systems, further improving the exoskeleton's responsiveness and user experience.

Keywords: Exoskeleton, Affordable, Low-Cost, Optimization, Military, Indian-Army, Performance Management, Soldiers, Artificial Intelligence, Futurecombat, Military

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106 Impact of E-Learning on Students

Paper ID V9I2-1424 · Pages 995-1013 · E-learning

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Education refers to the teaching or training of people. It is generally carried out in educational institutes such as schools, colleges, universities, etc. With time, the modes of teaching have changed with innovations and changes in technology, a new and better understanding of concepts, etc. However, in the last two to three years, the education sector was shocked worldwide. Due to the emergence of the Covid-19 pandemic caused by the Coronavirus, schools, colleges, and all other educational institutes were forced to shut physical classes. Institutes across the globe had to adapt to the environment and shift to online methods of teaching. The change was notably difficult for most institutes. It was not only difficult for the teachers to teach but students also found it difficult to concentrate in online lectures and retain the same information they could easily retain in offline classes. With a little time and a better understanding of the resources at hand, the world has adjusted to online learning. However, with the pandemic dying down and things opening up physically worldwide, one question remains: What is the impact of offline classes and online classes on students? With the virus almost gone, is it better to resume offline classes, or do online lectures provide the students with better educational

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knowledge? This is an important question as this impacts not only the students but also decides what will make our future generations more capable and ready to take on the world in their future.

Keywords: E-Learning, Student, Learning, Education, COVID-19, School, Colleges, University, Online, Pandemic, Face-To-Face, Laptop

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107 Breaking the cycle: Preventing Criminal behavior in Adults with a history of childhood trauma

Paper ID V9I2-1430 · Pages 1014-1020 · Psychology

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The experiences endured during one's formative years possess the capacity to shape their physical, emotional, and psychological well-being in profound ways. Moreover, a growing body of research has revealed a compelling association between childhood trauma and an increased propensity for engaging in criminal behavior during adulthood. Several theoretical frameworks have emerged to elucidate the intricate relationship between childhood trauma and criminal behavior. To effectively address the intricate needs of adults with a history of childhood trauma and curtail the risk of criminal behavior, trauma-informed approaches have emerged as a promising avenue. These approaches centre upon a comprehensive understanding of the impact of trauma upon individuals' lives, facilitating the creation of safe and supportive environments, and integrating trauma-sensitive practices into service delivery.

Keywords: Trauma Recovery And Empowerment Model, General Strain Theory, Resilience Theory, Mentor Systems, and Resilience Construction, Social Learning Theory

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108 The reason behind source and cause of whitening of rocks at crater lake, Lonar, Maharashtra, India – A report.

Paper ID V9I2-1429 · Pages 1021-1030 · Geochemistry

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Harishchandra B. Mali, Independent Researcher

Basaltic rocks existing at Crater Lake in contact with water or submerged in water were found to be covered by a white layer on their surface. The authors of this paper, while studying Lonar Crater Lake formation came across these rocks covered by a white layer. A search was conducted to understand the true nature of this phenomena. They discovered the reason, why these rocks or stones became white and what is the material or component that deposits white layer on the rocks existing in the lake periphery and whether this phenomena is of biological, chemical or physical in nature, has been reported through this paper.

Keywords: Lonar Crater Lake, Basaltic Rocks, White Layer Deposition, Biological Phenomena.

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109 Analyzing the different ways to supply nuclear fusion reactors

Paper ID V9I2-1432 · Pages 1031-1035 · Nuclear Physics

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Since the 1940s, nuclear fusion has been viewed as a potential energy source, with the first patent for a fusion reactor being filed in 1946. Since then, substantial progress has been made with an ignition breakthrough happening at the Lawrence-Livermore National Laboratory (LLNL). The viability of using nuclear fusion to assist in the transition away from fossil fuels is becoming an increasingly appealing prospect; however, there are multiple questions on how such a project will work, including the choice of the most appropriate fuel mixture to use and identifying factors influencing selection. In this paper, we compare the three popular fuel mixtures: deuterium-tritium, deuterium-helion, and proton-boron on the basis of the chances each has of releasing the maximum amount of energy while taking in the lowest amount of energy possible, their environmental impacts, and commercial viability, and recommend deuterium-tritium mixture based on the aforementioned factors.

Keywords: Deuterium-Tritium, Fuel Mixture, Coulomb Barrier, Gamow-Sommerfeld Factor, Isotope Separation, Nuclear Fusion

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110 A review on Insect-based food waste valorization

Paper ID V9I2-1434 · Pages 1036-1040 · Waste Management

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The food processing industry is one of the fastest expanding sectors in the economy because of its increasing demand to alleviate hunger and demand for nutritious food. It has become a significant portion of the world's municipal solid waste causing various environmental, nutritional, social, and economic impacts. Therefore, it is crucial to manage food waste in an environmentally friendly manner that is effective and feasible for economic and environmental reasons. The new technology uses insects such as Hermetia illucens, Tenebrio molitor, and various other bio converters as a carrier to carry out bioconversion with food waste to improve its role in the circular bio-economy. This review aims to present the findings on the use of insects for food waste valorization to obtain value-added products (Frass fertilizers, biofuel, animal feed, and bio-preservatives), its advantages over conventional methods (landfills, incineration, etc.) and challenges associated with these treatments.

Keywords: Food Waste, Insects, Bioconversion, Value Addition, Animal Feed

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111 Legal aspects of e-commerce in India

Paper ID V9I2-1435 · Pages 1041-1044 · Law

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The rapid growth of e-commerce in India has presented a plethora of legal challenges that require comprehensive analysis and understanding. This research paper delves into the multifaceted landscape of the

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legal aspects surrounding e-commerce in India. It explores the existing regulatory framework, encompassing the Information Technology Act, of 2000, and the evolving Foreign Direct Investment policy. The paper also examines critical areas such as data protection and privacy, intellectual property concerns, taxation intricacies, and consumer protection within the e-commerce ecosystem. By scrutinizing the current legal landscape, this research identifies potential gaps and inefficiencies, offering insights into the future implications of emerging technologies and the need for proactive legal adaptations. The paper emphasizes the importance of collaboration between policymakers, businesses, and stakeholders to establish a robust legal foundation that fosters sustainable and secure e-commerce growth in India.

Keywords: E-commerce, India, Legal Aspects, Regulatory Framework, Data Protection, Intellectual Property, Taxation, Consumer Protection.

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112 The effect of resilience on depression and life satisfaction

Paper ID V9I2-1419 · Pages 1045-1108 · Psychology

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The purpose of this study was to evaluate and determine the nature of the connection that exists among resilience, life satisfaction, and depression. The sample consisted of 57 different persons. Everyone who took part in the study was anywhere between the ages of 18 and 68. All of the ethical recommendations that should be followed when performing psychological testing were carefully considered and carried out as intended. The sample consisted of different 27 female participants and 29 different male individuals, and 1 other individual. The Brief Resilience Scale by Smith B.W, Dalen, J Wiggins, the life satisfaction scale by Diener, and CESD-R by Radloff were employed to assess the variables in this study. The study's results supported the working hypothesis. Pearson Correlation, which was used to analyze the association between resilience as an independent variable and the other two variables as dependent variables, life satisfaction, and depression, led to the discovery of the result. It was found that there was a weak negative correlation between resilience and depression, while resilience and life satisfaction had a weak positive correlation. This analysis was used to determine how resilience impacts life satisfaction and depression. The findings did not have an adequate amount of significance.

Keywords: Resilience, Life Satisfaction, Depression, Pearson Correlation

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113 Women Through Hagiographies: Analyzing women’s role within Neo-Vaishnavism

Paper ID V9I2-1437 · Pages 1109-1111 · History

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Medieval history of Assam is largely dependent on religious and mystical literatures, which forms a major portion of its sources. The historical study of the medieval Bhakti and Sufi movements paved the way for utilizing the wide corpus of ‘hagiographies’, which are the biographies of the religious saints. The existing

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hagiographies are accounts which are centered around the glorification of the saints in which facts are intertwined with mystical imaginations. In addition, these are produced by male saints and their disciples and in many ways are inadequate to capture the experiences of females, associated to the religious movement. Understanding the lives and role of women within these movements and within the different spheres of society is important. Also equally important is to acknowledge the gendered nature of the past to connect women's experiences, for a better and broader picture of the past. This article is an attempt to analyze the lives of women within the Neo-Vaishnavite movement through the existing hagiographies, since there is a dearth of written sources coming from the womenfolk.

Keywords: Bhakti, Neo-Vaishnavism, Performative Traditions, Role of Women, Medieval Assam

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114 Factors preventing undergraduate students in Mumbai, Maharashtra from investing

Paper ID V9I2-1438 · Pages 1112-1127 · Finance

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The broad objective of this research paper is to ascertain the factors preventing undergraduate students in Mumbai, Maharashtra, from investing. The specific objectives under this include determining the impact of age, gender, and annual income of the student's family, on the factors preventing these undergraduate students from investing. The survey technique of research was used, and the primary tool for gathering data was the questionnaire. The study design is "Explanatory" in nature. It can serve as a starting point for more in-depth studies. The Chi-square test was used for analysing the data. Out of the sample population for the survey, a sample size of 215 respondents has been taken into consideration. The chi-square test was used to determine whether a difference between observed data and expected data is due to chance, or if it is due to a relationship between the variables you are studying. It was observed that age played a factor in the market volatility and influence on peers while gender affected the risk and market volatility. It was also found annual income does not affect risk appetite and age does not impact the complexity of the market as a factor preventing investment. Investing is an important part of financial literacy that undergraduate students should consider, but there are several factors that deter them from doing so. This paper explores these factors in detail, including limited financial resources, a lack of knowledge about investment, fear of risk and uncertainty, gender influences, and the impact of peers on decision-making. It is crucial to understand these factors to help students overcome the barriers to investing and achieve financial success in the long run.

Keywords: Investment, Risk, Peers, Risk Appetite, Complexity Of The Market, Market Volatility, Age, Gender, Family'S Annual Income, Undergraduate Students, Mumbai

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115 Comparative study of compaction characteristics of Shyorana village soil, Bharatpur using red stone dust and eggshell powder

Paper ID V9I2-1441 · Pages 1128-1137 · Geotechnical Engineering

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Soil stabilization is a crucial technique in civil engineering to enhance the mechanical properties of soil for construction purposes. This study investigates the potential of utilizing red stone dust and eggshell waste as additives for the analysis of compaction characteristics of Shyorana village soil in the district of Bharatpur Rajasthan. Red stone dust, a byproduct of stone-crushing activities, and eggshell waste, generated from culinary and food processing industries, both pose environmental challenges in terms of disposal. This research aims to address these challenges by assessing their effectiveness as stabilizing agents while promoting sustainability. Laboratory experiments were conducted to evaluate the impact of varying proportions of red stone dust and eggshells on soil properties. Standard proctor tests were performed on soil samples treated with different combinations of red stone dust and eggshells. The results were compared with untreated soil to determine the improvements in dry density. The findings demonstrated that the incorporation of red stone dust led to increased compaction indicating enhanced load-bearing capacity and reduced susceptibility to deformation. Moreover, the combination of red stone dust and eggshell exhibited synergistic effects, further enhancing the overall stabilization efficiency. In addition to the technical performance, environmental considerations were also addressed. The utilization of waste materials like red stone dust and eggshells offers a sustainable solution by minimizing their disposal as waste and reducing the demand for conventional stabilizing agents. This approach aligns with the principles of circular economy and promotes eco-friendly construction practices.

Keywords: Shyorana Village Soil, Compaction, Red Stone Dust, Egg Shell

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116 Comprehensive analysis and comparison of the structural properties of aluminium alloy wheels

Paper ID V9I2-1440 · Pages 1138-1143 · Aluminium Alloy Wheels

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This paper is an research study about the comprehensive analysis of the structural properties of aluminium alloy wheels commonly used in the automotive industry. Finite element analysis was performed to simulate the behaviour of the wheels under the different load conditions, taking into account the geometry. Some of the basic materials are selected as widely used in the industry like AA 6061-T6, AA 6082-T6, AA 7075-T6 and AA 6063-T835. The results of the analysis show that the wheels are capable of withstanding the stresses and strains imposed on them during normal operation are compared with the other material structural results. By this approach the best aluminium alloy material AA 7075-T6 is selected hence the deflection under the condition of load is very less. Further the structural deformation for the best material is studied for the change

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in design of the aluminium wheel to overcome the structural deformation. An triangular ribs are used to resist the deformation by increasing the strength.

Keywords: Aluminium Alloy Wheels, Material Properties, Design Parameters, Analysis Results.

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117 Architectural form optimization for sustainable heat reduction: integrating simulation analysis in warm and humid climates, with emphasis on office buildings

Paper ID V9I2-1445 · Pages 1144-1149 · Sustanable Architecture

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This study explores the symbiotic relationship between architectural innovation and urban sustainability, focusing on countering climate challenges and rapid urbanization. The research centers on the strategic utilization of self-shading elliptical forms to mitigate heat gain within built environments. The significance of green building ratings as drivers of sustainable construction practices is highlighted, alongside a comprehensive review of sustainable methodologies, traditional materials, and self-shading strategies. Utilizing advanced simulation techniques, the study analyzes diverse architectural scenarios to evaluate their impact on heat reduction. Significantly, the use of Ecotech software for radiation analysis highlights the considerable potential for reducing heat within the built environment. In conclusion, this research underscores architectural design's transformative capabilities, highlighting self-shading forms' role in enhancing energy efficiency and human comfort within sustainable built environments.

Keywords: Building Form, Self-Shading, Simulation Methods, Heat Reduction and Heat Dispersion

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118 Advanced autoscaling and team tenancy for Hadoop job clusters

Paper ID V9I2-1439 · Pages 1150-1155 · Computational Science: Big Data & Distributed Systems

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Hadoop has a powerful framework to process large distributed data across distributed nodes. Hadoop Data Lake empowers users of different streams like engineers, data scientists, and analysts in an organization. Slicing and dicing of data, complex computations can be expressed and built with Query Language and don’t need the expertise or knowledge of Map-Reduce or Spark jobs. Once the complex logic is expressed as a query and the query is scheduled to run in a regular cadence, the cluster can be auto-scaled based on applications running at a given time rather than running a static big cluster. In a multi-tenant cluster, where autoscaling is performed, resources should be isolated and dedicated to achieve multi-tenancy. Dedicated resources will drive attributing costs to a specific team/tag. Dedicated resources also solve the noisy neighbor problem. This paper

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details the architecture, algorithm, and framework to allow multi-tenant job clusters to achieve team tenancy and auto-scale the cluster seamlessly.

Keywords: Data Engineering, Autoscaling, Team Tenancy, Cost Attribution, Big Data

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119 Use of waste plastic to enhance the property of modified bitumen pavement

Paper ID V9I2-1444 · Pages 1156-1162 · Civil Engineering

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The construction of flexible pavement is most commonly done by the bituminous mix. It constitutes asphalt or bitumen acting as a binder and is mixed with aggregate which is compacted after being laid in layers. The conventional bituminous pavement with proper design and execution under usual circumstances gives satisfactory results, but often in various conditions, the performance is very low. With the increased volume of traffic, increased loads, and variation in seasonal as well as daily temperature the asphaltic concrete pavements have shown better performance. On the contrary, the performance of bituminous pavement is very low in damped conditions. On considering these factors the modification of bitumen and the addition of polymer in bitumen has been an alternative. Experiments have been conducted and inferred that the addition of polymer to binders has helped to increase the cohesive bond between the binder and aggregate which in turn has improved the characteristics of asphalt pavement to meet the growing need. The additive used to modify the mix must satisfy the essential strength as well as economic aspects. India has rapid use of plastic in its lifestyle and is increasing day by day. These are major threats to society and management is another major issue. The use of recycled material in road pavement is one of the most innovative forms of sustainability. Thin bags are mainly composed of low-density polyethylene which is used for packing, protecting, and many applications. The Low-Density Polyethylene which is one of the polymers when experimented has indicated the potential of enriching the asphalt mixture. The study aims to add a varying percentage of the polymer as an aggregate coat and to find the optimum percentage by weight of polymer to be added to the mix. A comparison is to be done between the conventional and polymer-added mix to find the difference in rheological properties between them. The prospect of the experiment is to know that the addition of polymer (mainly waste plastic) results in an improvement in the properties of the road which results in minimization of maintenance of road work which in turn is economical. It is also expected to substantially reduce the volume of environmentally hazardous plastic and environmental pollution.

Keywords: Bitumen, Waste Plastic, Polymer, Asphalt, Flexible Pavement.

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120 Electric vehicles in the Indian market

Paper ID V9I2-1411 · Pages 1163-1171 · Electric Vehicles

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The Indian automotive industry is undergoing a significant transformation with a growing emphasis on sustainable and environmentally friendly transportation solutions. Electric vehicles (EVs) have emerged as a promising alternative to conventional internal combustion engine (ICE) vehicles. This research paper explores the current landscape of electric vehicles in the Indian market, focusing on their adoption, challenges, and future prospects. This research paper concludes whether or not Revv (a self-drive car rental business operational all across India) should switch to EVs from traditional ICE vehicles.

Keywords: Electric Vehicles, EV Adoption, Indian Market, Challenges, Future Prospects, Infrastructure, Policy Framework, REVV

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121 "Enabling sustainable water resource management through dynamic spatial planning in Visakhapatnam city"

Paper ID V9I2-1447 · Pages 1172-1176 · Urban Planning

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Urban evolution is at the heart of this discussion, where site-specific art's transformation prompts the emergence of alternative viewpoints and strategies in response to its dwindling conventional impact. The ongoing discourse on site specificity, its cross-disciplinary dimension, and its role as a cultural conduit are explored. The literature review delves into the interplay of site-specific art, urban dynamics, and cultural identity, navigating historical underpinnings and contemporary shifts. Focusing on urban planning in Visakhapatnam, the study employs advanced computational tools to craft an adaptable structure plan accommodating diverse growth scenarios. Methodologically, quantitative analysis using secondary sources, stakeholder engagement, GIS tools, and exemplar cases play pivotal roles. Emphasis is placed on efficient water distribution and resilient infrastructure. Collaborative urban planning emerges as a linchpin for sustainable water management in the conclusion. Ultimately, the dynamic spatial planning approach offers a roadmap for fostering urban resilience in Visakhapatnam.

Keywords: Urban Growth, Conventional Approaches Infrastructure, Transportation, Water Supply, Drainage, GIS Tool

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122 Use of biochar as an additive in concrete

Paper ID V9I2-1408 · Pages 1177-1182 · Civil Engineering

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Biochar is a high-carbon product produced by the thermal decomposition of organic biomass in an oxygen-free environment. It is mainly used for soil improvement and fertilization purposes, but this study aims to explore the possibility of using biochar as an additional benefit to concrete, which is often used as a material by humans. A literature review revealed several studies in which biochar was successfully used as an additive. The good effect of biochar on the mechanical properties of concrete is based on its nucleation and densification effect, but the internal microstructure, porosity, and chemical composition of biochar mainly depend on the raw material, product, and production type. These tests include investigating the effect of adding different concentrations and amounts of biochar and the cement substitution level on the new product and concrete material, as well as investigating the cement content and the energy balancing potential for the concrete mix.

Keywords: Biochar, Nucleation, Greenhouse Gases, Concrete, Etc.

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Prospective Management of Isqate Ehtemali (Threatened Abortion) – A Systematic Review

Paper ID V9I2-1367 · Pages 1183-1186 · Yes

Aysha Raza, Associate Professor, Ayurveda and Unani Medical College and Hospital, Karol Bagh, New Delhi

In the Unani System of Medicine Threatened abortion is called Isqat Ehtemali and Ajhaze manzar is the Arabic vernacular of Threatened abortion. It is defined as vaginal bleeding before 20 weeks gestational age in the setting of a positive urine and/or blood pregnancy test with a closed cervical os, without passage of products of conception and without evidence of fetal or embryonic demise. In the Unani system of medicine, Plants have been used extensively in unani system of medicine to maintain the health of the female reproductive system. These have been used mostly in combination or monotherapy. Much of the scientific interest has been directed towards the prevention of abortion. The herbs often used in the prevention of threatened abortion are Ashok chal, Mazu, Mayan, etc. This review paper highlighted on Unani concept of Threatened abortion, its prevention, and management with Unani medicine.

Keywords: Isqat Ehtemali, Ajhaze manzar, Threatened abortion, Prevention, Unani Drugs and Management

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