

IES COLLEGE OF
ENGINEERING



**INTERNATIONAL CONFERENCE ON
MULTIDISCIPLINARY ENGINEERING
SCIENCES AND INFORMATION
TECHNOLOGY-2019**

02ND - 03RD MAY 2019 | THRISSUR, KERALA

ICMESIT-2019

**ORGANIZED BY
IES COLLEGE OF ENGINEERING, THRISSUR**

**IN ASSOCIATION WITH
INSTITUTE FOR ENGINEERING RESEARCH AND PUBLICATION (IFERP)**



IES COLLEGE OF ENGINEERING, THRISSUR, KERALA - 680551



IES COLLEGE OF
ENGINEERING



International Conference on Multidisciplinary Engineering Sciences and Information Technology

Thrissur, Kerala

02nd & 03rd May, 2019

Organized by:

IES College of Engineering

&

Institute For Engineering Research and Publication (IFERP)



Rudra Bhanu Satpathy,

Chief Executive Officer

Institute For Engineering Research and Publication.

On behalf of *Institute For Engineering Research and Publications (IFERP)* and in association with *IES College of Engineering*, Thrissur, Kerala. I am delighted to welcome all the delegates and participants around the globe to *IES College of Engineering, Thrissur, Kerala* for the “*International Conference on Multidisciplinary Engineering Sciences and Information Technology (ICMESIT -19)*” Which will take place from *02rd -03rd May'19*

Transforming the importance of Engineering, the theme of this conference is “*International Conference on Multidisciplinary Engineering Sciences and Information Technology (ICMESIT -19)*”

It will be a great pleasure to join with Engineers, Research Scholars, academicians and students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator (**IFERP & IESCE**) and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at *Thrissur, Kerala*.

Sincerely,



Rudra Bhanu Satpathy

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Preface

The “*International Conference on Multidisciplinary Engineering Sciences and Information Technology (ICMESIT-2019)*” is being organized by *IES College of Engineering*, Thrissur, Kerala in association with *IFERP-Institute for Engineering Research and Publications* on the 02nd – 03rd May, 2019.

IES College of Engineering has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the major city of Thrissur in Kerala.

The “*International Conference on Multidisciplinary Engineering Sciences and Information Technology*” was a notable event which brings academia, researchers, engineers, industry experts and students together.

The purpose of this conference is to discuss applications and development in area of “**Multidisciplinary Engineering Sciences and Information Technology**” which were given international values by *Institute for Engineering Research and Publication (IFERP)*.

The International Conference attracted over 128 submissions. Through rigorous peer reviews 70 high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We are also thankful for the cooperative advice from our advisory Chairs and Co-Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

ICMESIT -2019

General Secretary Message



Mr. Mohamed Rafeek

General Secretary
IES College of Engineering, Thrissur

I am extremely glad and enlightened to host International Conference On Multidisciplinary Engineering Sciences And Information Technology (ICMESIT) in association with Institute for Engineering Research & Publication (IFERP) on 2nd & 3rd May ,2019 at IES College of Engineering. ICMESIT-2019 has provided an excellent international forum for sharing knowledge and results in Recent Challenges in Engineering Technology. The aim of the Conference was to provide a platform to the researchers and practitioners from both academia as well as industry to meet and share cutting-edge development in the field. I would like to extend my happiness for the conference proceeding journal which is being published in association with the conference.

Principal Message



Dr.S.Brilly Sangeetha

Principal
IES College of Engineering, Thrissur

Now-a-days the academia and researchers are not only pondering but also experiencing the overwhelming outcomes of interdisciplinary researches. Moreover, it has been ubiquitously encouraged by the governments, research agencies and by the academic institutions. The intent behind the multidisciplinary international conference is to provide a common platform, where academia, delegates from industry and nominees from various Government and Private Universities and Institutions can sit together, and cherish about achievements so far, as well as deliberate upon futuristic approaches along with major bottlenecks. The deliberations will not only encompass all avenues of electrical, electronics, computer science and information technology but also through spotlight on positive and inadvertent impact of modern technologies on society. I would like to express my appreciation to the team for making this extraordinary conference a possibility & wish all the very best for the conference proceedings which is being published.

Convener Message



Dr.G.Kiruthiga

HOD-CSE

IES College of Engineering, Thrissur

As the flagship conference of the IES College of Engineering & IFERP, ICMESIT will bring together the world's top researchers and most important companies to share ideas and advances in our field of Multidisciplinary Engineering Sciences And Information Technology. Many of the most important developments have historically been exposed around the globe in various conferences, and in 2019 will take this trend one step further to IES. As the practical and socio-economic impact of our field continues to expand, the role of industry-centered activities has grown and will be a critical aspect of the meeting. The context of the conference is to foster as well as exaggerate the research culture among academia and industry facilitated by sprinkled out ideas by exchange of the intellect during conduct of the conference. Furthermore, the intent of the activity is to let the folks acquaint with transcendental growth, recent trends, innovations and security issues involved in the domain of communication technologies, sustainable smart electrical systems, high performance computing, big data, social media, hardware & software design, advanced software engineering, Internet of Things (IoT), e-governance etc. and their impact on societal applications through various brainstorming sessions. The conference will facilitate the young researchers, industries and research agencies especially, those, who are carrying out their research work in the aforesaid domain of Computer Science, Information Technology, Electrical, Electronics and Communication Engineering with valuable discussions in order to make the outcomes more realistic. Wishing all the very best in publishing this proceeding for future reference.

ICMESIT -19

*International Conference on
Multidisciplinary Engineering Sciences and
Information technology*

Keynote Speakers



Dr. Erry Yulian T. Adesta,

Professor

Department of Manufacturing and Materials Engineering

International Islamic University Malaysia

Industry 4.0 introduces an era where computers are inter-connected and communicating with one another to ultimately make decisions without very much human intervention. It can be claimed that the digital transformation to industry 4.0 of equal importance to all sectors. Companies, ranging from Mechanical and Electrical engineering industries and the chemical sector see it as having the greatest potential while companies in metalworking industries and construction sector currently see it as less important. Hence it covers a wide range of disciplines i.e. multidiscipline as well as interdisciplinary in nature.

In the context of contemporary engineering field is also rapidly evolving into a more complex system with the need of multiple branches of engineering know-how to solve modern problems. Mechanical, Civil, Electrical, Software Engineers and even those experts outside of the engineering field should collaborate to produce quality products and service for the future. In other words, with these new elements and demands in the engineering field, future engineers are expected to behave like multipurpose tools. Engineers with applicable knowledge from varying technological disciplines that can be utilized effectively on demand of the projects. Likewise, the engineers of the future need to be compatible with engineers of the older generation who might have limited to no knowledge of fields outside of their practice. To succeed in the future workforce engineering students not only need technical knowledge, creativity, and soft skills, but also the quality to synergize into engineering systems that include multiple disciplines. With these new requirements of the future engineering education face a new duty of introducing challenges of multidisciplinary design and projects to its students.

It is therefore expected that this multidisciplinary international conference is to provide a common platform, where academia, delegates from industry and nominees from various Government and Private Universities and Institutions can share as well as deliberate upon futuristic approaches to address future problems to provide the best solutions. The deliberations will not only cover all avenues of electrical, electronics, computer science and information technology but also various other disciplines on positive and inadvertent impact of modern technologies on society.

ICMESIT -19

International Conference on Multidisciplinary Engineering Sciences and Information Technology

Thrissur, Kerala, 02nd - 03rd May , 2019

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ICMESIT -19

**International Conference on
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Information Technology**

**Thrissur, Kerala
2nd & 3rd May, 2019**

ABSTRACTS

ICMESIT -19

Organized by:
IES College of Engineering (IESCE)

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Institute For Engineering Research and Publication (IFERP)

Waste Collecting Smart ROBO

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Abstract:--

Waste Collecting Smart Robo is a robotic vehicle designed to collect, detect and separate the waste into degradable and non-degradable. The collection of waste is done by rotating the fan placed in front of the vehicle which is controlled by a wiper motor. The movement of the vehicle is controlled by an android app. The detection of the waste is done using deep learning technology with the help of software Matlab with neural network as Alexnet. .The next step is the separation of the waste into degradable and Non-degradable by using a conveyor belt after the detection of the object.

Keywords:--

android app, Matlab, Alexnet

Effect of stress on online food delivery executives in job performance

Dr. K. Meenatchi Somasundari, Assistant Professor, Department of BBA(CA), Sri Krishna arts and science college,
Coimbatore

Abstract:--

Our reckless life has pushed us to follow online lifestyle. It has made our lives comfort that even foods reached our doorsteps with a single tap. Often, we tend to ignore the work stress of food delivery executives. This article checks through its pros and cons. Stress consumed the minds of people. “Stress is the psychological and physical state that results when the resources of the individual are not being sufficient to cope with the demands and pressures of the situation”. The present study was to evaluate the pros and cons of job stress, impact of coping mechanism and job performance of executives in selected online food delivery services. The study reported responses of 210 online food delivery executives. The convenient random sampling method was adopted for collecting data. For analysis purposes, Chi square test, Correlation and independent t- test were used. The researcher culminated that online food delivery executives to realise the intensity of stress coping mechanism are best solution to overcome the stress in job performance.

Keywords:--

Executives, Job performance, Job stress, Stress management, Stress coping mechanism, Online food ordering (delivery) service.

Breaking Down of 51% Double Spend Attack (DSA) in Blockchain Technology

Dr.S.Brilly Sangeetha, Associate Professor, Department of Computer Science and Engineering, IES College of Engineering

Dr.S.J. Jereesha Mary, Faculty in Dept of IT ,AI Musanna College of Technology

Dr.S.Sebastin Antony Joe, Faculty in Dept of Computing Sciences, Gulf College of Technology

Abstract:--

Today the emerging trend and innovative technology is block chain technology. The actual question is how to manage this. The basic concept behind this is mining. Block chain is equal to governance. It is basically a form of governance. It governs a ledger of data. Here we focus on double spend attack in block chain. The attackers will be able to block the new transactions from gaining access to confirmations. They make half payments between some or all users. It is even possible to reverse transactions when using the network or holding the complete control of the network thus spending the coins twice which means double spend coins. This attack always exist as a thread and users are panic about their transactions being used by a corrupted miner. The solution for this malicious mining is Proof of Work (PoW) which is proved to be not sufficiently decentralized or secure. So here we are focusing on Proof of Stake (PoS) based mechanism called Casper which is a response to the treat of centralization.

Keywords:--

Blockchain Technology, Double spend, Governance, Mining, Transactions.

Coupled- Inductor L- Source Inverter

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S SivaKumar, Dept. of EEE , SRMIST, Chennai, India

T S Manasa, Dept. of EEE , SRMIST, Chennai, India

Abstract:--

Often this article anticipates a coupled inductor L-source inverter. When compared with the other existing inverters, it has an advantage of operating in two current modes, such as uninterrupted mode and discrete mode, since we use an ancillary switch with an anti-parallel diode in series with a storage capacitor to keep the DC voltage unchanged. But when compared to continuous conduction mode it works good in discontinuous conduction mode as it produce high voltage gain so thereby it reduces the Submissive component voltage stresses and lowers the coupled inductor values and power losses. This can be used for High Intensity Discharge Lamp application and for driving Brush less DC motors. Topology of the circuit, strategy of modulation and operating principle are introduced. It is shown that mathematical formalism and observational results are verified

Search and Rescue Disaster Robots - A Survey

Priyanka Menon A S, Sahrdaya College of Engineering

K R Joy, Sahrdaya College of Engineering

Abstract:--

Search and rescue robots is a challenging yet promising research area which has significant application potentials. The use of robotic assets in search and rescue operations will provide a very accurate and faster response in finding the victims in a disaster zone. Disasters occur without any warning that effects human life and property. Rescue robots can be employed in such area as the rescue robots have different capabilities like searching, removing rubble, delivery of supplies, medical treatment, and evacuation of casualties. So the need for SAR robot cannot be avoided in a disaster zone. There are many contributions to rescue robot from the field of robotics such as rovers, humanoid robots, biped robots, and soft rescue robots, wheeled and tracked robots. Different technologies in robotics satisfy different disaster management conditions. This paper presents different types of rescue robots and the technology used, different platforms used in the rescue robots, their mode of operation and their application areas.

Index Terms

Search and Rescue, robotics, technology, mode of operation

Bandwidth Scheduling for Energy Efficiency in High-performance Networks

R.Lalitha, Assistant Professor, Sri Krishna Arts and Science College, Coimbatore.

Dr. T.Jayalakshmi, Assistant Professor, LRG Government Arts College for Women, Tirupur

Abstract:--

The constant increasing number of Internet connected end-hosts calls for high-performance end-to-end networks, which in turn edge to an increase in the energy consumed by the networks. On a daily basis, the deportation of big data in various applications across high-performance networks (HPNs) in a national or global scope consumes a momentous amount of energy. Only traditional aspirations are considered by most extant bandwidth scheduling algorithms, such as data transfer time minimization, and very limited efforts have been devoted to energy efficiency in HPN's. In this paper, we consider two widely ratify power models, i.e., power-down and speed-scaling, and formulate two instant bandwidth scheduling problems to curtail energy consumption under data transfer deadline and fidelity constraints. We prove that the Network Professional (NP)-completes both the problems, and design a fully potential time approximation scheme for the problem using the power-down model. We also design an approximation algorithm and an interrogative approach that considers the trade-off between objective that is up to hilt and time cost in practice for the problem using the speed-scaling model. Based on both assumed and real-life networks in comparison with existing methods, the proposed solution is illustrated by extensive conclusions.

Index Terms

High-performance networks, bandwidth scheduling, energy efficiency.

Task Scheduling Mechanism for Cloud Computing Using Hybrid Particle Swarm Optimization Algorithm

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A Daniel, Research Scholar, Shri Venkateshwara University, Gajraula, Uttar Pradesh , India, Asst.Prof, School of Computing Science &
Engineering, Galgotias University, Greater Noida, Uttar Pradesh, India

Abstract:--

As the world is advancing towards progressively proficient computing and quicker methodologies, cloud computing is a well known computing model to such expanding necessities. So as to give financially executions in cloud condition, task scheduling process is highly crucial. This paper proposes a method by combining the genetic algorithm (GA) and the particle swarm optimization (PSO) algorithm to improve load balancing and cloud throughput. We assess the results utilizing the CloudSim toolbox and reproduction results exhibit that the proposed methodology has a superior act regarding makespan, improvement proportion, and so on.

Keywords:--

Task scheduling; Particle swarm optimization; Genetic algorithm; Cloud computing

A Heuristic One pass Design and Optimization technique for Reversible Sequential Logic

Ajeesh S, Assistant Professor(IESCE)

Dr.Lince Mathew, Assistant Professor(IESCE)

Shahaziya Parvez, Assistant Professor(IESCE)

Lubna Kareem, Assistant Professor(IESCE)

Abstract:--

Design of reversible sequential circuits is an engaging area in reversible logic synthesis. The works attempted in the domain is meager. The paper confers an improved implementation for reversible sequential logics using heuristic one-pass design technique of reversible circuits, which is a combination of embedding and synthesis. This strategy is vindicated by adopting the Transformation and KFDD based combinational reversible synthesis algorithms. Adding line optimization approach is applied on synthesized circuits, results in prime implementation cost. Quantum cost and the Transistor cost are taken as the cost functions to measure the quality of the design and the optimization.

Index Terms

Reversible logic, Sequential circuits, quantum computing, reversible Synthesis, Optimization

A Survey on importance of Data Mining in Health care

Ameefa P K, Assistant Professors, IES College of Engineering, Trissur, Kerala.

Lilly Raffy Cheertha, Assistant Professors, IES College of Engineering, Trissur, Kerala.

Abstract:--

This survey mainly dealing with the health issues. Their related information is collected and how important data mining is in health care. Now-ever-days health issues are increasing and recording every information are becoming more complex. Gathering the health record by gathering the data sets related to insurance claims, health surveys and other sources including data quality and privacy issues. The analysis of new health conditions using data mining is necessary. Clinical Decision Making by diagnose their issues or disease rather than by the medical experts. Bio medicine and Genetics for finding the specific diseases that are effects of genetics are studied with the help of bio medical and molecular level. Population Health focused mainly on the patterns, trends and causes of specific disease across a population. Health Administration and Policies mainly focus on the insurance plans in the area of health administration. It is believed that by analyzing the related data and extracting the hidden information out of that data, many useful and applicable solutions can be developed. With the increase of implementing electronic systems, such as electronic health records systems, in the health sector, there are massive amount of data being captured every day.

Keywords:--

Data Mining; Health Data Analysis; Data Quality; Predictive Modeling; Health Big Data; Data Mining Applications; Classification; Clustering; Association

A Novel Reversible Data Hiding Technique in Image Processing

Rachana M K, Assistant Professor, IES College of Engineering

Sindhu T V, Assistant Professor, IES College of Engineering

Suvitha P S, Assistant Professor, IES College of Engineering

Abstract:--

Communication plays a major role in the technological field. Data hiding is one such application of communication where a secrecy or protection is maintained throughout a particular communication. The paper introduces a new technology for data hiding in image processing, called rhombus prediction embedding algorithm with boundary expansion. The paper also made an implementation of the lossless compression of a location map that plays a major role in increased embedding efficiency. Also the embedding capacity for different images with different pixel values was calculated and compared using VHDL language. Later the entire hidden data was retrieved with making no change in the original image thereby showing perfection in data retrieval from the image after use. The entire data hiding system for a particular image has been analysed and implemented in ModelSim software in VHDL language and MATLAB.

Keywords:

VHDL, MATLAB, ModelSim, rhombus prediction.

Experimental investigation of Triangular Shell Foundation by varying Edge Beam dimension and Embedment Ratio

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Sreevidhya V, Assistant Professor, Department of Civil Engineering, IES College of Engineering, Chitilapilly Trissur, India

Abstract:--

Shell foundations derive their strength from their geometry rather than mass. This characteristic enables them to obtain maximum structural integrity with minimum consumption of materials. The shell footings are capable of supporting higher vertical loads, better load settlement characteristics and are economical in terms of material compared with the conventional footings. Here in this project a study on the load settlement behavior of triangular shell footing by varying edge beam dimensions and embedment ratio is carried out. An edge beam of dimensions 35mm, 45mm and 50 mm are used. The behavior of the same is analyzed by placing geotextile at different depths of 0cm, 25cm and 50 cm . Then the result obtained are compared with conventional flat slab footing. Plate load test is the important test used in this project. This study strengthen the case of triangular footings by confirming its superiority in the aspect of lower settlement characteristics.

Index Terms

Triangular shell footing, Embedment ratio , Edge beam dimension, Plate load test, Geotextile

Implementation on Ensemble Classification Method for Detecting Known and Unknown Web Attacks

Annie Chacko, Research Scholar-PTE, Dept. of CSE, Hindustan Institute of Technology and Science, Chennai, India

Dr. A Antoni Doss, Associate Professor, Dept. of CSE, Hindustan Institute of Technology and Science, Chennai, India

Reshma Sherin Jacob, Second Year M-Tech Student, Dept. of CSE, MBC CET, Idukki, India

Abstract:--

The quick increment in web correspondence has been expanding generally, so there is a requirement for better security assurance. Most often the security specialists can just distinguish the known assaults. To beat the issue here proposes the data mining methods for distinguishing the unknown assaults. The procedure includes evacuating the undesirable highlights utilizing filter and wrapper method. The data mining calculations are utilized to identify obscure assaults. For finding the obscure assaults the information mining procedures like clustering, classification and their comparing calculations utilized in this strategy and afterward include extraction utilizing the filter technique. By then, the outfit procedure surveyed with the dataset, specifically the NSL-KDD dataset.

Index Terms

Anomaly Based IDS, filter methods, wrapper methods.

Minimum Detectable Content Adaptive Steganography Using MiPOD Algorithm

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Linu Babu P, IES College of Engineering, Thrissur, Kerala

Bency V arghese, IES College of Engineering, Thrissur, Kerala

Anjali Rajan, IES College of Engineering, Thrissur, Kerala

Abstract:--

Steganography is an emerging area which is used for secured data transmission over any public media. It is a process that involves hiding a message in an appropriate carrier like image or audio. The most successful approach to steganography in digital images is to embed the payload while minimizing a suitably defined distortion function. This concept allows the stenographer to evaluate distortion caused by embedding changes based on local image content, hence the name content adaptive steganography. The sender specifies the costs of changing each cover element and then embeds a given payload by minimizing the total embedding cost. The actual embedding algorithm is realized using syndrometrellis codes to minimize the expected distortion for a given payload.

Keywords:--

Steganography, Content adaptive, Stego, payload, cover, optimal detection.

A Study of Wireless Power Transfer Techniques

Bency Varghese A, IES College of Engineering

Linu Babu P, IES College of Engineering

Anjaly, IES College of Engineering

Abstract:--

In recent years, there has been a growing interest in wireless power transfer (WPT) that represents a promising technology for energizing low-power electronic devices. In this regard, particularly attractive is the use of WPT for recharging embedded devices, such as sensors for structural monitoring or implantable medical devices (IMD); in fact, these devices are difficult to access for the battery replacement or a direct connection to a power grid. More specifically, in the case of medical implants, the limited lifetime of the battery determines the necessity of periodically replacing the device through surgery. The use of WPT combined with a rechargeable battery could extend the lifetime of these devices up to 20 years, with obvious advantages for their users. According to these considerations, in the literature, several wireless power transfer methods and wireless links for either data or power transfer to medical implants have been discussed.

Key Words:

Wireless Power Transfer(WPT).

Detection of Murmur from Time Domain Features of Heart Sounds – an Investigation

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Abstract:--

Automated identification of valve disorders from heart sounds is a competent task in cardiology. Time domain features like variance (μ), standard deviation (SD), entropy (E), peak amplitude (PA), RMS, crest factor (CRF), impulse factor (IF), shape factor (SHF), energy and clearance factor (CLF) are extensively used in Artificial Intelligence (AI) to reflect the physical attributes of signals. Time domain features are analytically simple and easy to compute. In this paper, the reliability of employing time domain features for the detection of murmur from heart sound is investigated. It is found that energy of the signal is able to detect the murmur from PCG signal with an accuracy of 98.87 %, sensitivity of 99.70 % and specificity of 98.09 %.

Keywords:—

Energy, heart abnormality, murmur, PCG signal, statistical significance, type of heart signal, time domain features.

Pile Head Response of Vertical and Belled Pile to Excavation Induced Lateral Soil Movements

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Abstract:--

Deep excavations performed in urban populated cities forms an inevitable part of the construction sequence. During excavation, excessive soil movement may cause severe damages to the adjacent structures. Lateral forces acting on the piles from surrounding soil movement results in additional internal forces and excessive deflection of piles. In this present study, the behavior of pile foundation subjected to lateral soil movements was studied by conducting laboratory model tests. Excavation was carried out in stages at vertical intervals of 2.5m from the ground surface up to a depth of 10m. No study was carried out to compare the excavation induced lateral movement in belled and vertical pile. The study was carried out by varying excavation depth, distance of pile from excavation face. Belled piles have minimum lateral deflection compared to vertical pile during excessive soil movement. For a depth of excavation 2.5m belled and multi belled piles have shown 66 % to 82 % and 71 % to 100% less deflection when compared with short piles.

When compared with short piles, intermediate piles and long piles have shown 14 % to 45% and 47 % to 63 % less deflection values for 2.5m depth of excavation.

Keywords:—

Belled pile, excavation, lateral deflection, soil movement, vertical pile.

Free Vibration Response of Laminated Composite Box Beams

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Abstract:--

Laminated composites are made of layers of fibers in matrix material. They are very thin and light weight which makes them efficient in various applications. However, this thin configuration itself makes them prone to vibration damage. In this paper, an attempt has been made to study vibration response of laminated composite box beams. The variation of orthotropic stiffness parameter with natural frequency for different length to width ratios is studied. Analysis is based on finite element principles implemented via ANSYS 15.

Keywords:—

Laminated composites, Box section, Free vibration, Orthotropic Stiffness, Natural frequency

Improved Fault Diagnosis in Wireless Sensor Networks Using Deep Learning Technique

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Abstract:--

In recent times, Wireless Sensor Network (WSN) has increased its attention due to its positive impact on surveillance in its surrounding environment. Numerous researches have been report since decades, however, the studies on diagnosing the network fault in critical conditions have received little attention. This could be another area of interest in WSN to increase its overall lifespan and network scalability. However, owing to ad-hoc characteristics of sensor nodes, the scalability of network reduces and this makes the network administrator to poorly observe the conditions of the network. The other major limitations associated with the fault diagnosis in WSN includes: short communication range, limited energy resource, limited processing power, low bandwidth, storage in sensor node, conditionally independent transmission of signals, high power in transmission and signal acquisition and faulty sensory reading under harsh operating condition. The present study considers improving the lifetime and scalability of sensor nodes using passive fault diagnosis using a deep learning approach named Conventional Neural Network. This method effectively classifies the faulty sensor nodes and eliminates it from communicating with other sensor nodes.

Index Terms:—

Recurrent Neural Network, Fault diagnosis, Network Scalability, WSN

Detection of Faults in Flying Wireless Sensor Networks Using Adaptive Reinforcement Learning

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V.Dineshababu, Karpagam Inst of Tech

Abstract:--

In recent decade, diagnosing the fault in Unmanned Autonomous Vehicle (UAV) based Wireless Sensor Networks (WSN) has received a little attention by the researchers. The limitations of UAV-WSN environment possibly affects the fault diagnosis. The limitations associated with UAV-WSN conditions are considered as the scope of present study in diagnosing the fault in network. The study focuses mainly on improving the overall lifespan of network and further it tends to increase the network scalability. Since, the overall network lifetime and scalability reduces as the condition of the network worsens. Hence, the observation on network becomes poor in identifying the faults associated with the network. To resolve the issue, an Adaptive Reinforcement Learning is proposed in the study for the fault detection of flying sensor nodes in UAV-WSN. This approach diagnoses the faults in the network in an effective way and improves the overall efficiency of the network.

Index Terms:—

Fault diagnosis, UAV, WSN, Adaptive Reinforcement learning

Flexural Behaviour of HyFRC Beam Reinforced With GFRP Rebar

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Abstract:--

This paper presents the experimental study on the flexural behaviour of HYFRC beams reinforced with glass fiber reinforced polymer (GFRP) rebar and compared with normal steel reinforcement beams. Three beams reinforced with GFRP rebar and three beams of conventional concrete steel reinforced with totally six beams were casted and tested under two points loading. The companion specimens were casted along with beam and tested for concrete properties. Steel and glass fibres are used to improve the concrete property. From testing, load carrying capacity, load-deflection characteristics, crack pattern, crack width, concrete strains across cross section and failure mode were noted. Stiffness, ductility and energy dissipation capacity were also calculated. The average ultimate load carrying capacity of GFRP rebar and normal steel reinforcement beam is 125.8KN and 97.5KN respectively. The maximum deflection noted at their ultimate load in the GFRP rebar and normal steel reinforcement beam is 27.3 mm and 16.3 mm respectively. It was also observed that after load removal, deflected GFRP beam regain its original position and crack width also reduced. In steel beam, steel rebar were yielded, after load removal, no deflection regain and crack width reduction were found.

Keywords :

GFRP, Hybrid fibre, flexural testing, stiffness, ductility and energy dissipation capacity.

A Brief Survey Report On Wind Mills and Its Buoyancy

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Abstract:--

In the present day energy scenario, non -conventional energy resources are gaining a significant role in meeting the ever increasing energy demand of the entire human population all around the world. Among all the sustainable energy sources, wind energy extraction is the fast developing and hence the major contributor. Especially, offshore wind energy is currently getting more traction and attraction compared to onshore plants, as sea winds are of high velocity and abundance. This article investigates in short, the history, energy extraction, types, the challenges faced during construction and installation of buoyant wind energy conversion systems.

Keywords

buoyancy, floating, onshore, offshore, platform, sustainable

Review on Various Routing Techniques in Wireless Ad-hoc Networks

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Abstract:--

Wireless Ad-hoc network is an emerging trend in which the nodes are having mobility features. In a wireless Ad-hoc network every node is capable of handling complete network structure which enables the nodes to participate in the data transmission in peer to peer systems. But to find a route to connect with or to communicate, there is big network structure in front of network administrator. The big deal is to route a particular transmission from a specified source and destination to find the best route among a bunch of nodes. In this paper we have given classification of various routing techniques with some issues related to them along with some of the advantages and disadvantages, which will help us to choose a better routing protocol to compute a route among nodes in wireless Ad-hoc networks.

Keywords:—

Routing, Wireless, Data Dissemination, Networks, Technology, Ad-hoc.

Proposed View of Medical System

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Akash S Kumar, IES College of Engineering, Thrissur, Kerala

Abstract:--

Now a days many life's lost due to the inability to provide the proper medical care at right time. Mostly, in case of people met with accidents lost their life due to lack of ICU facilities in hospitals. It may also happen due to the behaviour of private hospital authorities, who resist to admit and provide treatments to the patient who is in critical condition. This situation can be handled by introducing our project “*Smart Medical *”. In which we assure proper treatment for the people at right time. Here in this project hospital and government has its own roles. All hospitals will bring under the partial control of government, where all information of patient will be uploaded to a server which is controlled by the government employee. Here the patient's conditions are divided into three as less serious, serious, and critical to provide them proper right time treatment. An ambulance and a staff nurse are required to provide the patient with first aid. The ambulance has a GPS which finds the nearest availability of the ICU in a hospital for the treatment. It reduces the distance to be travelled and thus can provide treatment fastly. For this system we have implemented effective smart ambulance system by using GPS, GSM and smart mobile along with Zig-Bee Technology. From ambulance we will be capturing the patient's parameters along with the coordinates and these details will be sent to control centre. Control centre will be going to send nearest hospital details to the ambulance, then ambulance will choose the path to hospital. Along with these every few minutes patient's parameters will be sent to the hospital to get the suggestions to monitor patient's condition. This project is targeted to design and develop a real time smart ambulance system. To implement the proposed system, the ARM Cortex-M3 is interfaced with ambulance section. The ARM Cortex-M3 (LPC 1768) is a next generation core that offers system enhancements such as enhanced debug features and a higher level of support block integration.

An Edge Optimization based Image Haze Removal Technique Using a Single Image

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Abstract:--

The visibility and color fidelity of outdoor images are prone to serious degradation under hazy or foggy weather. Many computer vision applications use systems which assume that the input is haze-free. And when the inputs are hazy, the outputs of such systems would result in serious errors. Consequently, image haze removal has practical significance for real-world applications. In this paper, an improved atmospheric scattering model has been proposed and an efficient image haze removal algorithm based on the improved model has been presented. The input image is first partitioned into different scenes based on the haze thickness. Next, a scene luminance map is estimated for each scene by performing the averaging and erosion operations. Then, the depth map is found out using a linear model, which uses the brightness and saturation components of the input image. The transmission map is then estimated by using the obtained depth map and the scattering coefficient. In addition, a soft matting technique is used for edge optimization, to eliminate the negative effects caused from the wrong scene segmentation results, and to produce a refined scene luminance map and transmission map. Finally, the improved atmospheric scattering model is used to obtain the haze-free output image. The experimental results demonstrate that the proposed method is effective in solving a series of common problems like uneven luminance, over enhancement and over saturation in images. Moreover, this method outperforms most current image haze removal algorithms in terms of quality and preservation of edges.

Keywords –

Atmospheric Scattering Model, Depth map, Edge Preservation, Single image haze removal, Scene Segmentation, Soft matting, Transmission map.

Cellular Automata Technology in Scalable color image coding

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Abstract:--

A scalable color image coding algorithm is a multi resolution representation of the data. It can be often obtained using a linear filter bank. Reversible cellular automata have been proposed recently as simpler, nonlinear filter banks that produce a similar representation. The original image is decomposed into four sub bands, such that one of them retains most of the features of the original image at a reduced scale. The project discusses the utilization of reversible cellular automata and arithmetic coding for scalable compression of color images. In the binary case, the proposed algorithm that uses simple local rules compares well with the JBIG compression standard, in particular for images where the foreground is made of a simple connected region. For complex images, more efficient local rules based upon the lifting principle have been designed. They provide compression performances very close to or even better than JBIG, depending upon the image characteristics. In the gray scale case, and in particular for smooth images such as depth maps, the proposed algorithm outperforms both the JBIG standards under most coding conditions. In color images after sampling equally optimal transform per component could be computed. Cellular automata transform is a new scheme to enhance resolution in terms of compression ratio.

Keywords

Arithmetic coding, cellular automata (CA), scalable image coding, RCA

Double Sequences & Series

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Nice C A, AP-IES College of Engineering

Selina V P, AP-IES College of Engineering

Abstract:--

In this study we define the double sequences & series. In mathematics a sequence is an enumerated collection of objects in which repetitions are allowed. Like a set, it contains elements. The number of elements is called length and same elements can appear multiple times. Formally, a sequence can be defined as a function whose domain is a set of all natural numbers. The concept of Double sequences & series us an extension of single sequence & series. First we discuss about the single sequence and then extend them to the concept of Double sequences & series. Then discuss about the some results and examples related to them.

Data Hiding In Audio Signals with Steganography

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Abstract:--

In this paper, a robust substitution technique has used to implement proposed work of audio steganography. Steganography is an art of science methodology of writing hidden messages such a way that no one apart from the intended receiver knows the presence of the secret message data. This technique resolves the various inherent issues ,after that it increases the data hiding capacity while being also achieve robustness from various intentional as well as unintentional hacking attacks like this it provides privacy to data. The main strength of our algorithm is depend on the segment size and its used to achieve very high embedding capacity for different data type that can reach up to 50% from the input audio file size. Here developing two novel approaches of substitution technique of audio steganography that improves the capacity of cover audio which for embeds additional data The simplest LSB technique simply replaces the LSB in the cover image with the bits from secret information. Further advanced techniques use some criteria to identify the pixels in which LSB(s) can be replaced with the bits of secret information. In DCT based technique insertion of secret information in carrier depends on the DCT coefficients. Any DCT coefficient value above proper threshold is a potential place for insertion of secret information. The proposed methods offers high quality of steganography process in terms of Peak Signal-to-Noise Ratio (PSNR). Only minor changes in the contents of the audio file occur, which is indiscernible to human ears. In addition, several attacks on the sound wave were performed; the results showed that the hidden secret data can be retrieved with minimal distortion. An implementation of both these methods and their performance analysis has been done in this paper.

Keywords-

LSB, PSNR, Steganography, robustness

Diagnosis of Liver Images Lesions in Mr Images Using Improved Segmentation and Classification Task

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Dr.G.Nanthakumar, Associate Professor, Anjalai Ammal Mahalingam Engineering College, Tamilnadu, India.

Abstract:--

Detection of liver abnormalities is a deep study that reflects the condition of liver during the time of liver disease. The diagnosis reveals the condition of liver in human body, however earlier detection of images during medical diagnosis is still a tough task with texture analysis and classification process. Hence, in this study we reveal the condition of liver as normal or abnormal based on the analysis done using the proposed method. The proposed system identifies the condition of liver through two stages: structural and statistical analysis and classification process. The former one is carried out with Gabor Gray Level - Local Binary Patterns (GGL-LBP) that provides the structural texture representation of a liver image. The latter one uses various machine learning classifiers to test the proposed method that includes Artificial Neural Network Fuzzy Inference System (ANFIS) is used for classification process. The set of images are used for training and testing the classifier using the structural features. The proposed classification method is evaluated using 225 test records and it is tested against conventional methods in terms of accuracy, sensitivity and specificity. The experimental validation shows that proposed method with ANFIS classifier acquires improved accuracy than other classifiers, namely Support Vector Machine (SVM), K-Nearest Neighbor (KNN), Naïve Bayes (NB), Decision Tree (DT) and Linear Discriminant Analysis (LDA).

Keywords:--

Liver Abnormalities, ANFIS Classifier, Normalized Gabor Filter, Co-occurrence Matrix, Local binary pattern

A Gene Expression Data Biclustering Algorithm Using Large Average Submatrix Based FCM Classification System

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Abstract:--

In this paper, the biclusters on data from gene expression tend to group or cluster identical data under multiple conditions on gene expression. Therefore, the biclustering method is very necessary if the matrix lines and columns are clustered instantaneously. At first, the set of sub-matrices are identified using Large Average Submatrix. This is based on a simple significance score which transcends the size and average value of a matrix. Large Average Submatrix is used in an iterative way, where a link between the maximum value and the minimum description length is established. With the total number of data from gene expression growing, the matrix will increase and the clustering problem will be deficient. In this stage, the use of the biclustering algorithm leads to severe problems as data is increased. We are therefore using Large Average Submatrix to improve the biclustering performance. This compresses or removes irrelevant or less correlated ones for improved clustering performance. We also use FCM to verify that for further calculation the number of rows and columns in the submatrix can be added. The method is calculated with regard to consistency of elements and submatrices capacity.

Keywords:--

Biclustering Algorithm, Gene Expression Data, FCM, Large Average Submatrix

Effect of Vertical Loads on Skirted Circular Footing in Slope

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Abstract:--

Many situations exist where the foundations must be constructed on or near slopes. Buildings, bridges, and abutments in hilly regions are the examples of such constructions. Foundation must be properly designed for such cases. Cost saving is considered when using shallow foundations instead of deep foundations to support structures, near or on slopes. But in such cases, the ultimate bearing capacity would be reduced because the footing is closer to a slope crest. An alternative method to improve the ultimate bearing capacity was investigated by using skirted circular footing. Skirted circular footings are more economical than deep foundation. In this study laboratory investigation on the effect of vertical loads on skirted circular footing in slopes were determined. The experiments were done using plate load test by varying the parameters such as length to depth ratio of the footing, distance from the crown of the slope to the edge of the footing. The results indicate that skirted circular footing has high ultimate bearing capacity.

Keywords:--

Crown of the slope, Plate load test, skirted circular footing, slope crest.

Impact of Digital Technology on Economic Life in India –A Special Reference to Digital Divide in Rural- Urban India

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Abstract:--

Digital Technology has played a prominent role in the development of rural and urban life in India; it has changed the banking sector, changed education, changed the agricultural industry, changed the entertainment world, it has restructured many businesses in all over India. Digital India is a dream which is created by the Government of India to ensure that government services are made available to citizens electronically , even in remote areas , by improving online infrastructure and by increasing Internet connectivity. There are many constrains in the way of its implementation The digital divide exists between those living in rural areas and those living in urban areas, between the educated and uneducated, between economic classes, and on a global scale between more and less industrially developed nations. The main objective of this paper is to identify the impact of digital technology on Indian life. This paper also tries to find out the digital divide mainly in rural-urban India and also discusses initiatives for bridging the gap.

Keywords:

Digital technology, Digital India, Digital Divide, Initiatives

Dielectric Parameters of Doped Poly (Methyl Methacrylate) Dielectric Films At Microwave Frequencies

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Abstract:--

The paper entitled “Dielectric Parameters of Pure and Doped Poly Methyl Methacrylate (PMMA) Films at Microwave Frequencies” presents different dielectric parameters of some pure and doped dielectric films corresponding to the X-band frequencies (8 – 12 GHz). The interested dielectric parameters are real and imaginary parts of the dielectric constants ϵ_r & ϵ_i , loss tangent ($\tan \delta$), conductivity σ , relaxation time τ , absorption coefficient k and refractive index n . A novel waveguide method recently introduced for the study of dielectric parameters of samples in the form of films is used in this study. An X-band microwave test bench with a Gunn diode as a source, consisting of a slotted sample holder with a thin film sample is used for the study. Pure and doped PMMA films of 100 μm to 1000 μm thickness are to be prepared and various parameters are analyzed for different thickness t , temperature T , and frequency f . The dopants used are AgNo₃ and CdS. Since the method is proposed for thin films, it is very efficient for costly materials. A very thin film, even with very small area may be selected for the study.

A Modest Perspective on Equivalent Solutions of Some Integral Calculus Problems

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Abstract:--

This paper presents a gentle approach to demonstrate that equivalent solutions exist for some specific integral Calculus problems. In order to prove the idea, an experimental study was conducted among 40 students, including both boys and girls, from higher secondary section. The 40 students were randomly selected and divided into 4 groups of 10, each under the guidance of a subject expert. The 4 groups were named as A, B, C and D. A common problem on integration was given to each group. The 4 groups were suggested to use any method of their choice to solve the problem. The solutions to the given integral calculus problem, the students came up with, were different from each other. In order to draw the conclusion on equivalent solutions, each of the results obtained by the individual group was evaluated on a specified interval to obtain the numerical value. Graphical methods were also used to verify whether the solutions from each group are equivalent or not. The numerical value and the graphical representation of the solutions had shown that the results obtained by the respective groups are equivalent. This shows the existence of equivalent solutions to some problems on integral calculus.

Key Words: -

Integral Calculus, Graphical Representation of solutions,. Equivalent Solutions, Methods of Integration.

Two dimensional Modal behaviour of an Arch dam

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Abstract:--

Reservoir and foundation affect the dynamic characteristics especially modal frequencies and consequently the dynamic response of arch dams. A study is performed in this paper to view the effect of reservoir presence, foundation and fluid-dam interfaces modelling on modal behavior of arch dam using ANSYS. To represent water reservoir, two methods such as added masses approach and finite element method are adopted here.

Keywords:

Ansysis, arch dam, Modal frequency, PLANE 182.

Static Analysis of SKEW Bridge

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Abstract:--

In bridge construction when the roads cross the streams and canals at angles other than 90 degrees, reinforced concrete skew slabs are widely used. The number of skew bridges increases in modern highways, in order to cater to high speeds and more safety requirements of the traffic. The research deals with the finite element modeling of simply supported skew slab using finite element software ETABS. The simply supported skew slab is analyzed with a concentrated load at the center of deck slab and knife edge load parallel to the abutment. The skew angles considered are 00, 200, 400 and 600. The carriageway widths are selected as per IRC 6: 2010. IRC Class A loading is also considered to analyze the skew bridges. With the increase in skew angles, the load carrying capacity also increases. The shear force increases with increase in skew angles and the increment is 76%. For greater span lengths the torsion will be greater and failure occurs near the abutments.

Index Terms: -

Concentrated Loads, Knife edge Loads, Skew Angles, Skew Bridges

Building the Edifice of Indian Education - Fortifying the Public Education System

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Abstract:--

The Right of Children to Free and Compulsory Education Act, 2009, enacted through the 86th amendment, declared primary education as a constitutional and fundamental right of all children in India between the ages of 6-14. The Act had stated that the remodeling of the system, should be implemented in its entirety at the earliest, but the ground reality belies the statutory vision. The Government and the Teaching community have to come to terms with a burgeoning child population looking for affordable quality education and it would be unwise to sacrifice quality and seek comfort in numbers which declares with aplomb that some states have actually wiped out illiteracy and achieved 100% literacy. The paper attempts to focus on the skewed priorities and perception of the policy makers that impact the next generation citizens. It also attempts to analyze the various issues and challenges that confront the student and the teaching community and put forth solutions to mitigate the crisis, through taking colossal humanistic and digital strides in the right direction to make children have access to quality education that would be welded to enhanced and effective learning outcomes.

Key Words: -

Access to Education, Literacy, Learning Outcomes, RTE, Quality of learning .

A Survey of Dual Mode Energy Driven Protocol in Wireless Sensor Networks

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Navya Davis, Assistant Professor, Department of Computer Science, IES College of Engineering, Chittilappilly, Thrissur

Abstract:--

Planetary Exploration is the Exploration of the planetary system, To find the information about the planets and its environment and its physical and chemical and biological conditions and its different characteristics. Now a days different protocols are to be used in the wireless sensor network for the planetary exploration but energy efficiency is the main problem in the wireless sensor network. Adhoc on demand distance vector routing protocol is the one of the commonly used protocol in the wireless sensor network but it has several disadvantages like high rate of energy consumption, unnecessary bandwidth, difficult to handle data congestion. Adhoc on demand distance vector routing protocol is the reactive protocol its routing path is based on the ondemand basis. Main objective of this paper is to implement a dual mode energy driven routing protocol for improving the energy efficiency and energy balancing in the wireless sensor network for planetary exploration

An Improvised Word Recognition System by Hybridizing CNN and SIFT

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Abstract:--

This paper mainly focuses on developing an efficient word recognition system by combining the good parameters of the SIFT incorporating it with the CNN structure. Several advancements are made in the Automatic Speech Recognition (ASR) technology that brings to ease the machine to understand the natural language. The main constrain rise is the nature of the input speech signal, which makes it difficult to retain the original information. This can be overcome by hybridizing the (SIFT) Scale Invariant Feature Transform with (CNN) Convolutional Neural Network architecture. The noisy speech signal is initially passed through the pre –processing stage and converted to the spectrogram to extract the feature. The extracted features are now fed to the layers of CNN in order to train the model. At the testing phase the vectors are now cross matched and the maximum close weighted value from the fully connected layers lead to the output. The system performs with an efficiency of 94.78% in non-isolated environment.

Index Terms

ASR, SIFT, CNN, spectrogram

Study of Retaining wall with Reinforced Collapsible soil as backfill

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Abstract:--

Collapsible soil is one of the problematic soils in geotechnical engineering. They exhibit sudden volume change and loss of strength when inundated. The present study results experimental investigations on passive earth pressure on walls retaining reinforced collapsible soil. The objective of the study is to examine the effect of soil collapse on passive earth pressure in dry and wet conditions. A laboratory model prepared for determining the decrease in passive earth pressure upon wetting induced collapse of the backfill. The collapsible soil is reinforced with geotextile for increasing the passive earth pressure coefficient. The results indicate that the inclusion of geotextile helps to reduce the collapse potential and thereby increase passive earth pressure. The spacing of geotextile is also taken as a parameter. From the results it was found that as the spacing of geotextile is directly proportional to the collapse potential and inversely proportional to the passive earth pressure coefficient.

Key words

Collapsible soil, Passive earth pressure, Retaining wall.

Renewal Process & Markov Renewal Process

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Jacob J, Asst. Prof S&H, IESCE

Padmapriya V.K, Asst. Prof S&H, IESCE

Abstract:--

A Study on Stochastic modal is a tool for estimating probability distributions of potential customers by allowing for random variation in one or more inputs over time . Stochastic modal provides an approximation to the real world situation . A modal involving a random variable or chance factor is called Stochastic modal. Here we discuss mainly the renewal process and the Markov renewal process . It includes the basic definitions of renewal process , types of renewal process and their examples. Markov renewal process is considered as a generalizations of all other process.

Index Terms

Markov property ,Random variable , Renewal theory, stochastic process

A Comprehensive Study on Ant Colony Optimization

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Shejina N M, Assistant Professor, Computer Science and Engineering, IES College of Engineering, Thrissur, Kerala

Dr. S Brilly Sangeetha, Associate Professor, Computer Science and Engineering, IES College of Engineering, Thrissur, Kerala

Abstract:--

All networks tend to become more and more complicated. They can be wired, with lots of routers, or wireless, with lots of mobile nodes. The problem remains the same: in order to get the best from the network, there is a need to find the shortest path. The more complicated the network is, the more difficult it is to manage the routes and indicate which one is the best. The Nature gives us a solution to find the shortest path. The ants, in their necessity to find food and brings it back to the nest, manage not only to explore a vast area, but also to indicate to their peers the location of the food while bringing it back to the nest. Thus, they know where their nest is, and also their destination, without having a global view of the ground. Most of the time, they will find the shortest path and adapt to ground changes, hence proving their great efficiency toward this difficult task. The purpose of this project is to provide a clear understanding of the Ants-based algorithm, by giving a formal and comprehensive systematization of the subject. The simulation developed in Java will be a support of a deeper analysis of the factors of the algorithm, its potentialities and its limitations.

Index Terms

Double bridge experiment, Metaheuristic

Solution of Differential Equations with Applications for Engineers

Padmapriya.V.K., AP,IES College of engineering

Jacob.J., AP,IES College of engineering

Linty Antony, AP,IES College of engineering

Abstract:--

Over the last hundred years, many techniques have been developed for the solution of ordinary differential equations and partial differential equations. While a major portion of the techniques is only useful for academic purposes, there are some which are important in the solution of real problems. In this paper only few methods for solving ordinary differential and partial differential equations are discussed, as it is impossible to cover all the available techniques.. At the end some motivating examples are discussed which are commonly used by the engineers for the solution of real engineering problems.

A Comparative Study of Recent Test Methodologies to Test Complex Vlsi Circuits

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Sindhu T.V, Assistant Professor(IESCE)

Suvitha P.S, Assistant Professor(IESCE)

Anigha Johnson, Assistant Professor(IESCE)

Abstract:--

Advances in miniaturization technologies have had dramatic impacts on our lives. Radios, computers, and telephones that once occupied large volumes now fit in the palm of a hand. Consequently, it is imperative that the underlying electronic hardware perform correctly and be defect free. However, testing and screening electronic components to requisite “zero defect” standards is extremely challenging. This is due to the defectivity and manufacturing variability inherent in aggressively scaled nanometer IC technologies, and the staggering design complexities. At present, systems –on chips (SOCs) incur 10-15% overheads for design-for-test (DFT) circuitry. Even so, defective parts frequently escape the testing process and cause unacceptable failure in operation. Developing improved test methodologies is a continuing and critical challenge for the microelectronics Industry. This paper compares different testing methodologies and their impact on the complex vlsi circuit is analyzed.

Key Words:-

DFT,IC Technologies,SOC,Complex VLSI.

Optimisation of Process Parameters in Mig Welding of Aluminium-6063 through Factorial Design Experiments

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Shillin K.S, IES College of Engineering, Chittilappilly, Thrissur.

Abstract:--

The present work, aims to select the combination of optimum welding parameters which will yield maximum tensile strength and elongation of welded joints. Metal Inert Gas welding process is a multi-input and output process in which the resultant joint strength is governed by both individual and combination of process parameters. In order to obtain a good quality weld, so it is necessary to control the input welding parameters. The identification of suitable combination of parameters is crucial to get desired quality of welded joint and hence there is need for optimization of Metal Inert Gas welding process to achieve a good weld. The present work is based on the MIG welding process parameters on welding of Aluminium 6063. The considered parameters are welding current, welding speed, arc voltage. It deals with the statistical technique of Central Composite Design to develop a mathematical model for optimising welding process parameters. The Response Surface Methodology (RSM) is followed to optimize the parameters. Confirmation experiments carried out will validate the optimum parameter values.

Review On Multihop Energy Enhancement Protocols in WSN

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Abstract:--

Latest advancement in wireless sensor networks is to produce numerous new conventions specifically for sensor networks where energy management is the primary concern. These routing conventions may change and it is reliable upon the application and network design. To increase the life time of a Wireless Sensor networks (WSN) we have to produce an energy efficient plan, this can be done by means of some calculations to produce sensible energy utilization WSN. To keep up high adaptability and better data aggregation grouped in to different subsets which are called clusters. Clusters may create hierarchical WSNs which will join constrained assets of sensor nodes for effective usage and thereby we can reduce the energy utilization, in this way expand the life time of WSN. The aim of this paper is to display the cutting edge overview and produce energy effective solutions for WSNs.

Index Terms

Routing, Diffusion, SPIN

A Survey of Architectural Optimization Algorithms & Techniques in WSNs for Energy Conservation & Maximization of Life Time

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Lince Mathew, Associate Professor , IES College OF Engineering

Ajeesh S, Assistant Professor, IES College OF Engineering

Lubna Kareem , Assistant Professor, IES College OF Engineering

Abstract:--

A Wireless Sensor Network(WSN) consist of spatially dispersed ,dedicated sensing nodes for monitoring and recording various physical conditions of the environment, which later organize the collected data to a central location.WSN technology is gaining much important for its growing need for data collection & transmission in various day to day applications. A node is basically a sensor ,operated by battery, low cost device with limited computing, communication & storage capabilities which is deployed in hostile or inaccessible location in which node replacement or repair is impractical For deployment of network efficiently ,various key parameters are to be considered for evaluation in an application specific way. For the special structured network architecture deployment, efficient placement of nodes, QoS, life time maximization, delay tolerance are some important parameters to be taken care .This paper briefly gives an idea about different optimization algorithms used for the deployment of sensor nodes inconsideration with different factors and aspects, which provides a reliable WSN to conserve energy and life time of sensors.

IndexTerms–

Wireless Sensor Network(WSN) ,Quality Of Service(QoS),Sensor

A Comparative Study of Survival Analysis Models

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Dr. Ramani Bai V., Vidya Academy of Science and Technology

Abstract:--

Survival analysis involves various techniques for the data analysis tasks in which the occurrence of an event of interest is considered as the output variable. The event of interest can be incidents such as disease occurrence or recurrence, death, device failure, marriage, or divorce. Survival analysis finds its application in fields like personalized medicine for dealing with optimal decision making tasks. The most popular survival models used for such tasks are linear Cox Proportional Hazards model, Random Survival Forest model, and DeepSurv model. This paper focus on familiarization of characteristics and terms related to survival analysis and also a comparative study of the aforementioned models.

Key words:-

Concordance Index, DeepSurv, Hazard Function, Survival Analysis.

Internet of Things Security from Data Perspectives: A Survey

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Dr. S Brilly Sangeetha, Associate Professor, Computer Science and Engineering, IES College of Engineering, Thrissur, Kerala

Abstract:--

The internet of things, or IoT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. It consists of all the web-enabled devices that collect, send and act on data they acquire from their surrounding environments using embedded sensors, processors and communication hardware. The Rapid growth of IoT is constrained by resource use and fears about privacy and security. Data collected and shared in the IoT plays an important role in the significance of the IoT. This survey analyzes various a framework for IoT security observation that takes both the typical IoT architecture and the IoT data life cycle into account, which outlines IoT security in three dimensions, i.e., the one-stop dimension, the multi-stop dimension and the end-application dimension. This paper mainly focusing on methods for IoT Security from data perspectives.

Keywords —

Data life cycle, Forencis ,Internet of things ,Privacy, Safety, Security.

Trusted Detection of Ransom ware Using Machine Learning Algorithms

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Abstract:--

Nowadays, the Computer Networks and the internet are increased. Lots of information is accessed and allowed to the users to share the information to the Internet. One of the major issues with internet was different types of attack. Ransom ware is a one kind of attack or type of malicious software that threatens to publish the victim's data. A variety of threats is the main target for the effective network security and avoids them from spreading or entering to the networks the network security on computer essential for computer networks. Ransom ware is a critical threat in network security since each day the raising of ransom ware gets abundant. The major problem by the researchers is the prediction of ransom ware. This paper planned to carry out a review on the different method to detect ransom ware. Ransom ware detection is very much helpful on minimizing the workload of analyst and for determining the variation in hidden Ransom ware samples. Using machine learning algorithms Ransom ware detected efficiently and trustfully.

High Performance Pipelined FFT Processor for DAB Receiver

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Rachana M K, Assistant Professor(IESCE)

Suvitha P S, Assistant Professor(IESCE)

Anigha Johnson, Assistant Professor(IESCE)

Abstract:--

With the upcoming fourth generation wireless systems and convergence of multiple radio standards into a single terminal, building blocks are needed that can be configured for computing various algorithms used in different standards. Given these trends and requirements, we require a circuit-sharing design for the DAB receiver to integrate the FFT (fast Fourier transform) and IMDCT (inverse modified discrete cosine transform) operations into the same functional circuit. The proposed technique reduces hardware overhead, enhances circuit efficiency and significantly reduces the cost of DAB receivers.

This project proposes another alternative design named the circuit-sharing pipeline design (CSPD) using a single processor with a pipeline scheme to combine two functions, FFT and IMDCT, into the same circuit. The proposed method will reduce the required FPGA chip area and cost of DAB receivers. Analyzing the existing relationship among IMDCT, DCT (discrete cosine transform) and FFT, the IMDCT function can be replaced using a FFT function. The arithmetic unit in the FFT processor can be significantly reduced due to employing the pipeline scheme. Consequently, the circuit redundancies in the IMDCT and FFT functions can be easily eliminated to allow exploitation of the decreased chip area. Results of this proposed architecture demonstrate that the design can provide advantages such as low gate count and small memory size in the DAB receiver.

Index Terms

FFT,IMDCT,CSPD,OFDM

A Study on High Performance and Low Power Sram Memories

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Anigha Johnson, Assistant Professor(IESCE)

Abstract:--

Present day mobile communication devices equipped with large capacity memories in order to fulfill all the multimedia needs of customers. Now a days, design engineer mainly concentrating not only to equip high capacity memories, but also high bandwidth and low power consuming memories. Main advantages of semiconductor memory is that in a very small area it sac store very large data. The SRAM memories are preferred over DRAM because its operation speed is high and large noise margin. In this paper, literature survey on features of various SRAM memory designs was reported.

Index Terms

CMOS, Diode-Gated SRAM, Leakage current, Memories, SRAM, NBTI, MTMOS

Remedial Measures to Seepage Using Grout Curtain

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Abstract:-

Grout curtains are vertically drilled tangent shafts that are filled with cementitious material that create a barrier to help prevent excessive seepage under a dam. Grout curtains are intended to be impervious walls that typically exist below infrastructure to minimize water seepage. Along with seepage minimalization under dams, grout curtains are also minimize groundwater infiltration and subsequent erosion of the geologic formation. Grout curtains are typical used impermeable soil or rock masses to decrease seepage. Grout curtains are important to dam and other earthen impoundment restoration projects. Electrical resistivity methods are used to find out the effectiveness of grout curtain. Experiments are conducts using three types of grouts. Electrical resistivity of soil with different grout curtains are analysed and compared. Also the effect spacing on performance grout curtain were studied.

Key words:-

Electrical resistivity methods, Grout curtain

Prediction of Geotechnical Properties by Using Electrical Resistivity

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Abstract:-

Electrical resistivity is a very effective tool for the determination of geotechnical properties of soil. Electrical resistivity of a given soil decreased with increase in water content. The increasing density leads to decrease in resistivity. The resistivity of the soil changes with the nature of the soil layer. This paper mainly focusing on the prediction of water content and density from the determined resistivity value. We can represent the variation of electrical resistivity with water content and density by three dimensional representation using MATLAB .

Key words:-

Density, Electrical Resistivity, Matlab, Water Content

Experimental Study on Lateral of Step Behavior of Step Tapered Piles in Sand

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Abstract:--

Pile foundations are used to account for huge vertical, uplift and lateral loads due to live loads, dead loads, earthquake, wind, impact, waves and lateral earth pressure etc. Uniform cross section piles are commonly used in the practice, increasing loads on these structures has resulted in piles of large diameter and depth at a significantly higher cost. Analysis presented here is intended to provide important information to geotechnical design regarding the behavior of the step tapered piles. Experiments were performed on single step tapered piles embedded in sandy soil under independent lateral loading. The investigations were done by changing the taper length, L/D ratio of pile, and relative density of sand. The results indicate that use of step tapered piles is highly effective in resisting lateral loads due to the enlargement or strengthening of the upper section of piles.

Index Terms

Step tapered pile, Lateral load test

ALMOST CONTRA- Ω^* α -CONTINUOUS FUNCTIONS

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Abstract:--

The notion of contra continuous functions was introduced by Dontchev. In this paper we apply the notion of Ω^* - open sets in topological space to present and study a new class of functions called almost contra- Ω^* α -continuous functions as a new generalization of contra continuity. Furthermore, we obtain basic properties and preservation theorems of almost contra- Ω^* α -continuity and investigate the relationship between almost contra- Ω^* α -continuity and Ω^* α -regular graph.

Key words:-

M- Ω^* α -closed map, Almost contra- Ω^* α –continuity, Ω^* α -regular graph.

Reduction of Earthquake Response of Steel Framed Buildings by FVDs

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Thahzin Sageer, Universal Engineering College

Abstract:--

In this paper an advanced application of fluid viscous damper is investigated. This study investigated whether fluid viscous damper is an alternative for base isolators. The non linear time history analysis result clearly indicates that the use of fluid viscous damper in midrise steel buildings will reduce the earthquake response and is an efficient seismic retrofitting method.

Key Words:

Base shear, Earthquake response, Fluid viscous dampers, Non linear time history analysis, Retrofitting, Roof displacements, Roof accelerations, SAP 2000.

Review of Human Affective Behaviour Analysis Using Speech Signals

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Shahaziya Parvez M, Assistant professor

Abstract:--

Speech is the most eminent way of communication between individuals. A person's affective (Emotional) state is very important in medical applications because it can indicate the stress level of an individual. Emotion recognition plays a vital role in an effective and natural human-machine interaction (HMI). Emotion recognition refers to the ability to detect human feelings and conditions. It adds ornaments to communication. Of the various ways in which emotions can be drawn, speech is the most natural and expeditious of all the ways. Emotion recognition in the virtual world can help to simulate more realistic interactions. The prime challenges of emotion recognition are selecting the emotion recognition corpora (speech database), identifying various features associated with speech and an appropriate choice of a classification model. The basic approach is to excerpt a wide range of features over a generally long analysis time window and perform machine learning methods for classification. There are various spectral and temporal features derived from human speech. This paper briefs a review of the contemporaneous work on speech emotion detection useful for carrying out further research.

Internal Erosion Control in Sand -Gravel Gravel Mixtures Using MICP

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Abstract:--

Earth embankment dams are one of the most commonly constructed hydraulic structures. Seepage induced internal erosion is one mode of failure in earth filled embankment dams. In this study, the applicability of microbially induced carbonate precipitation (MICP) for internal erosion control is examined in laboratory using sand – gravel mixture of ratio 1:1. A series of internal erosion tests are conducted using a rigid wall downward erosion test apparatus for untreated, 0.2M, 0.4M, 0.6M, 0.8M and 1M specimens. The tests are also conducted for 3 days and 7 days cured specimens. The flow rate of water is varied as low, medium and high flow. Hydraulic conductivity, total mass eroded and erosion rate are characterized during the internal erosion process. It is found that MICP treatment facilitates the reduction of erosion and hydraulic conductivity in sand – gravel mixture investigated in the current study. The optimum carbonate precipitation is seen in 0.6 M specimen and 7 days cured specimens. Carbonate precipitation increases the erosion resistance by absorbing and bridging the contacts of fine and coarse particles.

Keywords:--

MICP, Rate of flow, Molar concentration, Downward erosion test

A Survey of Dual mode energy driven protocol in wireless sensor networks

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Abstract:--

Planetary Exploration is the Exploration of the planetary system, To find the information about the planets and its environment and its physical and chemical and biological conditions and its different characteristics. Now a days different protocols are to be used in the wireless sensor network for the planetary exploration but energy efficiency is the main problem in the wireless sensor network. Adhoc on demand distance vector routing protocol is the one of the commonly used protocol in the wireless sensor network but it has several disadvantages like high rate of energy consumption, unnecessary bandwidth, difficult to handle data congestion. Adhoc on demand distance vector routing protocol is the reactive protocol its routing path is based on the ondemand basis. Main objective of this paper is to implement a dual mode energy driven routing protocol for improving the energy efficiency and energy balancing in the wireless sensor network for planetary exploration

Effect of Deep Column Stabilization in Clayey Soil

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Abstract:--

Construction works on soft clay foundations are often very challenging and very complex task since they are generally characterized by its low strength properties. Still clayey soils are widely used for construction purposes due to economic reasons. As the sites for construction are being limited day by day the ground improvement technology becomes a rapidly developing field. This study examines the geotechnical improvement of clay soils using the jarofix column technique on a laboratory-scale model. Industrial effluent Jarofix provided as deep columns in clay soil for improving its properties. Remolded compacted clay soil blocks were carefully prepared in circular steel test tanks with jarofix piles installed in them. The treated soil block properties were then investigated as a function of radial column distances and curing periods. Curing period is taken as 14, 28, and 56 days and radial distance is taken as 2D and 3D of jarofix column. There will be significant changes in the unconfined compressive strength of the treated soils due to the clay–jarofix reactions.

Keywords –

Jarofix columns, Radial distance.

Experimental Study on Uplift Capacity of an Inclined Square Plate Anchor

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Abstract:--

Anchors are the soil anchoring method for resist the tension forces and uplift forces subjected to structure such as transmission towers, buried pipe lines, retaining walls, tents etc. There are three types of plate anchors are mainly used based on their load application- vertical, horizontal and inclined plate anchors. So many studies are done for the determination of uplift capacities of vertical and horizontal plate anchors. Only few studies are carried out for the determination of uplift capacity of inclined plate anchors. The uplift resistance of inclined plate anchors in layered soil is not yet studied. The present laboratory study was done to determine the uplift capacity of an inclined square plate anchor of size 75mm in layered cohesionless soil. The effect of angle of inclination (α), density of sand and thickness of loose layer (HL) were investigated through the small scale model test. The different layer of sand is prepared with locally available sand at 30% and 70% relative densities corresponding to the thickness of layer.

Key words

Inclined Plate Anchor, Retaining wall, Uplift capacity, Relative density.

Variation in Strength Properties of Kaolinite by Addition of JAROFIX

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Abstract:--

Increase in population has led to an increase in construction demands. This results in decreases in availability of useful land and paved the way to introduce new methods for soil modification. Nowadays different materials can be used for modifying the properties of existing soil. There is huge scarcity of construction materials and accumulation of industrial wastes all over the world. These waste materials face disposal problems and remain unutilized. Jarosite is a waste material produced from the zinc industry during extraction of zinc ore. It is converted to Jarofix, by the addition of two percentage lime and ten percentage cement to form a stabilized material. In this study jarofix is added in various percentages to improve the properties of kaolinite soil. Jarofix is added in various percentages in soil and their variations in strength characteristics are determined. With addition of jarofix in soil the optimum moisture content increases and dry density decreases. From conducting unconfined compressive strength test the optimum value of jarofix in soil is found. The percentage increase in strength determined.

Index Terms

industrial waste; zinc industry jarosite; jarofix; unconfined compressive strength

Air Permeability of Geosynthetic Clay Liners

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Abstract:--

A Geosynthetic Clay Liners (GCL) is a woven fabric-like material, primarily used for the lining of landfills. It is a kind of geomembrane and geosynthetic, which incorporates a bentonite or other clay that has a very low air permeability as well as low hydraulic conductivity. In this paper, a review of the main findings is presented with the focus on the critical aspects affecting the gas permeability of GCLs. Air permeability is the volume of air passing through a medium. A porous medium such as sand or like allows the air or some other gases to pass through it. The air permeability should be reduced in order to avoid the groundwater pollution. Air permeability of a GCL gets affected by the type of bentonite used in it, the moisture content and the pressure applied on it. As the moisture content increases, the air permeability seems to get decreased. GCL type is also a main factor which affects the air permeability.

Keywords:

Geosynthetic Clay Liner, Hydration, Air permeability, Moisture effect.

Experimental investigation of Triangular Shell Foundation by varying Edge Beam dimension and Embedment Ratio

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Abstract:--

Shell foundations derive their strength from their geometry rather than mass. This characteristic enables them to obtain maximum structural integrity with minimum consumption of materials. The shell footings are capable of supporting higher vertical loads, better load settlement characteristics and are economical in terms of material compared with the conventional footings. Here in this project a study on the load settlement behavior of triangular shell footing by varying edge beam dimensions and embedment ratio is carried out. An edge beam of dimensions 35mm, 45mm and 50 mm are used. The behavior of the same is analyzed by placing geotextile at different depths of 0cm, 25cm and 50 cm . Then the result obtained are compared with conventional flat slab footing. Plate load test is the important test used in this project. This study strengthen the case of triangular footings by confirming its superiority in the aspect of lower settlement characteristics.

Index Terms

Triangular shell footing, Embedment ratio , Edge beam dimension, Plate load test, Geotextile

An innovative idea for charging systems in Electric Vehicles in Nano Grids

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Abstract:--

This paper mainly tells the “intelligent charging” systems for hybrid electric vehicles in nanogrid. The basic design feature is that the system uses gathered information to adaptively control E - VEHICLE charging, and does so in a way that allows customer EVs to still be charged at a preferred rate (cost). This paper reviews the drivers for intelligent charging, including electric grid readiness for large adoption rates of EVs, and considers national, regional and local distribution level issues. At the distribution level, the effect of increased EV charging loads on transformers is considered. The current state of standardization is reviewed with emphasis on communication messages and use cases that reflect intelligent charging attributes. Centralized system approaches are described, such as integrating E - vehicle supply equipment (EVSE), i.e. chargers, into Advanced Metering Infrastructure (AMI) networks, and treating EVSEs as controllable loads for Demand Response programs. Metering and monitoring the transformers that feed EVSEs can drive a control scheme that is either centralized or distributed. Alternatives to AMI-integration for centralized networks are also reviewed, including commercially available systems. Additionally, intelligent charging is considered from the billing perspective, where system approaches are described that allow for identification and association between connected EVs, EVSEs, premise meters and other intelligent devices.

Keywords:

nanogrid EVSE, E- Vehicle, small scale microgrid.

Vertical and Lateral Load Behaviour of Piled Raft with Batter Piles

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Abstract:--

A piled raft foundation is a widely adopted concept in which the total load coming from the superstructure is partly shared by the raft through contact with soil and the remaining load is shared by piles through skin friction. Piled raft foundations are usually applied to support heavy structures such as high-rise buildings, bridges, wind-turbine towers and offshore structures, etc. When these structures are subjected to large horizontal loads caused by wind loads, water wave loads or earth quakes, a conventional approach to increase the horizontal resistance is the use of batter piles in addition to vertical piles. Experimental work was carried out in the laboratory on piled raft which consist of 9 piles, to investigate the vertical and lateral response of batter piled raft. Axial load test and lateral load test were conducted on piled raft with different batter angle for batter piles. Test were conducted on two relative densities (RD) such as 30% RD (loose condition) and 50% RD (medium dense condition). It is found from the experiments that batter piles have positive effects on the behaviours of the raft foundations such as increase of the load carrying capacity and decrease of the displacements caused by the vertical and lateral loading.

Keywords:

Batter pile, Lateral load test , Piled raft, Plate load test

A Study on Various Biometric Techniques

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Abstract:--

This papers discusses and gives a brief overview of the popular physical and behavioral biometric techniques used in identification and recognition of users to create secure systems. Biometrics gains significant importance in this technical world and it means analysis of biological data. It is defined as the technology of analyzing individual person based on physiological, behavioral or morphological traits such as face, fingerprint, iris, retina, voice, and signature etc,. It is possible to establish one's identity with the help of biometric techniques. Today biometric have been successfully deployed in various fields like forensic science, security, identification and authorization system. For the last three decades, lot of research work has to be carried out for the growth of biometric system based on fingerprint, voice, iris, face, etc, but recently new biometrics has been come up. To provide a comprehensive survey, this paper presents an overview to various biometric systems, their applications, limitations and the different type of biometrics recognition systems.

Keywords:

Biometric Techniques, Face recognition, Identification.

Design and Development of a Structural Health Monitoring System Using Light Fidelity

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Abstract:--

Visible light communication means, communication from one point to another using light. Visible light communication is an area which is yet to be fully explored. The advantage of VLC is that there is no need to bother about the spectrum as the entire visible communication range can be effectively utilized for communication. In areas like that of a bridge, where the monitoring of its health is a major concern due to various natural changes happening, abnormal vehicle population, improper construction of the bridge etc, the importance of health monitoring is necessary for the safety of human beings. It is with this intention; this idea is introduced which will ease the health monitoring with no additional expense of its own. The health monitoring of the bridge is done based on the various parameters like strain/stress induced on the structure, wind speed, temperature and condition of the road. All this information can be obtained by using a single mote(node) that consists of several sensors which can sense the required parameters. The next step is to send the sensed data to the desired location. The current mechanism involves sensing data and transmitting it wirelessly using utilizing the frequency spectrum. The problem of sending in that way is the availability of the spectrum and the loss incurred if the base stations are far from each other. This issue can be resolved by sending the data wirelessly by using light. Flickering can be used to send the data by means of LED arrays. If the LED is ON that indicates a 1 and if LED is OFF and this indicates data is 0. By proper flickering of LED and LED arrays transmission can be done between two motes if there is a light transmitting and receiving devices at each mote. The mote can be used to send the sensed data by itself or can be used to mirror or transfer the data it receives from other motes to some other motes or to the desired location.

Keywords:

Structural health monitoring, mote, LED, visible light communication

Location of Transmission Line Faults Using Wavelet Transform and Artificial Neural Networks

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John J thanikkal, IES college of Engineering

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Abstract:--

In Power system transmission lines are used for transmitting power to the load point. These transmission lines especially overhead transmission lines are susceptible to different types of faults – symmetrical and unsymmetrical faults. For ensuring the reliability of supply the determination of fault location is very important. Traditional methods for fault location were based on impedance and reactance methods. Both these methods are based on phasor quantities which produce delay in locating and detection of faults. Accuracy can be improved by processing travelling waves generated under fault condition. In the present paper these travelling waves are processed by using wavelet transform technique which gives the time and frequency response of the given wave. For achieving more accuracy Artificial Neural networks are trained under different fault conditions for locating faults. Wavelet transformation technique is used for extracting the three phase voltages and currents thereby avoiding additional filters. These quantities are fed as an input to the neural network and the output of this network will be the location of faults. Only difficulty with this method is the selection of required number of neurons for the network that gives accurate results. The simulations are performed using Artificial Neural Network toolbox in MATLAB.

Keywords:

Artificial Neural Networks, Clark's Transformation, Karrenbeur Transformation Travelling waves and Wavelet transform.

A Soft Switched Single- Input Two-Outputs Dc-Dc Converter for Photovoltaic Applications

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Abstract:--

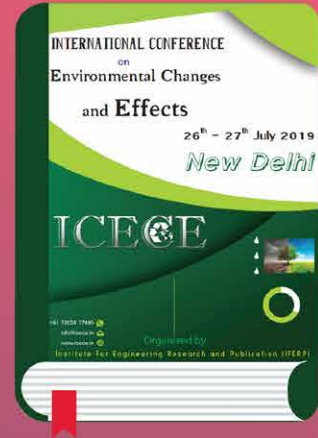
This paper presents an efficient single input, two outputs DC-DC converter. The proposed converter provides medium and high voltage DC. The high voltage DC output can be used as input for inverters feeding AC drives. The medium voltage output can be used as power supply for charging the batteries. The input voltage is taken is 24 V, which can be the output from photovoltaic panel. The zero-current and zero-voltage switching is adopted to reduce the switching losses, since the converter switching frequency is 100 kHz. This converter uses only one power switch. The simulation results for this converter are presented in this paper.

Keywords:

Coupled Inductor, DC-DC converter, Multi-output, Photo Voltaic, Efficient Converters, Soft Switching

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