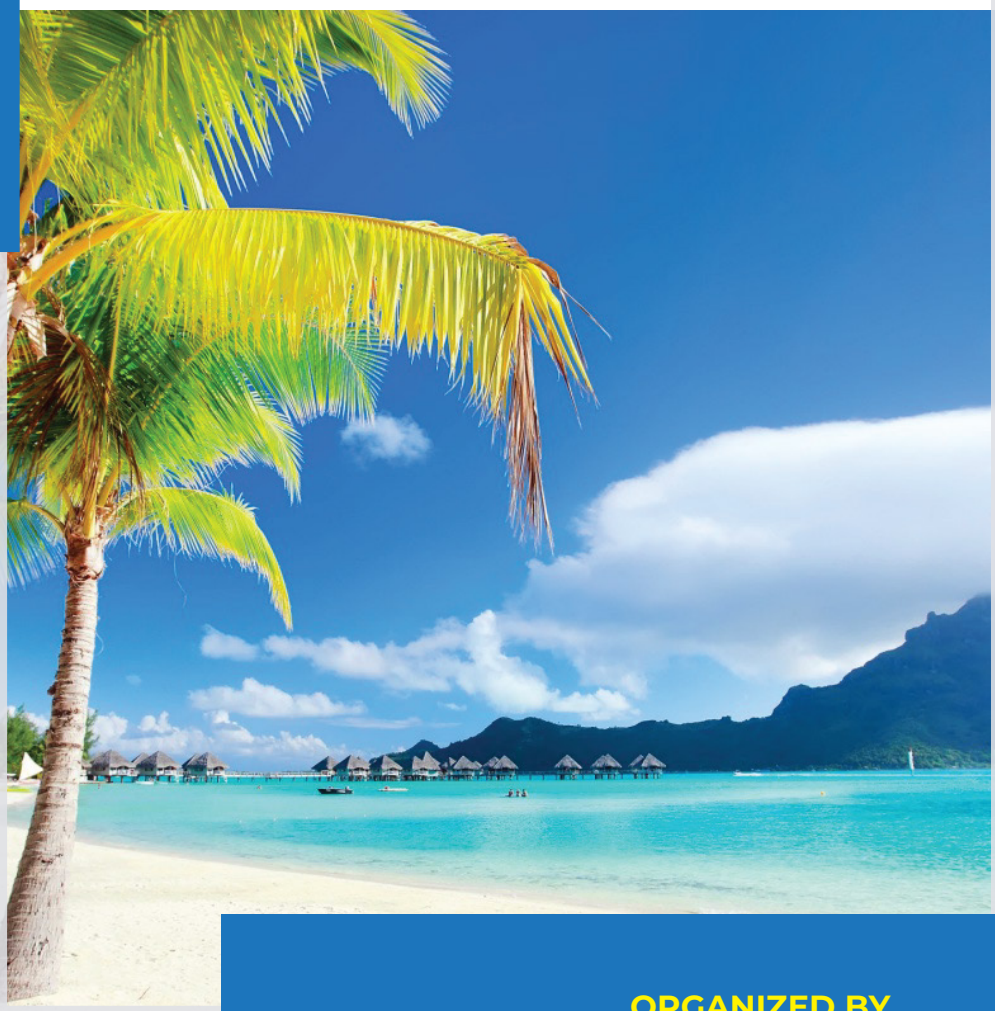
WCASET-2020

32nd World Conference on

Applied Science, Engineering &Technology

30th & 31st December 2020 | Goa, India



ORGANIZED BY

INSTITUTE FOR ENGINEERING RESEARCH AND PUBLICATION (IFERP)

32nd World Conference on Applied Science, Engineering and Technology

(WCASET – 2020)

Goa, India

30th- 31st December 2020

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Editorial:

We cordially invite you to attend the ***32nd World Conference on Applied Science, Engineering and Technology (32ndWCASET)*** which will be held **Goa, India** on ***30th-31st December 2020*** - Virtual conference. The main objective of ***32ndWCASET-2020*** is to provide a platform for Researchers, Engineers, Academicians as well as industrial professionals from all over the world to present their research results and development activities in relevant fields of Science, Engineering and Technology. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on cutting edge development of academia as well as industries. All accepted papers were subjected to strict peer-reviewing by a panel of expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results but also will provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities, research institutes and colleges. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in there view process, and to the authors for contributing their research result to the conference.

Since October 2020, the Organizing Committees have received more than 250 manuscript papers, and the papers cover all the aspects in Electronics, Computer Science, Information Technology, Science Engineering and Technology. Finally, after review, about 46 papers were included to the proceedings of ***32ndWCASET***.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ***32ndWCASET***. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

Acknowledgement

IFERP is hosting the ***32nd World Conference on Applied Science, Engineering and Technology*** this year in month of December. The main objective of 32nd WCASET- 2020 is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, staffs, Professors, reviewers and members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to make this conference successful.

Mr. Siddth Kumar Chhajer
Managing Director
Institute for Engineering Research and Publication (IFERP)

Message from Keynote Speaker

Hemlal Bhattarai

Dean, Research & Industrial Linkages

Jigme Namgyel Engineering College

Royal University of Bhutan

Dear eminent speakers, delegates, committee members and the participants. I owe my best greetings to all of you in this '***32nd World Conference on Applied Science, Engineering & Technology (WCASET-2020)'***, Goa, India. The year 2020 has been challenging for all of us with many ups and downs with threats now and then. The entire world is facing the rugged phase of endeavors bringing lots unpredicted happenings.

Despite the impacts created by this pandemic to our wellbeing and existence, I salute the organizing teams and management of 32nd WCASET2020, Goa, India for coming up with this excellent conference with a theme *"Technological Developments & Modern Trends in Applied Science and Advanced Engineering"*. Certainly, this is one such excellent platform where experts, eminent speakers and researchers come in one platform with their innovation and creativity filled research platform. Anything that can change, that can create impact and revive new normal in this distress time is **"Innovation & Creativity through RESEARCH"**. Today the situations demand us to be more engaged, meaningfully engaged and contribute in solving the challenges each one of us are facing due to the pandemic.

I am extremely happy that the two days of 32nd WCASET2020 could create one such platform for enthusiast nation builders to come forward and showcase the great work done by the researchers. Let us make the best of our contributions to society through sharing and learning from each other. I am confident that your small devotion and contributions will certainly have bigger impacts in the lives of many who are impacted and will be impacted.

Finally, I would like to thank the organizing teams of 32nd WCASET2020 for giving me an opportunity to convey my welcome message and also be part of this excellent event. I personally would like to share that "Nothing should alter our thirst for sharing and learning", let whatever be the circumstances that we face in our professional endeavors. I always pray for the good health and happiness of all participants, their families and loved ones. Let us join hand in hand so as to make a world better place to live on with our applied innovation and creativity in all times to come.

Thank you all.

Hemlal Bhattarai

Message from Keynote Speaker

Doris Bayugo

Principal

DMMC Institute of Health Sciences

Allow me to congratulate the organizers and the people behind this important conference - The 32nd World Conference on Applied Science, Engineering and Technology with the theme: Technological Developments and Modern Trends in Applied Science and Advanced Engineering. No matter what the world is going right now, the holding of this conference even during this time of pandemic should not be put on hold. As with all the other fields such as health and safety, this conference would provide us ways and means to fight heads on the challenges being posed on us, whether be it man-made or other acts. Research conferences such as this are always timely no matter the condition of the world. As an educator, it is my honor to deliver this message as I am always fascinated with people who were adept and authorities in the field of Applied Science and Advanced Engineering who to me is a rocket science. I salute you all and the people behind this worthy endeavor and I am privileged to be part of this conference.

Congratulations and thank you very much.

Doris Bayugo

Message from Keynote Speaker

Dipankar Pal

Professor, BITS PIlani K. K. Birla Goa Campus

As a reviewer and as an author I have been associated with reporting scientific research and development in journals and conference proceedings for over 3-decades now. It is important to do research and developmental activities. However, it is perhaps equally important to communicate it to the rest of the world.

That said often incorrect presentation, ethical issues, inappropriate emphasis make good work either unprintable or when printed, fails to make the requited impact. A few things like assessment of the mental state of the target readers, unprejudiced and unbiased approach, lucid language and presentation coupled with ethical aspects however can change all these to make the writing impactful.

The keynote address deals with some these items here. Yet, one has to remember that writing a good article can neither be taught nor understood in 45-minutes, one needs to learn it through her/his life through experience and suffering to achieve perfection.

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32nd WCASET – 2020

32nd World Conference on Applied Science, Engineering and Technology

Goa,India

30th- 31st December 2020

ABSTRACTS

Organized by

Institute For Engineering Research and Publication (IFERP)

Appraisal of Building Elements and Indoor Climatic Parameters for Free Running Buildings of North East India

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Abstract:--

Energy Statistics Data of 2007-2017 shows that apart from commercial and recreational buildings, domestic buildings account for consumption of 24% electricity produced on a whole (Biswas, 2014).Buildings account for 35% of total final energy consumption in India today, and building energy use is growing at 8% annually [1]. The dependence on HVAC systems are increasing in most tropical countries, to achieve thermal comfort conditions irrespective of building design conditions. It becomes difficult to assess or identify the loopholes of a free running building in terms of its thermal comfort and its causes. It is important to note that there are differences in thermal acceptability or adaptability for users of naturally ventilated buildings compared to users of buildings with air-conditioning [[2]]. In the case of free running buildings, users are more tolerant of indoor thermal conditions [[2]]. Assessing the indoor thermal comditions as an effect of the built envelope is one of the challenges and considerations of sustainable architectural design. Microclimate of an area contributes to the emergence of traditional practices in the built form of the area as a response to obtain optimum comfort. But with advancement in the technology and economic strata, people now opt for more conventional mode of construction in building typologies. Studies reveal comparison of different thermal comfort conditions with respect to indoor spaces by evaluating several indices and methodology. Many models have evolved through time to validate studies regarding acceptable indoor temperatures and built forms, often lacking real time data, which has been compensated by using mathematical models. ASHRAE 55-2013 defines thermal comfort standards based on the laboratory experimental results which are conducted on site as well as climate chambers.

Field studies for naturally ventilated buildings have been done internationally as well as in India [[3], [4]], mainly focusing on qualitative description and analysis of thermal performance of few houses. The north eastern part of India holds account of few studies related to the relationship between building parameters and environmental parameters.

Identifying the gap, the paper aims to conduct experimental investigation on various building and study building elements and its effect on real time instrumented data of indoor climatic conditions for houses in three different sites of North East India, for the summer season. The intent is to understand the correlation of different building elements with climatic parameters like temperature, humidity and wind speed with the help of quantitative evaluation to understand variation in indoor conditions. This paper intends to examine the consequence of building elements like morphology, orientation, window to wall ratio (WWR), Surface area to volume ratio (SA/V), Window to Floor area Ratio (WFR), etc. in the free running houses in warm humid and cold humid climates. Standard codes and mandates have been effectively compared for similar climatic areas, to prescribe suggestive ranges of building elements to improve overall building envelope performance. In this study, a field study is conducted in a total of, 21 free running traditional buildings called IKRA houses, and 9 free running modern typologies in North East India. Samples of housing were selected in ten numbers for each site which were documented and developed for calculation of the parameters.

Keywords:

Building Parameters, Environmental Variables, Free Running Buildings, Summer Season.

Offensive Language Detection using Deep Learning

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Abstract:--

Offensive language has become a major issue nowadays for users who use social media and reading online articles on the internet. There is some abusive content or derogatory terms on the internet because of which users have suffer from mental illness, cyber bullying, morale down etc. Here, we proposed an approach automatically detecting the offensive content using deep learning. We have detected the offensive content using Multilayer Long Short-term Memory (LSTM) model. LSTM is an artificial intelligence Recurrent Neural Network (RNN) which is used deep learning. The model used the Twitter Dataset. First, we refined the tweets from dataset and then the refined tweets were entered in the model as inputs. After getting the model trained, the final output was obtained, in which the offensive content was detected and the model's accuracy was also evaluated.

Index Terms

Offensive Language, Multilayer Long Short-term Memory (LSTM), Recurrent Neural Network (RNN),Deep-Learning, Twitter.

E- Learning in Interior Design: Students Communicating Ideas through the Online Medium

Kriti Malkani, Assistant Professor, UID, KU
Mira Patel, Assistant Professor, UID, KU

Abstract:--

The trying times of the year 2020 have made humans adapt to a lot number of new resources and technologies. People seem to be evolving in all sectors of professional platforms ranging from educational, retail, commercial to corporate sectors. The educational sector is one of the most affected in terms of imparting knowledge, managing resources, connecting teachers with students, and vice-versa, matching the flow of curriculum. The new mode of learning includes both education for school children as well as education for university students. Today, almost every individual is turning to online means of communication in the field of learning. Recently, e-learning has become an essential method and new epitome that is widely used and implemented by educational institutes across the globe. E-learning is the use of information and communication technology (ICT) to enhance and facilitate teaching and learning. It is an umbrella term that describes learning done on a computer, usually connected to a network, allowing learning almost anytime, anywhere. Accordingly, this study examines the impact of e-learning on creativity and content knowledge of interior design as a vertical on the educational platform. The study highlights the effects of e-learning on the cognitive process and performance levels of the students' mode of communication over time. With the increasing use of digital tools and advanced technology for an easy effortless way of working, there is a remarkable decrease in the visualization power that is the most important aspect of communicating ideas in interior design. Although there are quite a lot of benefits to the number of explorations and a variety of platforms to express ideas, the natural means of visualization stays affected majorly. The study will majorly concentrate on students' way of communicating ideas in interior design as a specific course affected by the new medium of e-learning and the difference between the virtual and physical classroom learning. Recommendations will be focusing on the training and information sessions on e-learning need to focus primarily on how this technology can help improve the efficiency and effectiveness of a student's methods of communicating ideas smartly. Thus, the study will further help conclude whether there can be innovative ways to convey ideas on the e-learning platform and how useful they can be for further developments in the field of interior design.

Keywords:--

Communication, Design Processes, Expression of thoughts, Visualization

A Comparative Study and Analysis of Factors Influencing Project Team Motivation in Large Private and Public Sector Companies in India

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Abstract:--

Large private and public sector companies are considered to be the main drivers of the country's economy due to their large contribution to gross domestic product [GDP].Many factors contribute to the growth of these large companies and the efficient handling of human resources through various strategies, is a very important aspect to be considered to satisfy the dynamic needs of customers. Companies also choose various new methodologies to manage their resources efficiently and effectively in order to maintain a high level of customer satisfaction. The project management concept is one such methodology adopted by many companies across the globe for managing customer projects by utilizing the optimum use of resources in general and human resources in specific. Thus, it is very much evident that human aspects are the key performance indices responsible for efficient project management. Among many human aspects, motivation takes the lead role in the project management environment mainly due to its impact on project team performance. Hence the study of motivational factors and its influence on the project team strategically remains significant in order to see the project's success. This research study is an attempt to examine the opinions of project stakeholders on factors influencing project team motivation in large private and public sectors where large numbers of critical customer projects are executed on a turnkey basis. The statistical results analysis of primary data sets obtained from the participants of these selected large private and public sector companies, reveals the fact that certain factors have a high influence on project team motivation and significantly impact project success. Based on the outcome of this research study, companies can explore further on adopting their own motivational strategies in order to motivate their project team which in turn results in project success bringing a high level of customer satisfaction.

Comparison of Reliabilities and Validity between Ar Based Motion Capture System and Physical Therapist: Preliminary Study

JaeHo Yu, Department of physical therapy, Sunmoon University
HyeYun Kang, Department of physical therapy, Sunmoon University
Nekar Daekook M, Department of physical therapy, Sunmoon University

Abstract:--

AR based motion capture system(ABMCS) is a program that provides multiple practical type of training exercises and rehabilitation programs and with an included motion capture sensor, it is an alternative method for range of motion measurement. The present study aimed to compare the difference between the augmented reality-based measurement tool using motion capture system and the therapist's measurement using goniometer for measuring the range of motion (ROM) of the joint. Three ROM motions on the upper extremity (shoulder abduction, flexion, external rotation), two on lower extremity (knee extension, hip abduction) and trunk flexion were measured. The measurement was done simultaneously to avoid errors and the results were recorded in degrees. Excepting shoulder external rotation and trunk flexion, the result was similar and not significant difference between AR based motion capture system compared to the goniometer. A measurement tool based on augmented reality using AR based motion capture system can be expected to have a good prospect as an evaluation tool if the evaluation is conducted in the way subject and the target join is inside the focus of the sensor.

Keywords:--

Range Of Motion, Goniometer, Augmented Reality, Motion Capture, Physical Therapist

Interventions to Improve Motor, Social and Cognition in Children with Developmental Delay: A Systematic Review

JaeHo Yu, Department of physical therapy, Sunmoon University
HyeYun Kang, Department of physical therapy, Sunmoon University
Nekar Daekook M, Department of physical therapy, Sunmoon University

Abstract:--

The aim of this review was to evaluate the effectiveness of physical therapy interventions reported for use in children with delayed developmental to improve motor skills, cognition, and social skills outcome. PubMed, PEDro, and Google scholar were systematically searched to source for full-text studies published in peer-reviewed journals from 2010 to 2020 for current physical therapy interventions in children with developmental delay. Outcomes were motor skills, social skills, and cognition ability. Results Searches identified 20 randomized trials including 1132 children with developmental delay. Interventions were various with different sample sizes. The most used intervention was dual task with video game/VR, skill instruction and massage therapy. Other interventions such as music therapy, equine, aquatic therapy were also found. Except aquatic therapy, all the interventions type showed to be effective to improve motor, social and cognition in children with DD. Results from this review reveal that dual task with video game/VR and massage therapy are effective to improve motor and cognition and skill instruction, education program including parents is more effective for social skills improvement. The other included interventions showed to be effective, but more evidence is needed.

Keywords:--

developmental delay; motor skills; social skills; cognition; physical therapy interventions

Low Cost Hybrid Vortex Collector for Cleansing Hydro Ecosystems

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Abstract:--

Local water bodies and fresh water sources which provide potable water for the majority population in developing and underdeveloped nations, also serve as dumping bowls for waste from local small scale industries and households. Lack of wastewater treatment results in accumulation of plastic debris which deteriorates to configure micro plastics (<5mm in size) in aquatic ecosystems causing lethal changes. The search for microplastics in freshwater bodies indicates that 92% of the water samples collected contain microplastics ranging from 3.52-32.05 particles/m3. The imminent need to address the cleaning of water bodies off macro as well as microplastics and other waste has been emphasised and researched upon by many.

The present work is a design of a model hybrid vortex collector which incorporates dual mechanism for simultaneous and distinct collection of micro and macro plastics through an amplified induced free vortex. The prototype was subject to various field experiments of varying turbulence conditions, quantity of macro and micro waste present and the size of the water body. It is reported that for the design presented, the collection range relies primarily on vortex diameter, which in turn is found to be dependent on design parameters of vortex height, collector chamber volume, and inlet pipe hole diameter. It is hereby reported that the vortex collector could collect all the particles within the collection range, which has been maximized by measuring the collection efficiency. The collector efficiency is reported to increase with the increase in chamber hole diameter, vortex diameter and forced circular water flow. Unlike other reported micro plastic collection methodologies, our system is eco-friendly, cost-effective, energy efficient, beneficial to aquatic organisms and can be scaled at global level for application to marine environments as well.

Algorithms and Architectures of Speech Recognition Systems

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Abstract:--

Digital processing of speech signal and the voice recognition algorithm is very important for fast and accurate automatic scoring of the recognition technology. A voice is a signal of infinite information. The direct analysis and synthesis of a complex speech signal is due to the fact that the information is contained in the signal.

Speech is the most natural way of communicating people. The task of speech recognition is to convert speech into a sequence of words using a computer program.

This article presents an algorithm of extracting MFCC for speech recognition. The MFCC algorithm reduces the processing power by 53% compared to the conventional algorithm. Automatic speech recognition using Matlab.

Keyword: -

speech recognition, audio signal, neural network, MFCC, ASR.

Power quality improvement for the electric grid

Archana, Indian Institute of Technology, Delhi

Abstract:--

With the integration of renewable energy to the electric grid and increased electric vehicles, the transmission and distribution grid load has increased, affecting performance degradation, failure of sensitive equipment, and financial losses. The use of various non-linear loads like computers, laptops, and different electronic equipment also affects power quality. Quality of power is essential for utilities, users, and equipment manufacturers as they are directly affected. Power quality is decided by power factor, frequency, reliability, and duration of interruptions. Low quality of power causes supply interruptions, harmonic distortions, flickers, imbalances in voltage and current, etc. As modern age digital equipment is very sensitive to power quality variations, it is important to pay more attention to power quality. Initially, Indian utilities have always focused on the demand-supply gap to ensure power supply to all consumers. With advancements in technology, the quality power supply has become an important issue and increases consumer awareness in the coming years. This paper focuses on the present status of power quality in India and its initiatives to improve it. It will also help other developing countries with similar geographical situations and electric infrastructure development, like India, to create a roadmap.

Keyword: -

Smart grid, power quality, power factor

Energy Storage for the Smart Grid in India

Archana, Research Scholar, Indian Institute of Technology, New Delhi

Abstract:--

With the target of 175 GW of renewables by 2022, renewable energy integration is increasing, and the electric grid is moving towards a distributed generation system. This target has also created a drive towards implementing the smart grid in India. In this regard, in March 2011, the 'India Smart Grid Forum' was established as a Public-Private Partnership (PPP) initiative of the Ministry of Power, Government of India. Its main aim is to accelerate smart grid technology's development efficiently and cost-effectively and bring together all key stakeholders and related technologies. Renewable energy sources like solar and wind energy are intermittent and cannot provide energy every time. Grid stability is essential to supply the quality of power to consumers. Management of the grid requires the integration of advanced technologies and new policy reforms by discoms. In this scenario, energy storage systems play a vital role in managing energy for different voltage levels. An increase in electric vehicles and a decrease in price for batteries are essential drivers for the energy storage system. Though India's power grid corporation has carried out some pilot projects, utilities still face making suitable choices and technological solutions for the energy storage system. In this paper, a study on ESS's current deployment and challenges associated with it has been done. A discussion of the present scenario for the energy storage system and challenges will help the utilities and policymakers take the issues related in a better way.

A Hierarchical Model for Enablers of Renewable Energy Integration

Archana, Research Scholar, Indian Institute of Technology, New Delhi

Abstract:--

India ranks third in the world in both production and consumption of electricity. Currently, India's national electric grid has a total installed electricity generation capacity of 373.029 GW (31.09.20). Out of this, renewable power plants, including solar energy, wind energy, hydroelectric plant, biomass, constitute 36.17 % of total capacity. India's government has announced an ambitious plan to increase the share of renewable energy. Its target is to achieve 100 GW Solar, 60 GW wind energy, 10 GW from biomass, and 5 GW from small hydropower by 2022. As wind and solar energy has low operating costs and provides environmental benefits due to less greenhouse gas emissions, it helps make a sustainable system. However, some challenges associated with renewable generations like wind and solar generation vary with wind speed, the direction of the wind and atmospheric temperature, and solar insolation. Due to this variability, power systems having large penetrations of renewable energy sources are much affected. This paper focuses on the factors affecting renewable energy generation and integration, identified from the literature and a question-based survey. Exploratory factor analysis has been done for data validation and to know hidden constructs.

Further, AHP has been used to obtain hidden constructs' weights by considering the expert's opinions. This paper contributes from a developing country perspective, driven by findings on the factors affecting renewable energy integration and categorizing them. The developed hierarchical model can help managers and policymakers in planning strategies for the integration of renewable energy.

Signal Design for Bandwidth Constrained Wireless Communications Channel

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Mahmood Saif, Phd Scholar, Osmania University, Hyderabad

Abstract:--

The development of broadband wireless communication systems must cope with various performance-limiting challenges that include channel fading, size and power limitations at the mobile units as well as interference mitigation. Various methods have been developed by the scientific community to work around and reject interference in wireless systems. The development of spread spectrum system using signal spreading techniques that takes into consideration the bandwidth constrained is one such effort. In this paper we address the problem of bandwidth constrained signal design for the band limited channel in wireless communication constrained to specified bandwidth W Hz. Existing design techniques for this channel consider only the transmission of digital information through an additive Gaussian noise (AWGN) channel, excluding bandwidth constraint not imposed on the signal design. In particular, there may not be sufficient support to allow matched filtered reception with finite (or nearly finite) Shannon bandwidth waveforms. To address this problem, we consider other notions of bandwidth affects because of intersymbol inference (ISI) and AWGN and design compensator to reduce ISI.

Design of transmitted and received filters with raised cosine spectrum are appropriate for signals with finite time support to incorporate such bandwidth constraints. The resulting signal constellations can be used as a comparison point for any signal design procedure and to conclude that one can achieve performance advantage when signals are properly matched to the finite time support of the channel.

Stealth: The Future of Fighter Aircraft

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Abstract:--

During World War-II the intercontinental ballistic missile posed a major threat to aircrafts. This is when the Germans first started working on a technology which would almost make the aircraft unseen to the radar. This technology came to be known as stealth technology. Stealth uses a simple principle of absorbing and deflecting radar waves. This paper will discuss more on how the RCS of the aircraft can be increased, it will also discuss more on structure and design of the aircraft. The design and material will play important role in deciding the level of stealth achieved by the aircraft and it will conclude with moral implications of using stealth technology.

Keywords:

Ferromagnetic particles, Low Observable (LO), Radar, Radar absorbing material (RAM), Radio waves.

Quantum Multipartite Correlations for Multiple Users in Synchronous Optical Bosonic Channel

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Abstract:--

The communication in the quantum networks that uses optical fiber is based on optical bosonic quantum channels to take the advantage of both optical and digital communication system. Single data which carries information over the channel can be termed as solid state atoms or bosons. The reliable channel is the one which carries the same state from the transmitter to the receiver, there are three states. Apart from the two classical states the superposition state can also be considered as meta stable state which will collapse to one of the basis after the measurement. Practically ideal channel does not exist, the Light sources with a narrow wavelength band of less than 1nm along with quantum multipartite correlations is applied to high capacity optical fiber as a quantum communication systems. For multiple independent information of data with different wavelengths can be sent using wavelength division multiplexing onto a same channel as the data is coming from different multiple user over a shared quantum channel. Combination of time division and wavelength division multiplexing over a synchronized optical network .

Keywords:

Bosons,Correlation,Entanglement,Photons,Qubit

A case study on COVID-19 in two districts of Kerala state viz. Kannur and Thiruvananthapuram

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Abstract:--

The COVID-19 pandemic has paralyzed the social and economic life of all the countries throughout the world. Increase in the number of patients and death rates and the relation between such variables are brought under study by various scientific and academic institutions. The present study is an attempt to establish the correlation between the positive cases per day and recovery per day based on the secondary data related to Kannur and Thiruvananthapuram districts of Kerala state .The study reveals that there is no correlation between positive cases per day and recovery per day for Kannur and very weak correlation between positive cases per day and recovery per day for Thiruvananthapuram and a strong correlation between positive cases per day and recovery per day for Kerala. ANOVA is used here to get the information regarding the relationship between the death rate of men and women of certain age group.

Index Terms—

ANOVA,Chi-square,COVID-19,Correlation,Pandemic.

Knowledge, Attitudes and Practices regarding Dengue in Kolkata, a Health Educational Study

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Abstract:

The objective of this research was to investigate the KAP (Knowledge, Attitudes and Practices) of the people about Dengue, residing in the four wards in Kolkata the capital city of West Bengal, country India. In India Dengue spread like epidemic in the year 2017 to 2020. Many people starting from the age group of three to seventy years found suffering from Dengue. In this research both quantitative and Qualitative method was adopted. The primary data was collected with the help of a 68 set of questions in a questionnaire which was administered to the residents living in all the four wards in Kolkata. A survey was conducted along with participant observation and randomly selecting the household in the four wards in Kolkata. The results showed that lack of piped water in these wards were the main problem of storing water in their houses which they use for daily use. Many of these houses open wells were found without any covering even the people living in these household were reluctant and they were seen storing water without any coverings which allows Aedes Aegypti mosquito to breed in those containers.

Study of Recycled Aggregate Concrete Incorporating Rice Husk Ash

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Abstract:

Rice Husk is a farming-based residue which is abundant in all over the world and rice husk ash is obtained by combustion of rice husk. Rice Husk Ash and demolition wastes is usually dumped in landfill sites. As a part of solid management, waste can be usable rather than disposable. Reuse of waste such as recycled aggregate and rice husk ash can decline the consumption of natural resources and make concrete economical and more sustainable. This paper presents the study on the use of RHA as partial replacement for cement and RCA as partial replacement for natural coarse aggregates in concrete specimens. In this study, concrete specimens were tested with different percentages such as 0%, 20%, 40% of RHA as replacement of cement content along with different percentages such as 0%, 20%, 40%, 60% of RCA as replacement of natural coarse aggregates. Compressive strength, flexural strength, water absorption test was carried out to examine the appropriateness of using RHA and RCA in concrete and to determine the proportions at which it is best suitable for concrete. However, the results show decrease in compressive strength, flexural strength and water absorption but at 20% substitution of both RHA and RCA in concrete can be feasible and satisfy the design requirements for small scale construction work

Keywords :

Recycled Coarse Aggregates, Rice Husk Ash, Compressive strength, Flexural Strength, Water Absorption test

Composite Hydrogel Preparation and Physico chemical characterization from Silk Fibroin

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Abstract:

The present study deals with fabrication of hydrogel composed of Silk fibroin, Chitosan and Gelatin. A simple mixing of chitosan, gelatin and silk fibroin was adopted to fabricate new silk fibroin based hydrogel (SFH) type. The silk fibroin, chitosan and gelatin based hydrogels are expected to provide a moist wound environment, offer protection from secondary infections, remove wound exudate and accelerate tissue regeneration, as well as to improve the efficiency of wound healing. Silk fibroin has been increasingly considered for biomedical applications due to its biocompatibility, low immunogenicity, slow degradation, versatility, and remarkable mechanical properties. For various kinds of wounds, chitosan-based hydrogels are able to promote the effectiveness of wound healing by modifying or combining with other polymers, and carrying different types of active substances. Further characterization of silk based hydrogel is done using several tests to check the swell ability, biodegradability and biocompatibility of silk hydrogel. The results show that silk based hydrogel play a promising role in wound healing

Index Terms

Silk fibroin; Chitosan; Gelatin; Hydrogel; Biocompatibility.

Identification of Plants using Deep learning: A Review

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Abstract:

Identification plants is a very important field in earth's ecology to maintain the healthy atmosphere. Certain of these plants have significant medicinal properties. Now days finding a plant is not easy by looking their physical properties. This paper provides a academic database of literature between the duration of 2015–2020 and proposes a classification scheme to classify the research articles. It has been observed that the new generation of convolutionary neural networks (CNNs) in the space area of image recognition have produced remarkable performance. In this paper, techniques are discussed the concepts of Deep learning and different leaf recognition methods.

Index Terms

Machine Learning, Artificial Intelligence, Convolutional Neural Network, Deep Learning, Neurons, Fully Connected, image processing.

PAPR Reduction and Performance Enhancement of Filtered OFDM

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Abstract:

Orthogonal-FDM (OFDM) is an important Multi-carrier modulation technique which is impervious to frequency selective fading. In 5G signal, in order to cut the movement in OFDM centered technique, it is important to utilize the bandwidth efficiently. Subsequently, a spectrally confined waveform technology titled Filtered OFDM (F-OFDM), which is mainly an approach to sub-band based filtering, is developed. This project deeply focusses on exploring the enactment of Filtered OFDM and OFDM in relations of Power-Spectral-Density (PSD) and Bit error rate (BER) and Peak to Average Power Ratio (PAPR). The spectral competence in F-OFDM is achieved by the reducing of out-of-band (OOB) emission. Simulations for the performance investigation of OFDM and F-OFDM in terms of PSD, BER and PAPR have done in MATLAB.

OFDM performance is narrowed by excessive Peak Power to Average Power Ratio (PAPR). In this paper, we calculate the PAPR of correspondingly OFDM plus Filtered OFDM systems and efficient methods like Clipping and Filtering method and Partial Transmit Sequence methods are used to shrink the PAPR of OFDM based System and Filtered OFDM structure.

Index Terms

MCM, OFDM, PAPR, BER, F-OFDM, PSD, OOB, 5G.

Performance of Channel Estimation for large scale MIMO systems

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Abstract:

Multiple-antenna techniques constitute a key technology for present and future wireless communications. MIMO wireless technology has grown in the last few years. The principal goal of MIMO technology is to improve the BER or the data rate of the communication system. Spatial multiplexing (SM) is an entirely new modulation concept that exploits the uniqueness and randomness properties of the wireless channel for communication. In this paper, simulations studies for BER performance for 8x8 and 16X16 MIMO schemes using ZF (zero forcing) and MMSE (Minimum Mean Square Error) estimation are carried out. Results show that BER performance is better for MMSE than ZF channel estimation scheme .

Multimodel Fusion of Face and Ear using DCT and FAST HAAR TRANSFORM Algorithm

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Abstract:

In this paper a novel multimodal biometric verification scheme using the subspace-based low-level feature fusion of face and ear is used as recognition for perceptual human–computer interaction (HCI). In the proposed scheme, human face and ear is tracked from the given face pose to weight the detected face like regions for analysis. Ears can be measured remotely and are also relatively static in size and structure for each individual. It must also be possible to distinguish ears from background clutter and identify them when partly occluded by hair, hats, or other objects. The purpose of this paper is to suggest how progress toward such robustness might be achieved through a technique that improves ear registration. In the fusion step, features from both modalities are projected into nonlinear Laplacian Eigen map subspace for multimodal ear recognition and combined at low level. The proposed scheme can attain better accuracy in comparison with the conventional multimodal fusion.

Keywords:

2D-DCT Algorithm, Laplacian Eigen Map.

A study on Natural Language Processing Techniques in NLP embedded Technologies

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Dr. Rajni Jindal, Professor, Dept. of Computer Engineering, Delhi Technological University

Abstract:

Natural Language Processing is a branch of Computer Science and Artificial Intelligence that make use of Machine Learning and Deep Learning to achieve communication between computers and humans using Natural Language used by humans. It involves mathematics and various computations to accomplish the target. This mathematical computation is possible by performing tokenization on the input sentences to a sequence of numbers. Some of the technologies that employed Natural Language Processing are Speech Recognition, Chatbot, and Machine Translation. Various applications such as Cortana, Siri, Alexa, Google Asssistant etc are able to understand and process users request due to the presence of NLP. Besides all these, NLP has a wide range of applications in various fields. These includes text processing, prediction of text, text summarization, text classification, keyword searching, duplicate detection, email spam detection extracting information from website/document, recommendation based on browsing history. This paper will draw attention towards the application of NLP techniques in various technologies embedded with NLP and shed light on various approaches used to implement such systems.

Index Terms-

Artificial Intelligence, Natural Language Processing, Speech Recognition, Machine Translation

Design, Development and Finite Element Analysis (FEA) of twin tool for Friction Stir Welding

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Dr. Komal G. Dave, Associate professor L.D. Engineering college Ahmedabad, Gujarat India

Abstract:
This paper proposed the study of design and development of twin tool for friction stir welding (FSW). Friction stir welding is a dynamic version of a pressure welding processes joints material without reaching the melting temperature of material. Friction stir welding is a solid state joining method, no solidified structures are created thereby eliminated the brittle and eutectic phase commonly in fusion of welding suited for various alloys. Taking into account the lateral and transverse movement of the twin tool and work piece can be analyzed. Numerical Simulation is carried out using ANSYS Software for the design of Twin tool gear as it drives twin tool at elevated axial load, torque and stress. The twin tool is designed and analyzed for three different materials. The materials analyzed are SCM415, S45C, and EN8. After analyzing, the better material can be used for Friction-Stir Welding operations. A twin tool developed to monitor the generated different forces and torque. A pressure is generated on rotating tool and torque on the two gears. Force calculation and gear deformation are also measured with the help of different software. The Author has found that EN8 material can be used as alternate gear material compared to SCM415 and S45C materials by comparing equivalent stress, equivalent strain, and total deformation.

Keywords:
Friction stir welding, twin tool, ANSYS, CREO.

Mathematical Model and Analysis of Delayed SIR Model Under the of Pollution

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Abstract:

This paper deals with SIR model under the of pollution, with time delay for infectives to recover and saturated treatment function. The presence of pollution causes imbalance in the environ-ment by release of toxicants, which is caused due to disposal of waste products. It as the biological system and therefore we study it's on the dynamics of the system. Since the of any kind of treatment is not immediate and involves time lag to show its on an organism and also time delay plays an important role in shaping the dynamics of the system, therefore we have considered time delay in our model for the infectives to recover. Existence of equilibrium points and boundedness of the system has been obtained. Stability analysis has been done along with the global stability of the endemic equilibrium point. Existence of hopf bifurcation has been proved. Numerical simulations are done using MATLAB, in support of results obtained analytically.

Index Terms

SIR model; delay dierential equations; saturated treatment function; hopf bifurcation; stability analysis; centre manifold theory.

The Relationship between Social Justice, Innovativeness, Cohesiveness, and the Environmental Sanitation Behaviour At Muaragembong, Bekasi Regency, West Java

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Abstract:
This study aims to investigate the relationship between social justice, innovation and cohesiveness with environmental sanitation behaviour in households in Muaragembong, West Java. The method used is a survey with a correlational study involving 120 samples. Data were analyzed using ANOVA. The results showed that there was a positive and significant relationship between these variables individually and collectively. Therefore, it can be concluded that environmental sanitation behaviour can be improved by improving social justice, innovativeness and cohesiveness

Keywords
Environmental sanitation behaviour, social justice, innovativeness, cohesiveness

Photonic Crystal Fibers for Liquid Sensing Applications: A Review

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Abstract:

Till date, photonic researchers and scientists discovered rapid technological changes in the optical fibers, a new class of optical fiber i.e., Photonic Crystal Fibers (PCF) shows a great potential in replacing conventional optical fibers due to their numerous advantages such as adjustability to guide light in a desired direction etc. Filling of airholes with chemical analyte makes it suitable for liquid sensing applications. However, achieving a high sensitivity for liquid sensing is still a challenge. This article presents a detail theoretical investigation of some existing PCF designs based on different geometries and core structures for liquid chemical sensing applications. The investigation is done based on optical properties viz. relative sensitivity and confinement loss

Short Term Schedule of Economic Dispatch and Emission of Hydrothermal System

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Abstract:
The overall goals of paper will be improved he financial and environmental benefits of the combined operation of hydro and thermal power plant. Considering both of reduction fossil fuel usage and the power generation cost by coal-fired units, the power generation scheduling problem of the power system with cascade hydropower stations is divided into four times series. The optimization sub-problems of cascade hydropower stations are the largest power generation, the smallest hydropower water consumption, the smallest thermal power generation pollutant emissions, and the smallest total thermal power cost. The optimized dispatch model established by this can not only determine the best output of thermal power and the best water storage and release strategy of hydropower, but also describe the complementary effects of hydropower and thermal power, and fully reflect the concept of energy conservation and benefit. So genetic algorithm is used to find out the solution of pollutant and economic of hydrothermal plant dispatch. The short term scheduling will be applied for studying and to calculate the hydro and thermal power plants. Some of thermal constrictions and hydro restrictions will be considered in the processing such as storage limitation and discharge limitation of the reservoir. The hydrothermal calculation has been included 3 hydro units and 3 thermal units from power system. The study case will be focus on the situation in Cambodia.

Keywords:
Economic dispatch and emission, Genetic algorithm, System constraints.

Removal of Malachite Green from Aqueous Solution Using Metal Organic Framework (MOF)

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Abstract:

Purpose: Organic dyes released from many industries include: textile, leather, and paper industries can be a threat to the environment and living creatures. Adsorption stands out as one of the favorite dye removal methods among the countless tried-and-tested techniques due to its excelling capability to remove nearly any kind of dyes. In the last two decades, there has been an ongoing research on Metal Organic Frameworks (MOFs) for the removal of dyes from wastewater owing to their extraordinary properties, high adsorption capacities, high stability and regenerability. The purpose of this research paper is to study the adsorption kinetics and thermodynamics of the cationic dye Malachite Green (MG) onto MOFs under several experimental parameters.

Methods: The experimental work is conducted in batch setup consists of a series of batch experiments in which 100 mg of adsorbent added to 50 mL of MG aqueous solution and mixed using a stirrer for 5 hours in each run. The effect of initial concentration of MG solution (e.g. 5, 7, and 13 mg/L), amount of adsorbent (e.g. 50, 150, and 200 mg), pH (e.g. 2, 5, 7, and 9), type of adsorbent (e.g, Fe-BTC, MOF 177, and MIL-53(Al)), and temperature (e.g. 298, 313, and 323 K) on the adsorption efficiency in batch setup is studied. The results from this step are used to determine the adsorption kinetics and thermodynamics.

Results and Conclusions: The results show that adsorption of MG on the three MOFs (Fe- BTC, MOF 177, and MIL-53(Al)) was most efficient at an initial concentration of 13 mg/L and a total amount of 100 mg of MOF. Each of the MOFs followed a different kinetics model with efficiency of removal ranges from 37 to 100%. The pseudo-first-order kinetics model was most applicable with regression constant of R2 (0.944-1.00). All experiments were performed at room temperature (25 ℃) and pH of 2.0. In conclusion, MOFs could be utilized as a promising adsorbent and shows great potential for removal of dyes from aqueous solution.

Analysis of Breast Cancer Event Logs Using Various Regression Techniques

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Abstract:

The breast cancer is a chronic disorder that causes serious illness to the patients despite their age groups. Breast cancer has more number of research to identify the root causes. But in recent research finding also concentrated more on factors affecting the breast cancer with different type of event logs, such as healthcare centers generated data and trail data taken from various webpages. The machine learning techniques are mostly applied on complex type of event logs such as cancer data set, brain tumor dataset and heart related diseases. Among various diseases breast cancer is the one has more complex event logs, which is very complex to analyze and to find the root causes. This research article discuss about the breast cancer data set using logistic regression technique applied with python programming language. This paper also deals about the root causes about the breast cancer and related issues.

Keywords:

Breast cancer, Machine Learning, Healthcare, Event logs, Regression technique.

Indexing of Multidimensional Data in BIG DATA

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Abstract:
Multidimensional trie hashing (MTH) access method is an extension of the trie hashing for dynamic multi-key files (or databases). Its formulation consists in maintaining in main memory (d) separate tries, every one indexes an attribute. The data file represents an array of dimension (d), in an orderly, linear way on the disk. The correspondence between the physical addresses and indexes resulting of the application of the tries is achieved through the mapping function. In average, a record may be found in one disk access, which places the method among the most efficient known. Yet MTH has the double disadvantage of a low occupancy of file buckets (40-50%) and a greater memory space in relation to the file size (tries in memory).

We propose a refinement of MTH on two levels. First, by using the compact representations of tries suggested in [23], then by applying the phenomenon of delayed splitting (partial expansion) as introduced in the first methods of dynamic hashing and as used in [25]. The analysis of performances of this new scheme, mainly by simulation, shows on the one hand a high load factor (70-80%) with an access time practically equal to one disk access and on the other hand an increase in the file size with a factor of two with the same space used by MTH.

Keywords:
Data structure, BigData , hashing , Multidimensional data, data storage

Comprehensive Evaluation Indexes Framework and Evaluation Method for Substation Site Selection

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Abstract:
The optimal planning of substation location is very significant for the construction of a reliable and reasonable power system, for this purpose, the comprehensive evaluation index system and the evaluation method are researched. Firstly, for the optimal layout of substation location an evaluation index system, which covers four aspects, i.e., safety, economy, environment and operation, is established. Then, with a comprehensive consideration of the subjective weights and the objective weights, optimal combination weighting based on moment estimation theory is used to determine the optimal combination weight of each index. On this basis, an improved grey relational analysis method is proposed through a combination of grey relational analysis and cosine sorting method, to determine the optimal site selection more accurately and reasonably. Finally, using the proposed evaluation index system and evaluation method, the location of the newly added substation location in Phnom Penh power system is researched and the conclusion that Plan I should be taken as the location for the newly added substation is attained. The effectiveness and feasibility of the proposed evaluation index system and evaluation method are verified by the attained conclusion. Moreover, it shows that it has good application value for the optimization of substation location planning.

Keywords:
Substation locating, Evaluation index system, Optimal combination weight, Moment estimation theory, Improved grey relational analysis.

Time Delay Estimator Based Fault Tolerant Control Of Manipulateur Arm

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Abstract:

In this paper, Time Delay Estimation (TDE) has been developed for the detection of actuator faults in a manipulator arm. In order to achieve a fast tool tracking path when faults affect actuators (DC motors) a tolerant control (SMCTC) for fault compensation has been applied. In general, the actuators are used to modulate the desired inputs for controlling the process so as the robot arm tracks the desired trajectory. The Lyapunov stability is used to synthesize a controller to compensate the actuator faults. For this purpose, a complete dynamic model for the manipulator arm is established based on Euler-Lagrange formalism, then a combined sliding mode and a computed torque control law are developed to ensure a robust behavior of the studied robotic system to actuator faults. Simulation results show that the proposed control law is more efficient, accurate and robust.

Keywords:

SCARA Robot; trajectory generation; fault detection isolation and estimation FDIE; sliding mode computed torque control SMCTC; time delay estimator TDE.

Macronutrients Estimation in Soil Sample Using Microfluidic Paper Based Analytical Devices and Opencv

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Abstract:

Fertilizers are supplied to the crops to increase the fertility of the soil. Improper use of fertilizers results in acidification of the soil and mineral depletion of the soil. Oversupply of fertilizers leads to damaging plants and reducing crop yield. We are going to provide a solution to determine the concentration of the macronutrients namely Nitrogen, Potassium and Phosphorus using microfluidic paper-based analytical devices(μpad) and Image processing techniques. We are going to display the estimated concentration of nutrients in a website developed using PYTHON and flask framework.

Key-words:

Macronutrients, Image processing, μpad, Nutrients, Concentration

Extraction methods of Natural fibres from Datura stramonium

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Abstract:

Datura stramonium is a weed having both poisonous and medicinal properties. Parts of these plants are used in Ayurvedic medicine to treat asthma and skin allergies. Datura stramonium also having a profound effect on wound healing. Fibres were extracted from stems of this plant using 3 methods using distilled water as control (Boiled distilled water, 0.4 % NaOH solution and 0.4 % NaOH solution (Boiled)) and the fibres were analyzed the effect of each method. Fibres treated with distilled water are used as a control. Solubility of the treated fibre powders were tested using distilled water and ethanol. Highest solubility 1.585 was observed in the fibre treated with NaOH solution (boiled). The functional groups present in the extracted fibres were determined using Fourier transform infrared spectroscopy (FTIR).The functional groups varied when compared to treated fibre with untreated fibres.

Index Terms

Datura stramonium, Fibre extraction, NaOH treatment, Natural fibres.

VLSI Architecture for Combined R_2B, R_4B and R_8B FFT using SDF and Modified CSLA

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Abstract:

The FFT is enumerate is DFT and DFT is enumerate is consecutive way, it accomplishes continuous application with constant preparing when the information is persistently taken care of through the processor. Included paper, joined is radix-2 butterfly (R2B), R4B & R8B components based single path delay feedback (SDF) and modified carry select adder (MCSLA) technique, for diminishing the computational stages and for decreasing the equipment use than the R2B and R4B FFT. The implemented SDF technique has single delay commutators at one stage without exception. N/2 point is consecutive controlled in consequence of delay component. The proposed technique has less number of multipliers and the more modest number of computational stages and butterfly components than the Radix-2 & 4 FFT.

Keywords:

R_2B, R_4B, R_8B, SDF, MCSLA, FFT

Seismic Study of Reinforced Concrete Frame using Shake Table Test

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Khalid Moin, Professor, Dept. of Civil Engineering, JMI-New Delhi

Abstract:
In recent time, the reinforced cement concrete (RCC) frame is one of the most commonly used structural system for buildings in high seismic region due to its inherent earthquake resistance property [1]. However, there is still deficiency in understanding the dynamic behavior of the structural system of RCC building during the major earthquakes. In the present study a 1/4th scaled RCC framed building structure has been tested on the shake table and studied numerically using finite element (FE) technique. The response in terms of engineering parameters like natural time-period, damping, story acceleration, velocity and displacement, damage pattern etc. are reported and compared with mathematical model. The scaled EL-Centro time history has been used for the study. It has observed that the difference between the experimental and mathematical results vary from 10% to 15 % which are analogous, and the failure pattern has been observed within the column-beam joints.

Keywords:
finite element, seismic analysis, RCC framed structures, shake table, EL-Centro earthquake.

Performance Analysis of Time Equivalent Space Vector Pulse Width Modulation Scheme for Three Phases VSI at Inductive Load

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Dr. Mohd. Arif Khan, Assistant Professor, Dept. of Electrical Engineering , Fiji National University, Suva City, Fiji

Abstract:

To get the controlled output from three phase voltage source inverter, various pulse width modulation (PWM) controlling schemes are available in the literature but Time equivalent space vector pulse width modulation scheme (TESVPWM) is best among all schemes because it has less total harmonic distortion as compared to other. In the article time equivalent space vector pulse width modulation scheme is discussed for inductive load. First of all author clearly provide the algorithm of the TESVPWM, discussed the Simulink model and in last provide the simulation study. The performance of the schemes is analyzed on the basis of fundamental component and total harmonic distortion. To validate the performance of three phase voltage source inverter, simulation results are provided.

Index Terms-

Two-level voltage source inverter (VSI), pulse width modulation (PWM), Total Harmonic Distortion (THD).

Automatic Text Summarization using Soft-Cosine Similarity and Centrality Measures

Harshita Rastogi, Student, Delhi Technological University

Abstract:
The exponentially evolving size of information today has made it difficult to find relevant information quickly and efficiently. A good extractive text summarizer not only provides the most significant information from the document but also helps the user to decide the relevance of the information. We are presenting a knowledge-based, generic, extractive text summarization technique. Our approach is based on the centrality of a sentences in the graphical representation of the documents. The graph is constructed using the pair-wise soft-cosine similarity measures between the sentences derived using the 8 semantic relations presented in WordNet lexical database. Eigenvector centrality measure outperforms the weighted degree, betweenness and closeness centrality measures. The resultant summary is compared against the gold-standard summaries of BBC news articles from year 2004 to 2005 and DUC 2007 datasets. We have used the ROUGE-1,-2 and -L to evaluate the results and found that our approach performs better than LexRank, TextRank, Luhn and LSA baseline text summarizers.

A Correlative Study of Centrality Measures across Real-World Networks

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Abstract:

Centrality measures have evolved over the years and used over a variety of networks. Being one of the most basic measure to identify important nodes in ever increasing modern day networks, it has been manipulated and modified in every way possible in order to fit the requirement of the network and the way important nodes are perceived in it. Different centrality measures which seem to perform quite differently on theoretical basis, provide similar results when applied to real-life networks. We study the centrality measures based on the approach used, application areas, performance and measure the correlation among 14 centrality measures across 12 network topologies using Pearson, Spearman and Kendall correlation coefficients.

Index Terms

centrality measures, centrality measure correlation, real-world networks

Biological Roles of Various Stress Proteins and Their Clinical Implications

Aitha Kavya Gowd, Student, Koneru Lakshmaiah Education Foundation , Andhra Pradesh

Abstract:

Proteins play a major role within our body. These are nothing more then macromolecules which are formed by amino acids within our body. There are various proteins within a human body and the role that each one of them plays drastically differs from their structure as well as composure. In our paper we would like to look into a specific type of protein known as a stress protein. This group of proteins are responsible for protecting the cells form various stresses such as cold, heat, oxygen deficiency as well as glucose. They mostly help the other proteins function within the normal cells. We will often be able to find high levels of stress proteins within cancer cells. The intrinsic capability of HSP's to protect cells has potential connection as a natural mechanism of organ protection throughout harmful environmental conditions and operative procedures, and within the combat against pathogens. In response to a large style of disagreeable stimuli, there's a marked increase in total HSP synthesis, referred to as the cellular stress response. the strain response is meant to boost the power of the cell to address increasing concentrations of unfolded or denaturized proteins.

The self- complementary bow-tie vacant dipole with log periodic characteristic quad-band antenna design

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Abstract:

In this paper, the diagonally symmetrical pair of modified cross dipole inscribed in a circle with equilateral triangular shaped bow-tie log-periodic characteristic quad band antenna is proposed for wireless energy harvesting application. The suggested quad band antenna is capable of satisfying wider bandwidth for available RF frequency bands including GSM 900 (880 MHz-960 MHz), GSM 1800 (1710 MHz-1880 MHz), 3G (1920 MHz-2300 MHz) and Wi-Fi (2.4 GHz-2.45 GHz) in ambient level. The performance characteristic of the antenna is analyzed in terms of scattering parameter, maximum realized gain, total and radiation efficiency, VSWR, surface current distribution and radiation characteristic. The novel configuration of this design achieves directional radiation pattern maintaining a circularly polarized (CP) radiation characteristics. The measurement result of prototype shows that maximum return loss (RL) of this bow-tie antenna is -28 dB, 4.81 dB realized gain and 6.8 dBi directivity at 2.4 GHz, 1.8 GHz resonating frequencies respectively. The excellent characteristic of wider bandwidths over four resonant frequency bands and high gain of the suggested antenna make it promising candidate for multiple wireless communications as well as energy harvesting system.

Keywords:

Bow-tie antenna, vacant dipole, inscribed circle with equilateral triangle, energy harvesting, cross dipole.

Analysis of 6/4 Switched Reluctance Motor with Different Configuration of Concentrated Winding

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Abstract:

This paper deals with a new approach towards the design of a concentrated winding for the configuration of 6/4 Switched Reluctance Motor (SRM) for the improvement of higher torque and efficiency. In this approach an attempt is made by comparing with the existing reluctance machine having the same basic structural design (rotor/stator pole, air gap, pole embrace, and stator / rotor outer diameter) and operates at different levels of saturation with respect to its magnetic circuit. Motor models are created with the proposed winding design in the ANSYS Maxwell software. The objective of this work is to investigate the torque and efficiency characteristics by comparing the different configuration of various concentrated windings, and how much these influence on the total losses of SRM with the same structure. The static characteristics and the flux path for different winding configurations are analyzed by Finite Element Method (FEM).At the end of the work, the effect of the concentrated winding on the torque at various speed, efficiency and output power is contrast. The total loss in the Double layer winding- Switched Reluctance Motor (DLW-SRM) machine is very less compared with the Single layer winding- Switched Reluctance Motor (SLW-SRM) machine. The simulation results were used to evaluate the performance of different concentrated winding configuration.

Fire Detection System Using Deep Learning Techniques

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Abstract:
From sprawling urbans to dense jungles, fire accidents pose a major threat to the world. These could be prevented by deploying fire detection systems, but the prohibitive cost, false alarms, need for dedicated infrastructure, and the overall lack of robustness of the present hardware and software-based detection systems have served as roadblocks in this direction. In this work, we endeavor to make a stride towards detection of fire in videos using Deep learning. Deep learning is an emerging concept based on artificial neural networks and has achieved exceptional results in various fields including computer vision. We plan to overcome the shortcomings of the present systems and provide an accurate and precise system to detect fires as early as possible and capable of working in various environments thereby saving innumerable lives and resources.

Keywords:
Fire accidents, Fire detection, Surveillance video, Machine learning, Deep Learning, Transfer Learning.

Democratizing AI: Challenges and Threats from India's Perspective

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Abstract:
Artificial Intelligence (AI) refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning, problem solving and decision making [1]. AI technology revolution has the potential to impact almost all facets of human race. Andrew Ng, Co-founder of Coursera and formerly head of Baidu AI Group / Google Brain, compares the transformational impact of AI to that of electricity 100 years back [2]. China and U.K. estimate that 26% and 10% of their GDPs respectively in 2030 will be sourced from AI-related activities and businesses. India being the world's largest democracy, with fastest growing economy and with the world's second largest population has a significant role to play in the AI revolution. #AIforAll - the brand proposed for India [1] suggests technological evolution, where the complete potential of AI is attainable to fulfil India's current need and aspirations. To make #AIforALL successful, AI must be democratized. This paper discusses the need for democratizing AI, its impact, challenges met and treats to be addressed in the process of democratizing AI.

Keywords:
Artificial Intelligence, Democratizing AI, Ethical AI, Impact of AI

Inosul Therapy which is Able to Reverse Metabolic Disorder Diabetes, Heart Diseases, Insomaniya

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Abstract:

Insoul-T Therapy like a proton therapy but pro-ton therapy is more sideffective and damage body tissue But insoul therapy based on photons with special frequency and waive length which is able to send singnal to brain and and valance chemical pro-cesor in body specially effective dopamine, And neurotransmitter and receiver of nerves sys-tem

Its creats frequncy passing through neurotrans-mitter and specially increase GABA(Gamma-Amino butric acid When GABA is in form then metabolic disorder glucoselavel is in balace according to the neurons ratio of format;Adnin,guenin Betta cell getting good work accoding formation of body cells processor

This therapy takes time according to glucose lable in human body and how is extra which burns as ketons of bodies

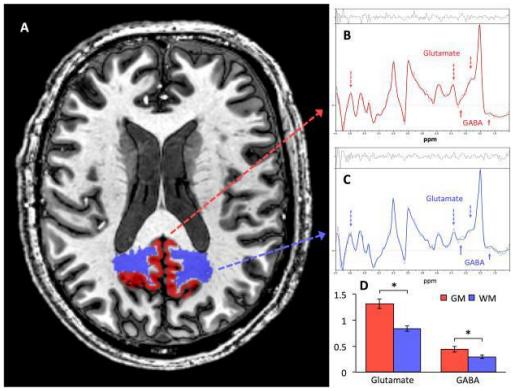

Figure 1: Figure showing GABA lable ,how its increase for protecting cell and signal to neuro-transmitters

And due to therapy day by day its increase and goes strong immunity

And its remove Diebetese mellitus,Heart diesease and Insomaniya

Insoul-T emmits signal with special frequency to the brain and body tissue

Which helps to chemical valance in body ac-cording ratio of energy in body

Figure 2: Its the Equipment which is a photo- electronic device name is Insoul-T
Its Emmits Signal with required frequency for treatment as procceser of chemical reaction in body

Reffrence

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