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Message from Administrator

Rev.Sr.K.Nambikai Mary, DMI

Administrator, SJCET

Students and professionals looking for up skilling in their industrial endeavours must always bag ways to make the most out of an opportunity on a platter. Especially when it's about acquiring knowledge and technical know-how.

It's inquisitive to stumble upon a modish path to propel on and conferences are definitely an emerging source of knowledge and conditioning, bridging millennial and industry experts on the go.

Giving in to the recent upsurge of the global pandemic, virtual meets and conference schedules have now been crowned as a quintessential plan of action.

Encircling all prominent avenues, ranging from science and engineering to arts and cultural proprieties. Conferences anchor a vast audience globally. Students, scholars, industry recruiters, teachers, professors, experts, researchers and practitioners, all have a fair share of exchanging revolutionary ideas, resolving significant issues, and contributing towards inculcating a healthy and coexistent learning ambiance.

It's interesting to unravel the novelty of thoughts amidst a plethora of opinions and viewpoints. An umbrella of boundless experience and the inquisitive thirst for exploring exemplary concepts under one roof.

Message from Principal

Prof.Dr.D.Shanmugasundaram

Principal, SJCET

I am delighted to say that **3rdInternational Conference on Intellectual Research in Science, Engineering and Management 2023** is being organized at our College with all its glory.

Future education is mainly technology oriented. St. Joseph's College of Engineering and Technology, Thanjavur acts as a fertile ground for experiment in new ideas and inculcating values.

This exciting conference will provide excellent communication and information sharing opportunities for all levels of professionals which reflects both the needs of our organization and the spirit of innovation

I wish that **ICIRSEM 2023** will keep on growing in coming years with more impact on the International research community.

I also express my whole hearted congratulations on this occasion to all the faculty & students of SJCET family and wish the conference a grand success.

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IOT BASED AUTOMATIC DETECTION AND ALERT SYSTEM FOR EPILEPSY PATIENT

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Abstract:

Covid 19 has given way to a disruptive and transformative digital automation in health sector world wide with multi fold investments for up gradation. Epilepsy, the fourth most common chronic neurological disorder, characterized by recurrent involuntary seizures affects everyone. Epilepsy is unpredictable with violent seizures leading to sudden fluctuations in heart rate and involuntary muscle movements leading to death. Therefore, prompt medical attention is essential. We propose to take advantage of current advancements in smart watches and Smartphone apps by integrating them and adding new features automation in sending alerts to, friends and care takers.

Keywords: seizure, epilepsy, alert system, mobile health application, seizure detection.

FOUR ELEMENT MIMO MICRO STRIP PATCH ANTENNA FOR WIRELESS COMMUNICATION

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Abstract:

This paper presents a new Multi-Input Multi-Output (MIMO) antenna design consisting of four Meta material (MTM) elements printed on an FR-4 substrate with dielectric constant of 4.4 and a loss tangent of 0.002. The antenna has compact size of $30 \times 30 \times 1.6\text{mm}^3$ and is arranged in an orthogonal manner to achieve better isolation between the antenna elements. The proposed MIMO antenna operates in two frequency bands, covering 8.829 – 9.286GHz (9GHz) Military applications and 14.316GHz to 18.040GHz (14.84GHz) C band applications. The antenna exhibits excellent isolation of 31dB between the antenna elements throughout the operating bands. The antenna gain, efficiency and envelope correlation coefficient (ECC) are evaluated and found to be within acceptable limit.

Keywords: **antenna, meta material, mimo, isolation, envelope correlation coefficient**

DESIGN AND IMPLEMENTATION OF A SINGLE PHASE ASYMMETRICAL MULTILEVEL INVERTER FOR ELECTRICAL VEHICLE APPLICATION

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Abstract:

Electric Vehicles (EV) are considered as an alternate solution to gas-powered vehicles due to their improved performance and low carbon emission. However, limitations of EV are longer charging time and shorter travelling distance. A likely solution to these issues is by charging EV battery with high DC voltage. A conventional inverter cannot be used in such case because employing higher voltage increases switching losses and harmonics thus reducing overall efficiency. Therefore, a possible solution is to use multilevel inverter (MLI) which have almost no electromagnetic interference (EMI), less total harmonic distortion(THD), reduced voltage stress on switching devices, lower dv/dt and therefore, it is a better choice for EV than conventional inverter in electrified transportation. However, limitations in existing MLI topologies are the usage of higher number of switches and capacitors, and thus more complex control which increases the cost and complexity of the overall system. The proposed MLI methodology makes use of lesser number of switches and capacitors which in turn decreases the driver circuit complexity making them compact and also cost effective. The suggested topology is compared with several MLI topologies. The proposed Nine-level MLI is developed from the generalized circuit using MATLAB® Simulink and the framework is done.

Keywords: Electric Vehicle, THD, Reduced Switch Count

ICIRSEM-2023_paper_4

ANALYSIS OF CORTICOMUSCULAR COHERENCE BETWEENCORTICALANDFACIAL MUSCLE ACTIVITIES

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Abstract:

Emotional is the most common behavior of humans where the evaluation of the functional connection between the motor cortex and facial muscle is important. This cortico muscular control is normally determined by measuring coherence in the simultaneously recorded electroencephalography (EEG)–Electromyography (EMG) activities. In this work, an attempt has been made to estimate the EEG-EMG coherence using Magnitude Squared Coherence (MSC) functions. For this purpose, the simultaneous EEG-EMG activities of thirty-two healthy subjects during various emotional states while watching videos. The EEG signal associated with the motor cortex region and face EMG signal of the zygomaticus major muscle is subjected to magnitude-squared coherence function. We are adding up the conventional frequency bands of EEG namely alpha (8-13 Hz) and beta (14-29 Hz) spectral components with EMG signals are also analyzed. The results show notable coherence between the electrical activities of the brain and the face's muscular system during various emotional states. In addition, the frequency band interactions are also found to be distinct for different emotional states. Therefore, it seems that the analysis could be extended for the evolution of cortico bulbar function in patients with a neurological disorder.

Keywords: EEG, EMG, Cortico muscular Coherence, Magnitude Squared Coherence (MSC).

ICIRSEM-2023_paper_5

AIR QUALITY PREDICTION BASED ON
MACHINE LEARNING

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ABSTRACT:

In recent years, due to the vigorous development of industrialization, environmental protection measures cannot be effectively guaranteed. Increasingly serious environmental problems have gradually become the primary problem affecting the quality of national life. Therefore, we need to establish a relatively accurate air quality prediction model to understand the possible air pollution process in advance. According to the prediction results of the model, it is of great significance to establish and take corresponding control measures to reduce air pollution. This paper makes full use of data mining methods such as mutual information theory, neural networks, and intelligent optimization algorithm. We use the basic data of long-term air quality prediction of open monitoring points as training set and test set. Firstly, the SOM neural network model is used for unsupervised clustering of relevant pollutant data to analyze the correlation between various monitored pollutants. Aiming at the problems of a large amount of data and long calculation time of the algorithm, combined with the clustering results, and NSGA-II optimized neural network is proposed to predict the future pollution situation. The experimental results show that the prediction accuracy of pollutants can reach more than 90%.

ICIRSEM-2023_paper_6

FOREST-FIRE RESPONSE SYSTEM USING DEEP-LEARNING BASED APPROACHES WITH CCTV IMAGES AND WEATHER DATA

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ABSTRACT:

Forest fires are a major concern for the environment and can cause significant damage to the ecosystem. In recent years, there has been an increasing interest in developing efficient forest fire detection systems that can help prevent and mitigate the damage caused by forest fires. In this paper, we propose a novel forest fire detection system that uses CCTV images and weather data, in addition to satellite images. We train a convolutional neural network (CNN) on a dataset of CCTV images and weather data to detect forest fires in real-time. The proposed system is compared with the existing system, which uses only satellite images for forest fire detection. We propose a forest fire detection system that uses CCTV images and weather data, in addition to satellite images. The proposed system uses a CNN to analyze CCTV images and weather data to detect forest fires in real-time. The CNN is trained on a dataset of CCTV images and weather data, and the output is combined with the output from the existing system based on satellite images. The combined output is used to generate an alarm in case of a forest fire. The proposed system consists of the following steps: CCTV images and weather data are collected from different locations in the forest. The CCTV images and weather data are pre-processed to remove noise and artifacts. A CNN is trained on a dataset of CCTV images and weather data to detect forest fires. The CNN output is combined with the output from the existing system based on satellite images.

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MACHINE FAILURE PREDICTION USING SUPERVISED MACHINE LEARNING TECHNIQUE

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Abstract:

We focus on machine failure prediction in industry 4.0.Indeed, it is used for classification problems on the reliability and quality of their machines and products. We compare machine learning methods applied to a difficult real-world problem: predicting machine failure using attributes monitored internally by individual parts. The problem is one of detecting rare events in a time series of noisy and non-parametrically-distributed data. We develop a new algorithm based on the multiple-instance learning framework and the Regression algorithm which is specifically designed for the classify the problems, and is shown to have promising performance. Its implementation is modular and extensible to support changes in the underlying production processes and the gathered data. It involves; loading, exploratory data analysis, training and model evaluation. The primary algorithms used in the project is Logistic regression algorithm. It is predictive analysis that describes data and explains the relationship between variables. Our results suggest that nonparametric statistical tests should be considered for learning problems involving detecting rare events in time series data. As large-scale systems continue to grow in scale and complexity, mitigating the impact of failure and providing accurate predictions with sufficient lead time remains a challenging research problem. Developing an accurate failure prediction model requires a critical understanding of the characteristics of real system failures. Experimental results indicates that the average prediction accuracy of our model using Logistic regression algorithm when failure is 90% accurate. The best performance overall was achieved with Logistic regression algorithm, although computational times were much longer and there were many more parameters to set.

INDEX ITEMS: Machine Failure Prediction, Time series, cost-sensitive.

GRID TIED PV - EV BATTERY CHARGING SYSTEM USING BIDIRECTIONAL CONVERTER

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Abstract:

Renewable energy based Electric Vehicle (EV) battery charging system is booming in the automobile industry in the recent years. The intermittent nature of the renewable energy sources leads to the grid connected renewable energy systems for EV battery charging applications. Hence, an EV battery charger using grid connected PV system is proposed. The proposed system is capable of charging the EV battery continuously irrespective of solar irradiations using DC-DC converter and bidirectional AC-DC converter. SEPIC (Single-Ended Primary-Inductor) converter is preferred for DC-DC converter and line commutated converter is used as a bidirectional AC-DC converter with the help of the proposed bidirectional configuration in the charging system. During sunshine hours, PV array power generated is used to charge the EV battery alone and during peak sunshine hours, apart from charging of EV battery, the excess PV array power is fed to the single phase utility grid. During low and non-sunshine hours, the EV battery charging was supported by the utility grid through bidirectional AC-DC converter.

*Keywords –*Electric Vehicle, DC-DC converter, AC-DC converter, Battery charging system

DESIGN AND PERFORMANCE ANALYSIS OF ADAPTIVE COGNITIVE RADIO SENSOR NETWORKS FOR DATA PACKET OPTIMIZATION

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Abstract:

Cognitive Radio Sensor Networks (CRSNs) are becoming an essential part of various applications, including environmental monitoring, security, and healthcare. However, one of the major challenges in CRSNs is optimizing the transmission of data packets in a reliable and efficient manner. In this paper, we propose the design and performance analysis of an adaptive cognitive radio sensor network for data packet optimization. The proposed system consists of two main parts: a cognitive radio sensor node and a cognitive radio base station. The sensor node is equipped with a cognitive radio module that enables it to detect and adapt to changes in the radio frequency spectrum. The cognitive radio module is also responsible for making decisions about which channel to use for transmitting data packets based on the channel availability and quality. To optimize the data packet transmission, we developed an adaptive algorithm that adapts the packet transmission rate according to the channel quality and availability. The algorithm uses a probabilistic approach to dynamically adjust the packet transmission rate to maximize the throughput and minimize the packet loss rate. We evaluated the proposed system's performance using a simulation-based approach, and the results demonstrate that the proposed system significantly improves the network's reliability and efficiency. The system outperforms traditional cognitive radio sensor networks and achieves a higher packet delivery ratio with lower power consumption. The adaptive algorithm also proved to be effective in reducing the packet loss rate and maximizing the throughput. We also evaluated the system's performance under different network conditions, including varying traffic loads and interference levels. The results show that the proposed system can adapt to changes in the network environment, maintaining a high level of performance even under challenging conditions.

Keywords:

Adaptive cognitive radio, Sensor networks, Data packet optimization, Performance analysis, Optimization algorithms, Dynamic spectrum allocation, Energy efficiency, Packet delivery ratio.

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ICIRSEM-2023_paper_10

CROP CULTIVATION RECOMMENDATION SYSTEM ON ANALYZING AGRICULTURAL SOIL USING MACHINE LEARNING

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Abstract:

India is the land of agriculture and is among the top three global producers of many crops. The Indian farmer lie at the heart of the agricultural sector yet most Indian farmers remain at the bottom of the social strata. In addition, farmers find it difficult to decide which crop is best suitable and profitable for their soil, in spite of the few technological solutions that exist today, due to the variation in soil types across geographical regions. This paper proposes a crop   system that uses a Convolutional Neural Network (CNN) and a Random Forest Model to predict the optimal crop to be grown by analyzing various parameters including the region, soil type, yield, selling price, etc. The CNN architecture gave an accuracy of   Mobilenetv2 Algorithm 95%, and the Random Forest Algorithm had an accuracy of 75%.

ICIRSEM-2023_paper_11

A FRAMEWORK FOR LUNG OBLIQUE FISSURE SEGMENTATION AND LUNG NODULE DETECTION IN DEEP LEARNING TECHNIQUE

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ABSTRACT:

The main objective of this study is to develop a Computer Aided Detection (CAD) system using deep learning approaches to detect lung nodules for successful treatment. The final output of this system can facilitate an accurate and early diagnosis of lung cancer. Though deep learning architectures such as VGG-16, Alex Net and Google Net have been well studied for many image processing applications including in medical domain, the impact of hybridizing them is poorly analyzed. The aim of this study is to detect lung nodules by a hybrid approach. The scope of this study is limited to analyze only CT images from Lung Image Database Consortium (LIDC) database. The proposed system consists of four modules; Preprocessing, lung region segmentation, lung nodule detection and hybrid approach. In the preprocessing module, the noise in lung images is filtered using Wiener filter and the lung structures are enhanced using morphological algorithm. Wiener filter is more appropriate to de-noise the Gaussian noise in lung image.

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CROP PEST DETECTION USING MACHINE LEARNING APPROACHES

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ABSTRACT:

The most important elements in the realm of commercial food standards are effective pest management and control. Crop pests can make a huge impact on crop quality and productivity. It is critical to seek and develop new tools to diagnose the pest disease before it caused major crop loss. Crop abnormalities, pests, or dietetic deficiencies have usually been diagnosed by human experts. Anyhow, this was both costly and time-consuming. To resolve these issues, some approaches for crop pest detection have to be focused on. A clear overview of recent research in the area of crop pests and pathogens identification using techniques in Machine Learning Techniques like Random Forest (RF), Support Vector Machine (SVM), and Decision Tree (DT), Naive Bayes (NB), and also some Deep Learning methods like Convolutional Neural Network (CNN), Long Short-Term Memory (LSTM), Deep convolutional neural network (DCNN), Deep Belief Network (DBN) was presented. The outlined strategy increases crop productivity while providing the highest level of crop protection. By offering the greatest amount of crop protection, the described strategy improves crop efficiency. This survey provides knowledge of some modern approaches for keeping an eye on agricultural fields for pest detection and contains a definition of plant pest detection to identify and categorize citrus plant pests, rice, and cotton as well as numerous ways of detecting them. These methods enable automatic monitoring of vast domains, therefore lowering human error and effort.

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SECURITY AUTHENTICATION BASED ON BANKING USING FACE RECOGNITION

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ABSTRACT:

With the increasing demand for online banking lack of security in the system has been felt due to a tremendous increase in fraudulent activities. Facial recognition is one of the numerous ways that banks can increase security and accessibility. This paper proposes to inspect the use of facial recognition for login and for banking purposes. The potency of our system is that it provides strong security, username and password verification, face recognition and pin for a successful transaction. Multilevel Security of this system will reduce problems of cyber-crime and maintain the safety of the internet banking system. The end result is a strengthened authentication system that will escalate the confidence of customers in the banking sector.

DEVIANT EVENT DETECTION IN CROWDED SCENES USING DEEP LEARNING

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ABSTRACT:

The main objective of this paper is to uses the deep learning technique for abnormal event detection by extracting spatiotemporal features from video sequences. Human eyes are often attracted to abnormal events in video sequences, thus we firstly extract saliency information (SI) of video frames as the feature representation in the spatial domain. Optical flow (OF) is estimated as an important feature of video sequences in the temporal domain. To extract the accurate motion information, multi-scale histogram optical flow (MHOF) can be obtained through OF. Combine MHOF and SI into the spatiotemporal features of video frames. Finally a deep learning network, PCA Net, is adopted to extract high-level features for abnormal event detection. Experimental results show that the proposed abnormal event detection method can obtain much better performance than the existing ones on the public video database.

ICIRSEM-2023_paper_15

DRIVER DROWSINESS DETECTION AND ALERT SYSTEM USING CNN

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ABSTRACT:

Every year thousands of lives pass away world wide due to vehicle accidents and the main reason behind this is the drowsiness in drivers. A drowsiness detection system will help to reduce this accident and save many lives around the world. To defend this problem, we propose a methodology based on Convolution Neural Networks (CNN) that illustrates drowsiness detection as a task to detect an object. It will detect and localize whether the eyes are open or close based on the real-time video stream of drivers. The Mobile Net CNN Architecture with Single Shot Multi box Detector is the technology used for this object detection task. A separate algorithm is used based on the output given by the SSD_MobileNet_v1 architecture. A dataset that consists of around 4500 images was labeled with the object's face yawn, no-yawn, open eye, and closed eye to train the SSD_MobileNet_v1Network. Around600randomlyselectedimages are used to test the trained model using the PASCALVOC metric. The proposed approach is to ensure better accuracy and computational efficiency. It is also affordable as it can process incoming video streams in real-time and does not need any expensive hardware support. There only needs a standalone camera to be implemented using cheap devices in cars using Raspberry Pi 3 or other IP cameras.

ICIRSEM-2022_paper_16

CYBER SECURITY–ARTIFICAL INTELLIGENCE
AND MACHINE LEARNING

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ABSTRACT

Rootkits, hacking, and Trojan snooping are a few crucial cyber security jobs that frequently make use of artificial intelligence and machine learning systems. Hoaxes are emails that claim improbable events will happen, contain extremely harmful virus, or are urban legends, while rootkits are a sort of malware meant to provide hackers access to and control over a target computer. Trojan-spy is employed to spy on a user's activities, and the information gathered is subsequently sent to the malicious user in charge of the Trojan. It is unfortunate that not everything pertinent to machine learning's expanding role in cyber security can be included in this paper due to the size of the task at hand. We are entirely focused on the technical what capabilities machine learning might have. We avoid several crucial yet non-technical issues, like privacy.

ICIRSEM-2023_paper_17

RADIATION TO ENERGY HAND HELD CONVERTER & DISTRIBUTOR

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ABSTRACT:

Radiation from both natural and artificial sources is in the environment – in the air we breathe, the food and drink we consume, and even in our own bodies. We are all exposed to a level of radiation every day. How Radiation Affects Your Body. Radiation can damage the DNA in our cells. High doses of radiation can cause Acute Radiation Syndrome (ARS) or Cutaneous Radiation Injuries (CRI). High doses of radiation could also lead to cancer later in life. So, we must have an alternate solution for that. That device either protects or minimizes harmful radiation to the environment, in order to we are creating the simple handheld device for minimizing radiation, also convert the radiation into electric energy, so we can use this storage device to the other electronic appliances.

Keywords: Cutaneous Radiation Injuries (CRI), Acute Radiation Syndrome (ARS)

ICIRSEM-2023_paper_18

SUPPRESSION OF PARASITIC BJT EFFECT IN NANOWIRE JUNCTIONLESS FET (NW-JLFET)

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Abstract:

The primary leakage mechanism in junction less (JL) field effect transistors (FETs) is inefficient volume depletion. The L-BTBT compensates for efficient volume depletion, lowering the performance of the Nano Wire (NW) JLFET. Therefore, a Schottky Core is suggested to achieve efficient volume depletion and decrease L-BTBT. Short channel effect (SCE) is lessened. Using High K dielectric material like HfO2 can enhance it even more. HfO2, which is five to six times more than SiO2. This SC reduces the thickness of the active layer by depleting the active silicon shell region from the center, enabling effective volume depletion. The effectiveness of the suggested SC NW JLFET architecture for sub-10-nm technology nodes is demonstrated by its greater tolerance to negative short-channel effects such Vth roll-off and DIBL. Additionally, the holes in the channel region are removed by the vertical field created by the Schottky junction, which prevents the source-channel barrier height from being suppressed. The performance parameters of the single gate JLFET employing the core, including the threshold voltage (Vth), OFF current, ON current, the ON-to-OFF current ratio (ION/IOFF), and sub threshold swings (SS), can be explored in this work for the gate work function and core work function of 5.1ev respectively. Silicon/Germanium is used as a Nano Wire material. A source work function of 3.9 eV has been determined to perform best in the work function window. Comparing the proposed device to a traditional junction less FET, it features a low IOFF and sub threshold swing. This study uses the Atlas Silvaco TCAD tool to simulate a junction less transistor. The gadget displays OFF current in the range of 10–13 A/μm, ON current in the range of 10–4A/μm, ON–OFF current ratio in the range of 10+9, and sub threshold swing in the range of 0.086 mV/dec. The outcomes of the simulation demonstrate that the suggested device is appropriate for low power application.

ICIRSEM-2023_paper_19

E-DIARY MANAGEMENT SYSTEM USING PHP AND MYSQL

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ABSTRACT

The E-Diary Management System is a web-based application developed using PHP that allows users to create, manage, and organize their diary entries online. It uses PHP for server-side scripting and MySQL for database management, and provides features such as listing all the diary entries for a logged-in user, editing existing entries, and deleting entries when no longer needed. It also implements security measures such as input validation, output encoding, and protection against SQL injection to ensure data security. It can be used by individuals as a personal diary, or by organizations for managing team diaries or journals.

KEYWORDS - Online diary, Creative Writing, Digital Diary, Journaling app, Personal blog

ICIRSEM-2023_paper_20

Design and Implementation of Solar Powered E-Bicycle

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Abstract:

The most common issues faced all over world are environmental pollution. Nowadays, the fuel prices are increasing day by day especially the need for petrol and diesel. In metro cities and urban areas the vehicles are increasing continuously and causing Co_2 emission, it will pollute the environment. Similarly the other resources like Fossil fuel such as coal, oil, and natural gas also emit poison gases to the environment. This should be minimized and the environment needs to be protected with green clean manners. By using the solar vehicles, pollution and Co_2 emissions can be reduced and mainly fossil fuels emissions can be protected. This project proposed to design the solar bicycle for global warming based on super capacitor storage devices. The solar powered electric vehicle stands with higher safety, high performance as well as remains cost efficient.

KEYWORDS - Solar Bicycle, Co2-Emission, Fossil Fuels, Global Warming.

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ULTRASONIC OBJECT DETECTION SYSTEM

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Abstract:

The project is designed to demonstrate detection of any object ahead of the ultrasonic transducer. It can be used for application like security area monitoring and wild life photography. The main aim of this system is to detect object that will be ahead of ultrasonic transducer. This application is very useful in areas like monitoring and also very useful in wild life photography.

ARDUINO BASED AUTONOMOUS FIRE FIGHTING ROBOT

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Abstract:

The increasing occurrence of fire-related accidents poses a significant threat to human safety and property damage. To combat this issue, the development of autonomous firefighting robots has gained attention. This research proposes an Arduino-based autonomous firefighting robot that is designed to detect and extinguish fires in indoor and outdoor environments.

KEYWORDS

Arduino, Autonomous, Firefighting, Robot, Sensors.

ICIRSEM-2023_paper_23

Diabetic Retinopathy Detection using Image Processing

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ABSTRACT

Retina is a severe and wide-spread eye disease it is the main cause of blindness for the working age population in western countries. The following concept is a backbone for monitor human life time. For the diagnosis of Diabetic Retinopathy, digital color fundus images are becoming increasingly important. This fact opens the possibility of applying image processing techniques in order to facilitate and improve diagnosis in different ways. As micro aneurysms are earliest sign of DR, therefore an algorithm able to automatically detect the micro aneurysms in fundus image captured is a necessary preprocessing step for a correct diagnosis. Some methods that address this problem can be found in the literature but they have some drawbacks like accuracy or speed. This system aims to develop and test a new method for detecting the micro aneurysms in retina images. Gray level 2D feature based vessel extraction is done using neural network to do preprocessing. The method is evaluated on DRIVE data base and prove to be superior than rule based methods. To identify micro aneurysms in an image morphological opening and image enhancement is performed. A Software implementation of the complete algorithm is developed and tests suggest that the diagnosis in an image can be estimated in shorter time than previous techniques with the same or better accuracy.

ICIRSEM-2023_paper_24

Complaint Management System

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ABSTRACT

The complaint management system is a web-based application, and it is designed to keep track of complaints registered by the college department or lab staff, so this system needs to be a distributed, platform-independent web application. The task of the administrator executives is to control all the activities in the system, including creating issues using call registration, assigning them to service engineers, and checking their performance. In call registration, it should be open and assigned to service, and an engineer can update the call status to closed. This system is able to show reports like department-wise pending closed calls, open calls, daily call registration, and engineer performance reports.

ICIRSEM-2023_paper_25

DESIGN AND IMPLEMENTATION OF BLDC FED HYBRID ELECTRIC VEHICLE

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Abstract:

Hybrid electric vehicles (HEV s) rely heavily on electric motors and control technology. The electric motor's control is a critical issue for traction applications in electric vehicles and HEV s. This paper describes the design, development, and implementation of a hybrid vehicle that use both an electric motor and a petrol engine to improve efficiency and reduce carbon footprint. In this paper developing and implementing a control system to control the BLDC motor speed using a micro-controller as the vehicle's electronic control unit and simple proportional integral derivative (PI) control using speed as a feedback mechanism, a prototype of a HEV is first designed, and performance values are calculated. The closed loop control system developed from the prototype's feedback voltage, current, speed, and torque sensors successfully matched the speed input of a user-controlled pedal sensor. A user interface was created to provide important information to the driver of the vehicle, such as the motor's revolutions per minute (RPM), the vehicle's speed, the current being used, the voltage applied to the motor, and the total power. A digital output with pulse width modulation (PWM) capability was utilized to output a variable voltage from the Arduino and supply a variable DC voltage to the speed controller. Simulation modelling for BLDC motors with different speed and torque were analyzed as well as implemented in real time application.

Keywords: Electric vehicle, BLDC motor, PI Controller, PWM.

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DTMF CELL PHONE BASED DOOR OPENER

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Abstract:

The design and implementation of a door opener system that uses dual-tone multiple frequency (DTMF) signals to control a motorized door opener. The system is controlled via a mobile phone using DTMF signals, allowing the user to remotely open the door from a distance. The system comprises of a DTMF decoder circuit, a microcontroller-based control circuit, a motorized door opener, and a mobile phone. The user can call the mobile phone connected to the system and enter a predefined code using the keypad to open the door. The system is cost-effective, easy to install, and requires minimal maintenance. It can be used in a variety of applications, such as homes, offices, and public buildings, where controlled access is required.

Keywords : DTMF DECODER, 8051 MICROCONTROLLER, MOTOR DRIVE INTERFACE

ICIRSEM-2023_paper_27

GAS DETECTION SYSTEM

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ABSTRACT:

Gas leakages and fire outbreaks in industries as well as houses have lead to wide destruction and losses in the past. Gas leakages and fire outbreaks both spread widely and lead to even greater loss of life and property if proper action is not taken on time. So here we propose a system that detects gas as well as fire outbreaks and alert us accordingly so that proper action may be taken to control it.

ICIRSEM-2023_paper_28

FOREST-FIRE RESPONSE SYSTEM USING DEEP-LEARNING-BASED APPROACHES WITH CCTV IMAGES AND WEATHER DATA

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ABSTRACT

Forest fires are a major concern for the environment and can cause significant damage to the ecosystem. In recent years, there has been an increasing interest in developing efficient forest fire detection systems that can help prevent and mitigate the damage caused by forest fires. In this paper, we propose a novel forest fire detection system that uses CCTV images and weather data, in addition to satellite images. We train a convolutional neural network (CNN) on a dataset of CCTV images and weather data to detect forest fires in real-time. The proposed system is compared with the existing system, which uses only satellite images for forest fire detection. We propose a forest fire detection system that uses CCTV images and weather data, in addition to satellite images. The proposed system uses a CNN to analyze CCTV images and weather data to detect forest fires in real-time. The CNN is trained on a dataset of CCTV images and weather data, and the output is combined with the output from the existing system based on satellite images. The combined output is used to generate an alarm in case of a forest fire. The proposed system consists of the following steps: CCTV images and weather data are collected from different locations in the forest. The CCTV images and weather data are pre-processed to remove noise and artifacts. A CNN is trained on a dataset of CCTV images and weather data to detect forest fires. The CNN output is combined with the output from the existing system based on satellite images.

PROCESSING & CHARACTERIZATION OF HEMP/GLASS FIBER REINFORCED EPOXY COMPOSITES

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Abstract:

The objective of this study is to produce hemp and glass fiber incorporated composites with epoxy resin polymer matrix and to determine the mechanical strengths like, compression strength, tensile strength and flexural strength of the different samples. Composite materials are synthesized using natural fibers as reinforcements together with matrix, natural fibers having good properties like low density with high specific mechanical strengths, availability, renewability, degradable and being environmental-friendly. The hemp and glass fibers reinforced composite material components and products plays a major role in the field of automobile and construction sectors. By using hand layup process the different composite samples are fabricated as per the astm standards and the specimens were tested with aid of utm tensile testing machine and. Composites were prepared using hemp-glass fibers of 60/40, 40/60 and 50/50 weight ratio. The results show that tensile strength and compression strength of 40% hemp and 60% glass fiber composition is found to be better than the two compositions and the flexural strength of 60% hemp and 40% glass fiber composition is found to be better than other two compositions.

Key Words: MMC, PMC, ASTM

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Environmental Data Collection and Data Acquisition by using Raspberry Pi

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Abstract

Data acquisition node/system uses various sensors, dedicated hardware and respective software to measure and store physical signals like voltage, temperature, pressure etc. Present paper describes the design of a real-time data acquisition system, using a low cost, credit card sized computer known as a Raspberry Pi to collect various environmental data related to wind, solar, rain, temperature and humidity, which can be used for further analysis and model development. Wind direction and wind speed was obtained using a wind-vane and an anemometer by Davis. To collect rain data, a rain gauge with an ultrasonic distance module was used and Kipp & Zonen CM-11 Pyranometer used to collect data related to solar irradiance. The temperature and humidity related data was collected using a DHT-11 sensor. Data from all the sensors was collected by Raspberry Pi using python scripts for each respective sensor and then collected data were logged and stored on a webserver. Environmental data collected by our system was verified and found satisfactory.

Keywords: Raspberry-Pi,real-timesystems,dataacquisition,weatherstation.

ICIRSEM-2023_paper_31

DESIGN AND IMPLEMENTATION OF IEEE 32-BIT FLOATING POINT EMBEDDED SYSTEM

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Abstract:

This paper presents a technique for creating a fully optimized and pipelined Architecture for a Floating Point embedded processor in FPGA, utilizing the IEEE 754 format. This processor can perform various operations, including FP-Arithmetic, FP-Logical, FP-Trigonometric, FP-Vector, FP-Complex, FP-Signed, and FP-Unsigned. Previously, fixed point representation was used for arithmetic operations, but it had limitations such as a narrow range and an inability to represent fractional values. This paper proposes an Embedded Processor that performs multiple operations within the same processor, providing advantages like a larger dynamic range, shorter development time, and fewer cycles for execution than fixed point. The processor is easier to program in assembly code, but it requires a significant amount of FPGA resources. The paper's Architecture design and optimization improve area, area-delay product, and throughput. Using VHDL, the proposed design implements an efficient floating point operation according to the IEEE 754 standard with optimal chip area and high performance. The complex components are optimized to achieve better overall implementation. This technique can be applied in real-time computations, and a Floating Point ALU designed with FPGA offers low-cost, high-efficient results.

Key words—Field Programmable Gate Array(FPGA), Arithmetic Logic Unit(ALU), Floating point, IEEE 754.

ICIRSEM-2023_paper_32

PHISHGUARD: A DEEP LEARNING APPROACH FOR IDENTIFYING PHISHING WEBSITES

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Abstract:

Phishing attacks are one of the most common and dangerous cyber threats. These attacks target naive online users and trick them into revealing confidential information, which can be used fraudulently. One way to prevent users from falling victim to phishing attacks is to maintain a blacklist of known phishing websites. However, this approach requires prior knowledge of the website being detected as phishing. A more effective approach is to detect phishing websites in their early appearance using machine learning and deep neural network algorithms.

In this project, we aim to train machine learning models and deep neural networks , Convolutional Neural Networks and LSTM algorithm on a dataset of phishing and benign URLs to predict phishing websites. The dataset is created by gathering both phishing and benign URLs and extracting URL and website content-based features. The extracted features include domain-based, path-based, and content-based features, which are fed into the machine learning models and deep neural nets

 The objective of this project is to train machine learning models and deep neural nets on the dataset created to predict phishing websites. Both phishing and benign URLs of websites are gathered to form a dataset and from them required URLandwebsitecontent-basedfeaturesareextracted.Theperformancelevelofeachmodelis measured and compared.

Keywords — Deep learning, Machine learning, Phishing website attack, Phishing website detection, Anti-phishing website, Legitimate website, Phishing website data sets, Phishing website features.

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EFFICIENT PNEUMONIA DETECTION USING DEEP TRANSFER LEARNING

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Abstract:

Medical motion plays an essential role in clinical treatment. The deep neural network is an emerging machine learning method that has proven its potential for different classification tasks. Notably, the convolutional neural network dominates with the best results on varying image classification tasks .However, medical image datasets are hard to collect because it needs a lot of professional expertise to label them. Although it can be detected and treated with very less sophisticated instruments and medication. Therefore, this paper how to apply the Convolutional Neural Network (CNN) based algorithm on a chest X-ray dataset to classify pneumonia. The objective and automated detection of pneumonia represents a serious challenges in medical imaging, because the signs of the illness are not obvious in CT or X-ray scans. Further on, it is also an important task, since millions of people die of pneumonia every year. Deep learning-based methods have shown good generalization traits over various problem domains, which prompts researchers around the globe to work tirelessly and come up with more efficient and effective models than earlier. However, this robust nature comes at the cost of high computational resources and, in general, it requires a huge amount of data to train the model efficiently. The latter requirement sometimes cannot be fulfilled, especially in the biomedical field. The main goal is to propose a solution for the above mentioned problem, using a novel deep neural network architecture. The proposed novelty consists in the use of dropout in the convolutional part of the network. The proposed method was trained and tested on a set of labeled images. This project aims to introduce a deep learning technology based on the computational neural network, which can realize automatic diagnosis of patients with pneumonia in X-ray images.

Keywords—pneumonia; Chest X-ray images; convolutional neural network; deep transfer learning

ICIRSEM-2023_paper_34

Chaos based image encryption using henon and Arnold Cat maps for secure transmission of Images

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ABSTRACT

Nowadays, with the increase in technology, the safety of our data is in question. Data-stealing has been happening everywhere which violates the privacy of people. In some cases, when users are sharing sensitive information, they can't afford to have their data stolen. Hence, protection of data is becoming very crucial nowadays. There have been several robust mechanisms and algorithms being developed to save the secret data from intruders. Stealing of data can take place in regular Internet communication or through cloud based services too. Hence, confidentiality and safety of data must be provided. This project aims to encrypt an image for secure transmission. The proposed algorithm involves the use of chaotic maps such as Arnold cat map for confusion and Henon map for diffusion. These maps randomize the pixel orientation of the original picture thus making it look deformed and chaotic. Since the image is deformed, our original data can't be stolen.

KEYWORDS

Image encryption, chaotic maps, Arnold cat maps, henon maps, image security, data theft, data confidentiality.

ICIRSEM-2023_paper_35

DUAL ACCESS CIRCULAR SOLAR TRACKING AND CHARGING SYSTEM USING EMBEDDED TECHNOLOGY

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Abstract:

Dual axis solar panel research and development have been ongoing for some time; they have recently gained popularity as a primary power generation method. The sun's energy has the potential to overtake other energy sources in the future because it is a limitless energy source. Despite the fact that dual axis solar panels have existed for some time, they have recently gained popularity as a primary power producing method. The sun's energy has the potential to overtake other energy sources in the future because it is a limitless energy source. Finding the most effective solar panel shape is the major goal of our study in order to increase the amount of energy produced from a given base area. We intend to capture solar energy as effectively as possible, lessening our reliance on fossil fuels and drastically lowering the price of electricity.

Keywords: Dual Axis Solar Panel, Energy, Fossil Fuels, Geometry, Power Generation.

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"FORETELLER" the learning disability prediction and classifier system

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ABSTRACT

Dyslexia-the learning disability disorder is the neuro developmental problem. A child predicted with learning disability could find difficulty in reading and writing skills, rapid word naming, poor in spelling and also influence in social-emotional development. Failure to diagnose children coping with dyslexia is a potential risk of discrimination and social exclusion. Studies have demonstrated that the earlier dyslexia is recognized and backing is given in education and training and risk impacts can be alleviated. The early prediction can be possible by using our project "foreteller" by implementing several machine learning algorithms which are capable enough to learn the knowledge of experts and intelligently diagnose and classify dyslexics.

KEYWORDS

Learning prediction, Classification Algorithm, Machine Learning, Magnetic resonance image (MRI), Feature Extraction, High Accuracy level.

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STRESS MANAGEMENT INITSECTOR

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ABSTRACT:

Stress is an intangible part of being human. It cannot be seen or touched, although it can be felt. A person under stress cannot give his best to the company and at the same time family life will also be disturbed Emphasis is placed on India's corporate sector to examine how Indicators of employment anxiety about work environment psychological and affective in Indian local's Emotional well-being. This information was collected by looking at the workers of various organization Organized. In India, one of the fastest growing sectors is Information Technology. IT. It will become the most competitive service sector in India. Since the beginning of this decade, I.T Technological revolution, service diversification and globalization are facing more challenges Service. Therefore, not everyone can adapt to the change challenges they face in the IT industry. This leads to stress. Stress is present Throughout human life.

KEYWORDS: *Intangible part of human, Work environment, Fast growing sector, Challenges*

ICIRSEM-2023_paper_38

THE ACCOMPLISH OF SOCIAL MEDIA ON SOCIETY

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ABSTRACT:

The term "social media" refers to a group of online communication platforms that focus on user-generated content, collaboration, and community involvement. People can communicate with their friends and extended family using social media. This review's main objective is to give detailed information regarding how social media affects society. Numerous researches suggested that social media might have both positive and positive effects. Socialization, communication, improved learning opportunities, and access to health-related information are just a few examples of the good results. Some of the negative effects of social media on societies include terrorism, criminal activity, cat fishing, depression, anxiety, and cat fishing. Typically, when people utilize social media for the right reasons and with planned Objectives, the results Will be For good side effects, the opposite is true, and vice versa. All interested Parties should cooperate in order to lessen and prevent society's negative side effects and promote the Positive ones.

.Keywords: social media, society, new technology, network, health, and commercial objectives are some of the related terms.

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THE WORLD AFTER COVID19 PANDEMIC

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ABSTRACT

The outbreak of COVID-19 had a effect on global health care Systems and every aspect of human life. OVID 19 has infected hundreds of Millions of people across the globe. The coVID-19 Pandemic disrupted labor markets globally like, Mary of them lose their jobs and others rapidly adjusted to working from home as offices closed. The globe economic fallout is also hit the transport, Services and retail in industries During Pandemic you may experience stress, anxiety, Pear Sadness and loneliness. After two years of Teaming it helps us to deal with fear of virus. Transmission and work-life balance.

Keywords : lack of jobs, anxiety, isolation, fall down of economic, absence in mental and physical health.

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ASTUDY ON THE BENEFITS AND CHALLENGES OF WORKING FROM HOME

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Abstract:

Working from home terminates the stresses of working in the organization. This study focuses on the benefits and challenges of working from home, and it enables new business opportunities. It also tells about the fraudsters and how they use it for their money-making purpose.

KEY WORDS: Working from home, benefits, challenges

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ASTUDY ON STRESS MANAGEMENT TECHNIQUES

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ABSTRACT

This study deals with behaviors that improve physical health search as nutrition exercise. In corporate strategies that improve cognitive and emotional functioning sometime it act as positive and sometime negative force? Stress is defined as situation where the organism homeostasis is threatened or the organism perceives a situation as threatening. If you experience stress over a prolonged period of time, it could become chronic, till you take some action. stress is a significant problem of our time and affects both of the physical and mental heath of people. Main objective or to ascertain except to which stress affect students academic success. stress can be managed truth the introduction b of a stress management course and engaging extra circular physical and mental activities. The study for were suggestion to Wards area of research which would help the upcoming researcher to applied stress management in the field of social science. This study highlights the cause affected, and management of stress therefore could be health for people who want to learn now do react to stress in a more constructive proactive way.

keywords: stress, management, mental , physical, health, emotions, affect.

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ENHANCING DELIVERY RELIABILITY IN BUSINESS NETWORKS BY CREATING A COOPERATIVE BUSINESS INTELLIGENCE SYSTEM

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ABSTRACT

Manufacturing businesses are likely to organize along agile business networks in the next years as markets become more complicated and demanding. However, this complicated environment frequently causes issues with supply reliability as well as higher operating costs for keeping an eye on and managing suppliers. This study exhibits the design of a process-centric, collaborative business intelligence system that may aid organizations in maximizing the reliability of their supply. It is based on the design science research paradigm. In doing so, more information is provided about the new IT- artefact's architecture as well as its key features.

Key words: Manufacturing, Reliability, Business Intelligence, Manufacturing Business.

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AUDITING FRAUD AND FINANCIAL RISK

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ABSTRACT

Auditing fraud and financial risk are critical issues that require effective management in modern organizations. The purpose of this abstract is to highlight the importance of auditing fraud and financial risk in businesses, discuss the various types of fraud and financial risk, and describe some of the techniques and strategies that can be used to prevent and detect them. Fraud and financial risk can take many different forms, including embezzlement, asset misappropriation, financial statement fraud, and corruption. To combat these risks, auditors can use a variety of techniques, such as conducting internal audits, implementing strong internal controls, and performing regular risk assessments. In conclusion, it is essential for businesses to prioritize the prevention and detection of fraud and financial risk in order to safeguard their financial stability and reputation.

KEYWORDS: Auditing fraud and financial risk, Asset misappropriation Corruption

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A STUDY ON EVENT MANAGEMENT

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Abstract:

Event management is the important one. It is the application of project management to the creation and development of large /miniature events such as festivals, ceremonies, annual meetings, induction events. In recent years, the organization of events has grown rapidly. This study also analyses the what are the method used in event management.

Keywords: Event management, methods used in event management

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A STUDY ON METAVERSE

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ABSTRACT:

The Metaverse is the post-reality universe, a perpetual and persistent multiuser environment merging physical reality with digital virtuality. It is based on the convergence of technologies that enable multisensory interactions with virtual environments, digital objects and people such as virtual reality (VR) and augmented reality (AR). Hence, the Metaverse is an interconnected web of social, networked immersive environments in persistent multiuser platforms. It enables seamless embodied user communication in real-time and dynamic interactions with digital artefacts. Its first iteration was a web of virtual worlds where avatars were able to teleport among them. The contemporary iteration of the Metaverse features social, immersive VR platforms compatible with massive multiplayer online video games, open game worlds and AR collaborative spaces.

KEYWORDS: Metaverse, mixed reality, virtual reality, augmented reality

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DESCRIPTIVE STATISTICS

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ABSTRACT:

Statistics is the science, or a branch of mathematics that involves collecting, classifying, analyzing, interpreting, and presenting numerical facts and data. It is especially handy when dealing with populations too numerous and extensive for specific, detailed measurements. Statistics are crucial for drawing general conclusions relating to a dataset from a data sample. Statistics further breaks down into two types: descriptive and inferential. Today, we look at descriptive statistics, including a definition, the types of descriptive statistics, and the differences between descriptive statistics and inferential statistics. Descriptive statistics are brief informational coefficients that summarize a given data set, which can be either a representation of the entire population or a sample of a population. Descriptive statistics are broken down into measures of central tendency and measures of variability. Descriptive statistics are used to describe or summarize data in ways that are meaningful and useful. For example, it would not be useful to know that all of the participants in our example wore blue shoes. However, it would be useful to know how spread out their anxiety ratings was.

KEYWORDS: collecting, classifying, analyzing, interpreting, presenting numerical facts, data, entire Population, anxiety ratings.

IMPACT OF MOBILE PAYMENT

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ABSTRACT

Mobile payments are becoming more popular as consumers use technology and merchants provide contactless payments. Mobile payments in India are expected to increase fivefold by 2025. Digital payments have had a huge impact on the Indian economy. The government's efforts to make India cashless have been successful, but it will take time for to become cashless due to other challenges. This study examines the impact of mobile phones on mobile payments, the acceptance of and the impact of age on online payment methods. This study is based on descriptive research and questionnaires were used to collect data. Statistical tools used include the chi-square test, case processing, and data analysis.

Keywords: mobile payment, payment behavior, digital payment, UPI.

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A STUDY ON DISPUTERE SOLUTION AMONG EMPLOYEES

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ABSTRACT

In a workplace, because of some misunderstandings among employees some dispute arises. For that dispute resolution adopted some ways to resolve the employee conflict at workplace. Dispute resolution is the process of resolving conflicts between employee, managers, supervisors and other team members. And then there is 3C's for resolving a conflict. That is balancing the 3C's : communication, conflict resolution and commitment. And also 6R's are adopted to manage: register, remove, restrict, relinquish or resign. The main advantage of resolving the dispute among employees foster personal growth in individual and provide opportunities to strengthen professional relationship at work. This study deals about the resolution for the dispute among employees leads the personal growth in individual and opportunities to strengthen relationship among employees.

Keywords: dispute, employee, resolution, conflict, opportunities, workplace, relationship, communication.

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JOB ENRICHMENT

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ABSTRACT:

Empirical evidence is provided from the study which finds that the second factor contributes more to improving the performance of individuals. Further research can be conducted on other factors of job enrichment and their impact on individual performance of employees in educational institution. It gives the job more responsibilities than it was originally used to, creating opportunities for professional growth and recognition. This paper is an attempt to explore employee's psychological perspective on quality of work life through job enrichment. A structured questionnaire was used and the sample was collected through systematic random sampling. From the study job enrichment has an impact on job performance. This leads to improved efficiency, which in turn increases productivity. The survey depicts that majority of the respondents agree on the relationship of job enrichment with satisfaction.

Keywords: job, work life, job performance, efficiency

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ROLE OF DIGITAL MARKETING IN MODERN BUSINESS

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ABSTRACT

The role of Digital Marketing in modern world cannot be underestimated or ignore if online presence for personal or commercial promotion is desire. Digital marketing involves the application of digital technologies and media to spread brand awareness for driving more sales. The country is steadily gearing its attention to achieve complete digitization of every possible field but that might take a bit more time to happen. In the world of trade and commerce, however, digital marketing has been in practice popularly for quite some time now. The primary role of a digital marketer is to manage marketing campaigns promoting a brand as well as its products. They have a huge role in increasing brand awareness as well as driving traffic and acquiring leads and customers. In this article, an attempt has been made to simplify the significance of digital marketing in terms of how beneficial actually it is in boosting the business community. Let us proceed to understand further.

KEYWORDS: Economical option, Mobile-ready, Accessibility anytime and anywhere, quicker brand recognition, Share information and get feedback better, Social media inclusion.

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MODERN STRATEGY FOR BUSINESS IN HR

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ABSTRACT:

The HR strategy touches on all the key areas in HR. These include recruitment, learning & development, performance appraisal, compensation, and succession. HR strategy is a roadmap for solving an organization's biggest challenges with people-centric solutions. This approach requires HR input during policy creation and elevates the importance of recruitment, talent management, compensation, succession planning and corporate culture. external Labour orientation are combined to develop the four different HR strategies, which includeLoyal Soldier, Bargain Labour, Free Agent and Committed Expert. An HR department can help provide organizational structure and the ability to meet business needs by effectively managing the employee lifecycle. The key to a successful HR strategy is to identify what unifies and motivates employees and to develop a strategic plan around that understanding. Think about conducting a regular survey where you ask what motivates employees and ask them to rank a series of options in order of importance to them.

KEYWORDS: *Developing, Reinforcing, Advance flexibility, Innovation, and Competitive advantage.*

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A STUDY ON FOREIGN MARKET ENTRY MODES

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ABSTRACT

The choice of a mode of market entry is a critical component of the internationalization strategy, and numerous empirical studies have focused on this topic. Prior research, however, has provided mixed empirical evidence and thus, is difficult to interpret and review. This study examines the external antecedents of the choice of entry mode by meta-analyzing data from 72 independent primary studies. We focus on the decision between wholly owned subsidiaries and cooperative entry modes. For each variable, hypotheses about the theoretically expected direction of effect are posited and tested. We find a strong positive relationship between power distance as a cultural trait of the firm's home country and the propensity to establish a wholly owned subsidiary. On the other hand, we find a negative association between country risk, legal restrictions, market growth, and market size and the preference for wholly owned subsidiaries. We extensively discuss the implications of the meta-analytical results and investigate moderating effects of industry type and the time of the study. The relationship between income level of the host country and entry mode depends, to some degree, on the industry type. Service companies exhibit a negative relationship between income level and wholly owned subsidiaries, while manufacturing companies show a positive relationship.

KEY WORDS: internationalization, subsidiary, income level

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PROFIT MAXIMIZATION

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ABSTRACT:

Profit   maximization is   the short   run or long   run process   by   which   a   firm   may determine the price, input and output levels that will lead to the highest possible total profit.   In neoclassical economics, which is currently the mainstream approach to microeconomics, the firm is assumed to be a "rational agent",   which wants to maximize its total profit, which is the difference between its total revenue and its total cost. Profit maximization is a process business firms undergo to ensure the best output and price levels are achieved in order to maximize its returns. Influential factors such as sale price, production cost and output levels are adjusted by the firm as a way of realizing its profit goals. In other words, the profit-maximizing quantity and price can be determined by setting marginal revenue equal to zero, which occurs at the maximal level of output. Marginal revenue equals zero when the total revenue curve has reached its maximum value. An example would be a scheduled airline flight. The most basic factor affecting profit in any business is the number of production units. The productivity of your land and livestock also has an impact on profit.

KEYWORDS: Direct Costs, Value per Unit, Enterprise Mix, Overhead Costs, Production per Unit, Number of Production Units.

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CUSTOMIZATION IN INDIA

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ABSTRACT

Privatization is generally defined as a process of changing ownership that can be permanent or effective only for the year a specific contract is drawn up by both parties. It is the transition from public ownership to private ownership. On the other hand, it is still a strategy that does little good at the cost of a lot. In the 1960s and 1970s, experts, scientists, and politicians were concerned with state ownership in the production and distribution of goods and services. But by the late 1980s, public policy retreated from the state's collective efforts and provided goods and services to non-citize members and workers. This is part of the "failed situation" observed by international banks, which has resulted in poor service, unprofitable companies, high government debt, and economic duplication. Therefore, privatization has become popular in some countries as a policy tool to increase efficiency, encourage investment, and free up public resources for investment in infrastructure and relationships that support economic processes and spatial distribution. The article also discusses the reasons and reasons for privatization in India along with its pros and cons.

Key words: privatization, customization

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A STUDY ON CAREER PLANNING IN HRM

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ABSTRACT

A career is a set of positions   that   a person has held in his professional   life. The sequence of activities including   education, training, gaining professional experience determine the career path. It is related to the   opportunities for holding a higher position i n the future. Career planning   process involves both the organization   and the individual responsibility. Thus the individual must identify   their aspiration and abilities and through assessment and counseling   to   understand   their   needs of training   and   development the   organization   need to identify it's needs and opportunities. It is   thinking and organize action for desired career goal. A career is a set of position that a person has held in his professional life. Career planning is seen as a very systematic and comprehensive process targeting career development and implementation of strategies, self assessment and analysis of opportunities   and   evaluates the results.

Key word: career planning, opportunities, position, assessment.

UNEMPLOYMENT OF YOUTH IN CURRENT TREND

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ABSTRACT:

The problem of youth unemployment is a global issue. It is important to deeper examine the issues of youth unemployment, because it has high extent to the social factor. High unemployment means a waste of limited resources and decelerates the long-run growth potential of an economy in the result of lower incomes, hence lower aggregate demand and GDP growth rates. The aim of this paper is to clarify the dimensions of the youth unemployment problem by analysing the unemployment in the EU countries. Findings prove, that be employed does not mean that young people have jobs corresponding to their qualifications. The total global number of unemployed youths is estimated to reach 73 million in 2022, a slight improvement from 2021 (75 million) but still six million above the pre-pandemic level of 2019, the report says.

KEYWORDS: lower aggregate demand, GDP growth rates, global number, EU countries.

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PERFORMANCE OF 5S METHODOLOGY AND LEAN MANUFACTURING

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ABSTRACT

The intent of the paper is to analyze the performance of 5sMedology and lean manufacturing. One of the tools for lean Management. seire (sort), seiton (set in order), seiso (shine), seiketsu (standarize), shitsuke (sustain). In the current world, big and small Industries are increasing their productivity. Basic awareness of the 5sMedology and analysis of important works. 5S methods are basically used in business and industrial approaches; it's focused on the production. Value-added term this helps establish a workplace for efficiency. And reduce the waste. This analysis paper is focus on increasing of 5sMethods used in industry and demonstrated to build up the productive and safety rules at the workplace.

Keywords: 5s methods , lean Management, Demonstrated, productive

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COMPARING EMPOWERING, TRANSFORMATIONAL, AND TRANSACTIONAL LEADERSHIP ON SUPERVISORY COACHING AND JOB PERFORMANCE

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ABSTARCT

Given that a leader might have a variety of leadership philosophies, research on which leadership style encourages supervisory coaching behavior is lacking. The goal of the current study was to determine which leadership style would engage in supervisory coaching behavior and whether this behavior would act as a mediator between leadership styles and job performance. Three leadership philosophies transformational, transactional and empowering leadership were contrasted in the study's effects on the supervisory coaching style that has been shown to affect job performance. This study used 500 employees from 65 organizations in Malaysia and a multilayer strategy. Only transactional and empowering leadership demonstrated supervisory coaching behavior, according to the study, which in turn mediated their links with job performance. Overall, the results indicate the significance of leadership practices that place an emphasis on employee development, as these would boost employees' job performance.

Key words: behavior, empowering, strategy, development

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CENTRAL GOODS AND SERVICES TAX (GST) - ACT 2017

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ABSTRACT

The Central Goods and Services Tax Bill, 2017 was introduced in Lok Sabha on March 27, 2017. The Bill provides for the levy of the Central Goods and Services Tax (CGST). Levy of CGST: The centre will levy CGST on the supply of goods and services within the boundary of a state. Supply include sale, transfer and lease made for a consideration to further a business. The centre may exempt certain goods and services from the purview of GST through a notification. This will be based on the recommendations of the GST Council. Upon such application, the refund may be credited to the taxpayer, or to a Consumer Welfare Fund. The Fund will be used for the purpose of consumer welfare. Upon such application, the refund may be credited to the taxpayer, or to a Consumer Welfare Fund. The Fund will be used for the purpose of consumer welfare. It expands the input tax credit base by ensuring their availability as taxes paid on supply of goods and services. CGST enables self- assessment by taxpayers on taxes payable by them. CGST conduct audits\ so taxpayers can ensure compliance with the Act's provisions.

KEYWORDS: Central Goods and Services Tax include sale, transfer and lease made, taxpayers.

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THE ROLE OFPOKA-YOKEIN PRODUCT DEVELOPMENT

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ABSTRACT

Poka-Yoke is a manufacturing process that helps prevent errors and defects in its parts can be used in all kinds of production areas and increases the efficiency of machines. It acknowledges that there is a high degree of human error in each production process and machine differences between models. It works on the principle that the error or bug does not appear in the system or is shown immediately when it occurs, so that appropriate action is taken in time to check the functioning of the system. This article summarizes the key features of the Poka-Yoke process that will help authors use the concept more effectively in their curriculum.

Key words: Poka-Yoke, Waste Minimization, Error Proofing, Lean Manufacturing.

BENCH MARKING

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ABSTRACT

Benchmarking is rapidly becoming a standard business practice used by organizations to improve their quality in specific areas. Though benchmarking previously has been associated with product comparisons, such as benchmarking the performance of one product with another, process benchmarking is becoming equally important. This paper, based on a recently conducted benchmark, discusses why you might consider benchmarking an aspect of the process you use to develop technical information. It discusses how to prepare for a benchmark, find a suitable benchmarking partner, and conduct a benchmark, and it provides a guideline for the time and effort required. Competitiveness is the order of the day and benchmarking as a tool helps companies to position themselves in the market place. Decision makers are persistently on the lookout for techniques to facilitate quality enhancement. Benchmarking, in the recent times occupies a prominent place, helping quality up gradation. Benchmarking is imperative for performance and the study highlights the diverse crucial aspects of benchmarking process, which proves essential for successful implementation. This study demonstrates benchmarking as a basis of competitive positioning and shares valuable information from managerial personnel on benchmarking. In this paper, the authors have reviewed benchmarking literature and sought responses from managerial personnel to facilitate researchers and academicians to take a closer look at the expansion, progression and application of benchmarking.

KEYWORDS: Demographic information, economic development, corporate executives, decision makers.

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THEROLEOF EMPLOYEEMENTALHEALTH

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ABSTRACT

This study deals with mental disorder and other mental health. Conditions can affect a person 'confidence at work productively absence and the ease with which to retain or gain work. Twelve billion working days are lost every year to depression and anxiety alone. Everyone has the right to work and all workers have the right to a safe and healthy working environment. Work can be protective factor for mental health, but it can also contribute to worsening mental health. Work-related mental health condition are preventable much can also be done to protect and promote mental health at work and support people with mental health condition to participate fully and equitably in work. Mental health in the workplace should be taken just as seriously as physical health. Employee are truly your most important asset. It's crucial that organization take steps to help limit stress, burnout and other mental health issues.

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Real Time Environment Monitoring System using IOT

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ABSTRACT

To monitor the humidity, ambient light status and temperature. Here in paper implement the design of an operative prototype based on IOT concepts for real time monitoring of different environmental conditions using particular familiar available and low-cost sensors. The distinctive natural conditions like temperature, air contamination, sunlight intensity and rain are consistently checked, process and constrained by an Arduino board with the assistance of individual sensors this data is circulated through internet with an ESP8266 Wi-Fi module. It shows reliability and the system work well. This prototype is use to monitor real time data used by graphical information of environment.

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STRATEGIC SOCIAL WORK MANAGEMENT IN DIGITAL VIOLENCE AGAINST WOMEN

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ABSTRACT

This study focuses on determining the strategic social work management principles in digital violence against women. The aim of this study is to determine the strategic factors for the implementation of measures in the determination and management of the causes and effects of violence against women by social work through digital elements. The systematic review method was adopted in the study. The results of the study showed that the behavioral patterns of digital violence against women were disruptive behavior , bullying , doxxing , harassment , stalking , intimidating , controlling. It was determined that strategic social work management consisted of analysis and planning , implementation , control , competitive power, feedback , and strategic renewal stages/steps. According to other findings, it was determined that women were exposed to digital violence through computer games , cyber harassment , cyber warfare, cybercrime fraud , social media , smartphone applications ,e-articles. Recommended applications for the implementation phase of social work are e-gender discrimination measures , women's e-refuge / e-shelter , electronic sportswomen.

Keywords: Social work management, digital violence , cyberbullying , doxxing , violence , women's e-refuge.

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A Survey on Deep Learning-Based Wound Image Analysis: Using Segmentation

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Abstract:

The most prevalent metabolic disorder in people is diabetes. This condition may result in issues with the eyes, nerves, and blood vessels. Both ischemic and neuropathic foot ulcers may result from these issues. Damage to the nerves and poor blood flow are the main causes of this ulcer. Many people have lost their legs as a result of these ulcers, and occasionally they can result in death. Millions of people around the world have been impacted by this illness. A limb is amputated from one individual every thirty seconds. Therefore, early detection and accurate classification of foot ulcers are crucial for effective therapy. The two categories of semantic segmentation and instance segmentation are covered in this section along with other frequently used deep learning image segmentation architectures. Then, a thorough explanation of how deep learning is used to segment photos for DFU images is presented.

Keywords: Diabetic foot ulcer, Deep Learning, Segmentation, Semantic

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Intelligent bio sensing strategies for rapid detection in food safety

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Abstract

With the development of the economy and progress in science and technology, people are paying increasing attention to food safety, and food safety testing technology has also developed rapidly. In food detection, biosensors stand out due to their advantages of high sensitivity, high selectivity and low cost. At present, intelligent biosensors are developing vigorously in the field of detection, among which biosensors based on smart phones and 3D printing technology are the most widely developed, and some sensors have been applied in actual samples. Using smart phones and 3D printing devices, allergens in complex samples can be detected. The future development of food detection requires intelligence, portability and sensitivity. Based on these factors, the research progress regarding the intelligence of biosensors in recent years, expound the research situation based on various biosensor intelligent technologies and equipment and forecast the future applications of intelligent biosensors.

Keywords: 3D printing; Biosensor; Intelligent; Internet of things; Smartphone.

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VISION RECOVERY FOR BLIND PEOPLE USING BIONIC EYE

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ABSTRACT

Technology has created many pathways for the mankind. Now technology has improved to that extent where in the entire human body can be controlled using a single electronic chip. We have seen prosthetics that helped to overcome handicaps. Bio medical engineers play a vital role in shaping the course of these prosthetics. Now it is the turn of Artificial Vision through Bionic Eyes. Chips-designed specifically to imitate the characteristics of the damaged retina, and the cones and rods of the organ of sight are implanted with a microsurgery. Whether it is Bio medical, Computer, Electrical, Electronic or Mechanical Engineers – all of them have a role to play in the personification of Bionic Eyes. This multidisciplinary nature of the 'new technology' has inspired me to present this paper. There is hope for the blind in the form of Bionic Eyes. This technology can add life to their vision less eyes. The bionic eye is a visual prosthesis that restores the vision fully or partly in blind people suffering from retinitis pigmentosa and macular degenerations. Many bionic eyes have completed human clinical trials and become functional but still need newer technical approaches to make it available to all people. A bionic eye illuminates the dark world of blind people.

KEY WORDS : Electronic Micro Chip, Artificial Silicon Retina, MARC System that Digital Camera, Implantation.

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A SURVEY ON IMPLANTABLE ANTENNAS FOR BIOMEDICAL APPLICATIONS: CHALLENGES AND SOLUTIONS

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ABSTRACT:

The development of science and technology has made it possible for Implantable devices to provide cutting-edge medical treatments. Modern Implantable Medical Devices (IMDs) can automatically monitor and manage a range of patients' medical conditions without any manual help from healthcare professionals. Patch antennas are frequently utilized in medical implant devices because of their tiny size and low profile. Designing implanted antennas has become a difficult task since the human body is an asymmetric hostile environment for implantable antennas, where it absorbs most of the antenna's radiation. This survey paper's goal is to give readers a broad understanding of design issues, including those related to biocompatibility, acceptable Specific Absorption Rate as defined by IEEEC9S.1-1999, efficient radiation, and fabrication and implantation techniques. It also reviews the recent developments and anticipated advancements in implantable antenna design.

The development of science and technology has made it possible for Implantable devices to provide cutting-edge medical treatments. Without any manual assistance from healthcare personnel, modern Implantable Medical Devices (IMDs) can automatically monitor and manage a variety of patients' medical conditions. Due to their small size and low profile, patch antennas are widely used in medical implant devices. As the human body is an asymmetric hostile environment for implantable antennas, where it absorbs most of the antenna's radiation, designing implantable antennas has become a challenging task. The objective of this survey paper is to provide an overview of design challenges in terms of miniaturization of antenna dimension, biocompatibility, acceptable Specific Absorption Rate specified by IEEEC9S.1-1999, efficient radiation, fabrication and implantation methods. It also aims to review recent advances in designing implantable antennas and upcoming research progress in the area of implantable antennas.

Keywords: Implantable Antenna, Antenna Design, SAR, MICS and ISM band, Implant fabrication, biocompatible materials

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PHOTO VOLTAIC BASED SWITCHED CAPACITOR CONVERTER FOR NPC INVERTER IN GRID CONNECTED APPLICATIONS

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Abstract

This project proposes a grid connected solar Photovoltaic (PV) Systems with a new voltage balancing converter suitable for Neutral-Point-Clamped (NPC) Multilevel Inverter (MLI). The switched capacitors used in the proposed converter are able to balance the DC link capacitor voltage effectively by using proper switching states. The proposed balancing converter can be extended to any higher levels and it can boost the DC input voltage to a higher voltage levels without using any magnetic components. In this project, the proposed converter is used for a grid connected solar PV system with NPC multilevel inverter, which is controlled using vector control scheme. The proposed grid connected solar PV system with associated controllers and Maximum Power Point Tracking (MPPT) is implemented in MATLAB /Sims Power System and experimentally validated using d SPACE system and designed converters. The simulation and experimental results show that the proposed topology can effectively balance the DC link voltage extract maximum power from PV module and inject power to the grid under varying solar irradiances with very good steady state and dynamic performances.

*Keywords***:** *Solar photovoltaic, NPC multilevel inverter, balancing circuit, dc-link voltage balancing, and grid connected PV system.*

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RESTRICTED, REPETITIVE, AND STEREOTYPED BEHAVIOR IN AUTISM SPECTRUM DISORDERS PREVENTION SYSTEM USING IoT

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ABSTRACT

This project proposed the repetitive, nonfunctional, fixed pattern of behavior is associated with autism severity but it is not specific for ASD. There are a wide range of behaviors mentioned as stereotypies. It usually starts in early childhood and its severity is associated with outcomes and severity of autism in adolescence and adulthood. It is usually co-morbid with other psychiatric problems and its pathophysiology is not exactly known. Management is most likely behavioral. However, promising new ideas and evidence are emerging from neurobiology and developmental psychology that identify neural adaptation, lack of environmental stimulation, arousal, and adaptive functions as key factors for the onset and maintenance of Restricted and repetitive behaviors (RRBs). This project consists of accelerometer sensor, tilt sensor, heart sensor, PIC microcontroller, motor with help of driver relays and IoT module. The accelerometer and tilt sensor are used to detect the child activity continuously. The sensor values are fed to PIC (16F877A) microcontroller. If sensor values crosses the threshold value, the vibration trigger the child and voice (music) will be play while in autistic spectrum disorder. The IoT is used to monitor the child activity continuously.

***KEYWORDS** – Autism Spectrum Disorder, Restricted Repetitive Behaviors, Wireless Sensor Network.*

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SEQUESTRATION OF Ni(II) and Cd(II) FROM ELECTROPLATING INDUSTRY EFFLUENT USING NEW AZOMETHINE POLYMER BEARING THIADIAZOLEAMINE GROUP FOR BETTER EFFICACY: EXPERIMENTAL DESIGN AND EQUILIBRIUM STUDIES

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Abstract

In the Present study, a new azomethine polymers bearing thiadiazoleamine group is synthesized using conventional one pot synthesis method. The synthesized monomers and polymers were confirmed using nuclear magnetic resonance (^{1}H-NMR, ^{13}C-NMR), Fourier transform infrared studies (FTIR), X-ray diffraction studies (XRD) studies. The surface morphology of the polymers wasanalyzed using scanning electron microscope (SEM) and energy dispersive studies (EDAX). The synthesized polymers were subjected for sequestering Ni(II) and Cd(II) using batch adsorption studies. Maximum sequestration was attained at pH-6 with 100 mL quantity of metal 100 ppm concentration under 60 minutes of time calculations. The polymers were porous in nature constituting maximum chances of sequestering the metal ions. The experimental design were evaluated and found to follow pseudo first order kinetics with both physical and chemical interactions. The stability of the polymers was found to be strong up-to four consecutive cycles with almost same efficacy. The minimal damage was mainly due to the regeneration through acid media.

Keywords: *polyazomethine, porous nature, sequestration, electroplating industry, stability studies.*

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ASYMPTOTICALLY ALMOST AUTOMORPHIC SOLUTION TO FRACTIONAL IMPULSIVE COHEN - GROSSBERG NEURAL NETWORK MODEL

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Abstract

This article discusses the concepts to asymptotically almost automorphic solution to impulsive fractional derivative Cohen Grossberg neural network model. The existence and uniqueness theorem is established via semi group theory and the fixed point theorem. Finally, it is an example given to demonstrate the validity of main results.

Keywords: *Automorphic solution, Cohen Grossberg, neutral network model.*

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INFLUENCE OF SPRAY PYROLYZED DOPED ZnO THIN FILMS ON ANTIBACTERIAL ACTIVITY

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Abstract

Pure, Tin doped zinc oxide (ZnO:Sn),Aluminum-doped zinc oxide (ZnO:Al) thin films and and In-doped ZnO thin films were deposited onto glass substrates by spray pyrolysis technique with the substrate temperature 400 °C. The structural, optical, photoluminescence (PL) properties and morphological studies were investigated for the films deposited with various doping concentration (0, 2, 4, 6 and 8 at. %) of tin, aluminum and indium. XRD results had shown that the films were polycrystalline ZnO with hexagonal wurtzite type structure and the crystallites in the films were oriented along (002) direction.SEM analysis of the doped films exhibited the change in morphology and porous nature for the film with 6 at. % of Sn. Al and In doping. Surface topography studies revealed nanometer sized particles with decreased surface roughness for Sn, Al doping. Whereas for in doped ZnO the study depicted the polycrystalline nature and uniformly distributed grains with small pores. Optical analysis exhibited the band gap value of 2.8eV to 3.11 eV was noticed with increase in doped content which is lower than that of pure ZnO film. Photoluminescence analysis showed weak NBE emission at 396 nm and the absence of green emission in PL spectra indicated the decreased oxygen defects in the doped films. A better antibacterial activity was observed against Staphylococcus aureus by doped ZnO thin films.

Keywords: pure and ZnO doped (Sn, Al, In), Porous film, XRD, Antibacterial activity

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EFFECTIVE UTILIZATION OF RENWABLE AND NON-CONVENTIONAL ENERGY SOURCES IN SOUTH INDIA

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Abstract

The Micro-Grid in south India concept using blended mixture of different renewable energy sources is a building block towards the future energy networks for Long-term viable solution of energy crisis including alternate to the plants using radioactive materials as a fuel by taken into the consideration of fishermen plea of not exploiting natural sea resources because of lot of wind potential, solar energy and tidal throughout the year. The focus of the paper is aimed around the encountered and foreseen issues, enabling Innovative technologies and power system economics for encouraging the deployment of Micro-Grids in south India with the higher efficiency of whole system. The leading power firms in these renewable energy area and the associated problems like reactive power compensation etc., are studied for the feasible solution. This paper presents state-of-the-art practical issues and feasible solutions associated with the deployment of Micro-Grid technologies leading to the conceptualization of efficient and smart Micro-Grids with soft computing provision. The role of enabling technologies, automation and communication for sustainable development of Micro-Grids is also addressed here.

Keywords: Micro-Grids, Sustainable Development.

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IoT BASED ELECTRIC BIKE SMART SYSTEM FOR SPEED MONITORING AND ACCIDENT PREVENTION

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Abstract

The increasing demand for eco-friendly transportation has led to the development of electric bikes. However, the safety of these bikes is a major concern. This research paper proposes a system that monitors the speed of electric bikes, detects fire, and alerts the owner in case of an accident. The system uses an IR sensor to measure the speed of the bike by counting the number of pulses in one minute, which is then converted to km/h and displayed on the Blynk app. If the bike crosses the threshold speed, the owner receives a notification. The fire detection system uses a flame sensor that detects the presence of fire and disconnects the battery circuit, preventing any further damage. The owner is notified of the fire through an email. The accident detection system uses a vibration sensor that detects sudden bike vibrations, which are considered as accidents. The owner is notified of the accident through a notification. The proposed system ensures the safety of the electric bike and the rider, making it a reliable and efficient mode of transportation.

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SMART E-BIKE WITH SAFETY SYSTEM

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Abstract

The present work is carried out to design and implementation of a smart e-bike system with the focus on safety features. This system includes three main units named Controller unit, Bike Safety Unit and Helmet Safety Unit. The controller unit incorporates a customized and compactly designed 24V speed controller to control the 24V, 250RPM BLDC Hub motor of the e-bike. This unit will be essentials for maintaining the bike's speed and ensures that the motor functions optimally. The bike's safety unit is responsible for ensuring the safety of the bike. This unit includes Neo 6M GPS module to monitor and track the vehicle. This enables to monitor the location of the vehicle in case of theft, or other emergencies. Additionally, this unit includes Overload Detection System using a HX711 sensor and a load cell with the Node MCU. Overloading an e-bike can cause various problems including reduced performances and range, over-heating, braking issues and might also lead to accidents. This overload detection system ensures the safe handling of the vehicle, by alerting the rider, to ensure the safe handling of the vehicle. The helmet safety system is responsible for ensuring the safety of the rider. This unit includes an IR sensor and Node MCU to detect, whether the rider is wearing a helmet or not. If the rider is not wearing a helmet, an indication will be displayed, remaining the rider to wear a helmet, for the safety of the rider. Additionally, this unit includes an alcohol detection system using MQ3 sensor and Node MCU. This feature is essentials for ensuring that the rider is not under the influence of alcohol, while riding the e-bike. This could prevent the rider from road accident because ofthe drunk and drive. Finally, the accident detection unit in this system includes MPU6050 with the Node MCU. This system detection detects the accident based on the sudden change in the velocity, acceleration and the orientation of the helmet, and notifies the emergency contact with the bike's location using Neo 6M GPS module. This feature is crucial for ensuring that the rider can receive immediate help in case of accident

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ARDUINO BASED HUMIDITYAND TEMPERATURE MONITOR VIA IOT

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Abstract:

The objective of this project is to designing and implementing a system that can remotely monitor temperature and humidity levels in a specific location. The system is built using an Arduino microcontroller, a DHT11 sensor, and an ESP8266 Wi-Fi module. The data collected by the sensor is transmitted to the cloud through the Wi-Fi module and can be accessed by anyone with an internet connection. The system has several components, including the hardware components and the software components. The hardware components include the Arduino board, DHT11 sensor, ESP8266 Wi-Fi module, and a power source. The DHT11 sensoris responsible for measuring temperature and humidity levels, while the ESP8266 Wi-Fi module is used totransmit the data to the cloud. The software component of the system is responsible for reading the data from the DHT11 sensor and transmitting it to the cloud. The Arduino board is programmed to read the data fromthe DHT11 sensor, which is then sent to the ESP8266 Wi-Fi module. The Wi-Fi module connects to a Wi-Finetwork and sends the data to the cloud through an HTTP request. The data is then stored in a cloud databaseand can be accessed by anyone with the appropriate credentials. The system can be used in a variety of applications, including monitoring temperature and humidity levels in a green house, server room, or any other location that requires constant monitoring. The data collected can be used to make decisions about the environment being monitored and can help prevent damage or loss due to unfavorable environmental conditions.

Keyword: *Arduino, humidity, temperature, monitor, IoT, DHT11 sensor, ESP8266 Wi-Fi module, cloud, HTTP request, database.*

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DDoS Cyber-attack detection scheme based on Machine learning algorithm in SDN

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Abstract

Cyber-attacks are one of the world's most serious challenges nowadays. A Distributed Denial of Service (DDoS) attack is one of the most common cyberattacks that has affected availability, which is one of the most important principles of information security. It leads to so many negative consequences in terms of business, production, reputation, data theft, etc. It shows the importance of effective DDoS detection mechanisms to reduce losses. In order to detect DDoS attacks, statistical and data mining methods have not been given good accuracy values. Researchers get good accuracy values while detecting DDoS attacks by using Machine learning algorithms. We proposed a DDoS attack detection scheme based on three machine learning algorithms. In this framework, the idle computing capability of edge switches is fully utilized with the design idea of edge computing to of load part of the detection task from the control plane to the data plane innovatively. The bandwidth depletion attack targets the channel between the switches and the controller through either UDP or HTTP flooding. Another way to exhaust outgoing and ingoing bandwidths is through ICMP flooding. The resource depletion attack attempts to exhaust the flow table of switches through SYN flooding. The experiments are conducted in a combination with the standalone mode, showing that our system can detect 4 typical DDoS attacks – SYN, ICMP flooding, UDP flooding at the accuracy of more than 99.3%. It also shows the system performs well even for large Internet traffic. Simulation results of three common DDoS attack methods show that the system can effectively detect DDoS attacks and greatly reduce the southbound communication overhead and the burden of the controller as well as the detection delay of the attacks.

Keywords: *Distributed Denial of Service (DDoS), Cyber-attacks, SDN*

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SEARCHING STRATEGIES ANALYSIS FOR PROBLEM SOLVING IN ARTIFICIAL INTELLIGENCE

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Abstract

Nowadays many Artificial intelligence searching algorithms are available to solve the problem of shortest path finding. This paper presents the detailed study of informed search and uninformed search techniques. This paper focuses towards uninformed search strategies such as BFS, DFS, and UCS and informed search strategies like A*, and Best First Search. The paper includes working of search techniques, their merits, and demerits, where these algorithms are applicable, also open and closed list for each algorithm are shown. At last analysis of search techniques based on complexity, optimality and completeness are presented in tabular form.

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A study on Quantum Neural Networks for Computation

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Abstract

Quantum neural networks (QNNs) are a type of neural network that leverage the principles of quantum mechanics to perform computation. They are a promising area of research at the intersection of quantum computing and machine learning. In classical neural networks, the basic unit of computation is a binary bit, which can take on the value of 0 or 1. In quantum neural networks, the basic unit of computation is a quantum bit or Qubit, which can exist in a superposition of both 0 and 1 states simultaneously due to the principles of quantum mechanics. This property allows Qubits to perform computations in parallel, potentially enabling quantum computers to solve certain problems more efficiently than classical computers. Some key properties of Qubits include Superposition, Entanglement, Measurement, Quantum Gates and Quantum Decoherence. Some recent research areas and applications of qubits include Quantum Computing, Quantum Communication, Quantum Sensing and Metrology, Quantum Simulation, Quantum Error Correction, Quantum Machine Learning and Quantum Cryptography. In addition to Qubits other key concepts related to quantum neural networks are Quantum Gates, Circuit, Entanglement and Classical Hybrid. However, harnessing the power of Qubits and building practical quantum computers is still an active area of research with many technical challenges to be overcome.

Keywords: QNN, Qubits, Quantum computers, Quantum circuit

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INTELLIGENT HVAC SYSTEMS: ENHANCING PERFORMANCE THROUGH AI

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Abstract

The use of Artificial Intelligence (AI) in Heating, Ventilation, and Air Conditioning (HVAC) systems is rapidly gaining traction in the industry. This work delves deeper into the key applications of AI in HVAC, including energy optimization, predictive maintenance, and the development of intelligent HVAC controllers. AI algorithms can help improve HVAC systems' energy efficiency by analyzing data from various sensors and adjusting the HVAC systems' operations accordingly. Predictive maintenance can be enhanced by using machine learning algorithms to detect and predict system faults before they occur, leading to reduced downtime and improved reliability. Additionally, AI-powered HVAC controllers can learn and adapt to building occupants' preferences and usage patterns, leading to improved indoor air quality and occupant comfort. The potential percentage of performance augmentation that can be achieved through the use of AI in HVAC systems can vary depending on various factors, such as the specific AI algorithms and techniques employed, the complexity of the HVAC system, and the type of building or application. However, this work has shown us that AI can lead to significant improvements in HVAC system performance, with potential energy savings ranging from 10% to 25%.

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ANOMALY ACTIVITY DETECTING BY MACHINE LEARNING TECHNIQUES

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Abstract

People in the present world each and everyone thinks about one thing that's security. Providing this security depends on various things. An Anomaly activity is any observed action that could specify a person may be involved in a crime or about to commit criminality. Anomaly detection is nothing but detecting abnormal activity. Analysis of the information captured using these cameras can play effective roles in event prediction, and online monitoring applications including anomalies. Nowadays, various machine learning techniques have been used to detect anomalies such as convolutional neural networks; amongst them Support Vector Machines using machine learning techniques improved the detection accuracy significantly. The goal is to propose a new method based on SVM and CNN techniques for anomaly detection with higher accuracy. Using this method to Detect anomaly activity in public places like trying to kill someone, fighting with each other, etc. In case any abnormalities are detected the update will automatically share with the concerned person (police station) through GSM.

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REDUCTION OF ACID MIST EMISSION IN AUTOMOTIVE FORMATION PROCESS OF LEAD ACID BATTERY MANUFACTURING INDUSTRY BY MEANS OF AN ELECTROLYTE ADDITIVE

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Abstract

The sulfuric acid mist released during plate formation process of automotive lead acid battery manufacturing industry is a major concern to environmental sustainability and there is a strong environmental drive to control its emission into the work environment. The present work is mainly aimed to reduce this acid mist emission at source itself up to 40% from current level without sacrificing product performance. A new innovative method to reduce this acid mist was carried out by using an organic surfactant named "Sodium lauryl sulphate (SLS)" as an additive to the acid electrolyte. The best method of adding SLS into the electrolyte was, required volume of electrolyte was first filled and SLS was added to it. After addition of SLS, batteries are subjected to constant current formation technique. Acid mist was reduced noticeably with the addition of SLS to the electrolyte solution up to 35-40%. In this paper, SLS as anionic surfactant were proven to be a cost effective and viable technique for acid mist reduction and thereby providing one option for putting the automotive lead acid battery manufacturing system in compliance with OSHA's regulations.

Keywords: Lead acid battery, acid mist, gas bubbles, anionic surfactant and surface active agent.

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AN IoT BASED PATIENT MONITORING SYSTEM

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Abstract

Most of the people got suffered by no proper maintenance in hospitals. Here using sensor based concepts to monitor the patient .The purpose of the project to keep track on the patient health. Rapid growth of this period more doctors required to monitor patients health using wearable devices .the system developed will measure a patient's body temperature, heart rate, blood pressure, stress level and heart to the person and sent the data to a mobile application using IOT. In this method only few parameter sensor are used to monitor the patient. In case any unwanted changes, happens in patients then immediately pass information to the doctor or a particular person. Temperature sensor used in measure the body heat, GSR sensor used in measure the body electrodes. GSR value is measured by placing electrodes on emotionally sensitive location on the body. Report the associate skin conductance. The skin is the organ of perception. It contains an extensive network of nerves cells that detect and relay changes in the environment based on the activity of receptors for temperature, stress and pressure.

Keywords: Monitoring patients; mobile application; IOT; GSR sensor; body electrodes