



International Conference on Recent Advancements in
Engineering and Technology
(ICRAET-19)

Ahmedabad, Gujarat
21st - 22nd June, 2019

Institute For Engineering Research and Publication (IFERP)

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IFERP-Explore

Editorial:

We cordially invite you to attend the ***International Conference on Recent Advancements in Engineering and Technology (ICRAET-19)*** which will be held at ***Ahmedabad, Gujarat, India*** on ***June 21st-22nd, 2019***. The main objective of ***ICRAET*** is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in relevant fields of Recent Advancements in Engineering and Technology. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

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

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

Since April 2019, the Organizing Committees have received more than 110 manuscript papers, and the papers cover all the aspects in Electronics, Computer Science, Information Technology, Science Engineering and Technology and Management. Finally, after review, about 50 papers were included to the proceedings of ***ICRAET-2019***.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ***ICRAET-2019***. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

Acknowledgement

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

I express my hearty gratitude to all my Colleagues, Staffs, Professors, Reviewers and Members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to travel such a long distance to attain this conference.



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**International Conference on Recent
Advancements in Engineering and
Technology
(ICRAET-19)**

Keynote Speaker



Dr. Himanshu K. Patel

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Message

It is a matter of delight for me to be a part of “International conference on Recent Advancements in Engineering and Technology (ICRAET-19)”, and to interact with passionate researchers and technocrats gathering at Ahmedabad, India on June 21st and June 22nd, 2019.

Today’s world is the outcome of quests for innovative technical and scientific inventions by the intellectual efforts of modern humanities. Escalating research in every field has ensured enriched and gratified human life. However, at the same time, the environmental cataclysm must be considered as the unwanted fruit of the uncontrolled industrial developments. Even though some revolutionary discoveries have taken place in engineering and technology, challenges like global warming, carbon emanation and the ecological deterioration are still in search of improved solutions.

Technological and scientific research and development seem to be the only resolution for the mankind to deal with such challenges. It has become essential that, the modern-day researchers and connoisseurs should put their collective efforts to ascertain solutions to these glitches through abiding perseverance and determination. It is indeed a timely demand to integrate and implement interdisciplinary approach coalescing basic, social and engineering sciences leading to produce much effective and optimized answers to the problems.

The novel technologies need to be tested through experimental implementation and trials at universal level. International conferences and symposiums, like ICRAET-19, provide most suitable platform for peer researchers to discuss their innovations and ideas and also offer the opportunity for collaborative conclusions in terms of optimized results.

I hope at ICRAET-19, scientists, academicians and technologists, from diversified arenas will acquire and exchange knowledge from each other. My heartiest thanks to organizing committee and best wishes for the productive and exuberant conference.

Dr. Himanshu K. Patel

ICRAET -19

International Conference on Recent Advancements in Engineering and Technology

Ahmedabad, Gujarat, 21st - 22nd June, 2019

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ICRAET-19

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ABSTRACTS

ICRAET-19

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International Conference on Recent Advancements in Engineering and Technology-2019

21st-22nd, June 2019 at Ahmedabad, Gujarat



Extraction and Recognition of Handwritten Hindi and Gujarati Character Using Artificial Neural- network Approach

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Abstract

Hindi is that the most usually auditory communication in India, with in more than three hundred million speakers. As there's no division between the characters of writings written in Hindi as there's in English, the Optical Character Recognition (OCR) frameworks created for the Hindi language convey a poor recognition rate. During this paper we have a tendency to propose AN OCR for written Hindi content in Devanagari script content, utilizing Artificial Neural Network (ANN), that improves its productivity. one in every of the numerous functions behind the poor recognition rate is mistake in character division. The closeness of contacting characters within the examined records more entangles the division procedure, creating an interesting issue once designing a compelling character division methodology. Pre-processing, character division, embrace extraction; lastly, grouping and recognition area unit the important advances that area unit pursued by a general OCR. The pre-processing tasks thought of inside the paper conversion of gray scaled footage to binary footage, image rectification, and segmentation of the document's matter contents into paragraphs, lines, words, thus at the extent of basic symbols. the basic symbols, obtained as a result of the essential unit from the segmentation methodology, recognized by the neural classifier. Neural Network is one in every of the foremost wide used and common techniques for character recognition downside. This paper discusses the classification and recognition of written Hindi Vowels and Consonants mistreatment Artificial Neural Networks. The vowels and consonants in Hindi characters are often divided in to sub teams supported bound vital characteristics for every cluster, a separate network is meant and trained to acknowledge the characters that belong to it cluster.

Keywords

Pattern Recognition, Character Recognition, Artificial Neural Network, Feature Extraction, Thinning, OCR, Pre-Processing, Segmentation, Feature Vector, Classification, Noise Removal

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Optimal Ensemble Technology for Precision Agriculture (OETPA)

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Abstract

Precision Agriculture is a thumb rule for increasing the production and productivity of different crops. The tools, techniques and technologies which can implement for precision Agriculture have to design and develop so that with minimum resources, the production and productivity of different crops will be maximized. Keeping above issues in mind, the tools and technologies have been designed for achieving the optimum solution. The advanced methodologies of optimality with ensemble techniques have been implemented in order to get the precision agriculture. The optimum variety of crop, dose of treatment, fertilizer, irrigation, soil etc. have been selected by optimality solution. The results of the methodologies have been tested also statistically at different level of significance. All possible levels of various treatments have been computed with inclusions of treatment means and standard errors. The advanced statistical computation of R- Square, RMSE, CV and treatment critical difference have also been computed and utilized for varying the different parameters. Rigorous testing, experimentation and critical evaluation and its implementation, results shows efficient improvement for various crops production and productivity and completely fulfilling the targets of achieving the Precision Agriculture.

Index Terms

Precision Agriculture, Optimality, Irrigation, CV, RSquare, Efficiency etc.

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A Modular MFT Converter Based Wind Energy Conversion System Used For Offshore Wind Farm

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Abstract

Offshore wind farms have very low global warming potential per unit of electricity generated, comparable to that of onshore wind farms. Offshore installations also have the advantage of limited impact of noise and on the landscape compared to land-based projects. Offshore wind power development using modular converters has great advantage. The complexity and bulkiness of the entire system, in using medium voltage applications can be reduced by interconnecting these structures. The configuration presented mainly consists of a permanent magnet synchronous generator connected to a passive rectifier, a medium frequency transformer based modular converter, then to grid via a svpwm controlled current source converter. The paper mainly concentrates on medium frequency transformer based dc-dc converter - the evenly distribution of power and voltage among the cascaded structure and also decoupling between power/voltage balancing of the modular converter. Finally, the results were evaluated by simulation in Matlab.

Keywords

Current source converter, permanent magnet synchronous generator, wind energy conversion system, medium-frequency transformer, cascaded DC-DC converter Introduction

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Artificial Sense

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Abstract

Day by Day Growth of Technology is increasing which help people to do their work easily but physically disabled people still Struggling to access this advanced Technologies, Using this Technology Physically Disabled people will access such Devices which help them to make their life easy. Nowadays Technologies like Artificial Intelligence, Internet of Things can be helpful for Physically Disabled people to overcome from their disability. Machine Learning Frameworks like TensorFlow, OpenCV and Mobile Vision that ease the process of acquiring data, training models, serving predictions, and refining result. Hand-Gesture recognition, object-recognition, face-recognition and text-recognition can be done using this Framework. This Project is implementing by using Android Things OS that help to develop IOT applications using trusted platforms.

Keywords

Artificial Intelligence, TensorFlow, OpenCV, Mobile Vision, Internet of Things, Machine Learning, Android Things OS

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Enzymatic Eco-friendly Approach for Simultaneous Scouring & Bio-polishing of Cotton with Value-added Performance

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Abstract

Textile industry is regarded as one of the most capital demanding and polluting industries of the world. Environmental consciousness is increasing among the people and stringent standards are being laid down by various governments for textile wet processing industries. The main environmental issues associated with the textile industries is the discharge of hazardous effluent liquor to the environment, which enhances the capital involved in the treatment of the effluent liquors, thereby increasing the cost of processed textile goods. Keeping this in view, the research has been undertaken to utilize energy efficient, economical and environmentally benign enzymatic desizing, scouring and bio-polishing processes using bio-technological approach. Enzymes, being bio-catalyst as well as bio-degradable, are capable of working under mild conditions leading to energy conservation in textile wet processing. They may be considered as the best choice for active replacement of conventional scouring agent, caustic soda, thereby saving the textile material from the detrimental effect, viz. weakening and yellowing of the fabric caused by the caustic soda apart from keeping control on the effluent load. Conventional textile wet processing involves stage-wise process operations, involving more time and material handling to complete the process and making the product costly. The present study deals with the utilization of Pectinase enzyme for scouring of cotton material instead of caustic soda; the research is further projected towards performing of scouring and bio-polishing (value-added finishing) of cotton in a single bath by utilization of Pectinase and Cellulase enzymes. The selection of these enzymes has been done owing to their effectiveness under identical pH and temperature ranges. Different physical characteristics have been studied and quantified like Tegawa rating, absorbency, tensile strength, stiffness, whiteness/yellowness indices, etc. The enzymatic approach has been able to not only remove various impurities from cotton substrate but also impart value-added physical properties, such as feel, smoothness, softness, strength, etc. Due to combination of two separate processes into one single enzyme-aided operation, the research may be considered as “Green approach” with considerable saving of time, labour, chemicals, energy and water.

Keywords

Cotton, Pectinase, Cellulase, scouring, bio-polishing, value-added characteristics

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A Study of Alternative to Replace Natural Sand in Cement Stabilized Rammed Earth Blocks

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Abstract

Natural Sand, which is being used extensively for all types of construction activities, is getting scarce now and many researchers have been put to task of testing other materials like manufactured sand for their usability in civil works. Present study aims at using the locally available soil for producing earth blocks. The materials like Auto aerated clay waste, manufactured sand are used in different proportions to see the possibility as a replacement for natural sand. Both the materials were used in proportion range of 35-65% along with 8% cement as a stabilizing agent. The cube compressive strength test was performed on soaked samples after 7 days and 28 days. It has been concluded from the result that the manufactured sand is cheap alternative material to replace natural sand.

Keywords

Rammed earth blocks, Cube compressive strength, Manufactured Sand, Autoclaved aerated concrete

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Experimental Studies on Effect Of Nailing In Cohesionless Soil

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Abstract

SDN (Software Defined Networks) a new networking paradigm is gaining interest because of its enormous features. Its global view feature enables to easily monitor, configure and modify the functionalities of forwarding devices (through programmatic control) makes it suitable choice for today's networking. Because of SDN's scalability features (which is possible due to decoupling of data and control plane), its architecture can be deployed in other technologies like IoT/ IoV, Data-Centers, 5G and BigData etc. SDN is the future of networks. SDN have overall benefits, but it lacks to provide security services as required (keeping in view the latest attacks). As we are able to deploy SDN applications in the other technologies, we can also make use of other concept or technologies for the betterment of SDN e.g. Machine learning. In this paper we are mainly focused on the current SDN security Issues, current approaches for handling those issues, their drawbacks and the use of machine learning techniques on (data plane, control plane and management plane) for making SDN more secure and robust.

Keywords

OpenFlow, BigData, Data Center, Security, NFV, Machine Learning

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Design of RCC Two Way Slab Using ANN

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Abstract

Design of RCC slab requires several calculations based on parameters such as grade concrete, steel, types of support conditions, spans, loads, etc. and after satisfying IS code criteria for safety and serviceability, the appropriate size and shape is suggested with required area of steel and thickness of concrete slab. Such iterations, calculations are repetitive in nature and artificial neural network is very efficient tool for defining configuration and suggesting parameters of critical importance. The application of ANN is done in designing two way concrete slab with the input layer of defined concrete and steel properties and output of size and quantity of steel, a network is created with different combinations of input, hidden and output layers. Feedback propagation technique is used and network is trained for more than 100 cases. The testing is done for another 20 cases and output result is verified.

Keywords

Two way slab, serviceability, durability, ANN, sigmoid function, feedback propagation

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Comparison of RCC and Timber Multi-Storey Structures Using Response Spectrum Analysis

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Abstract

The sustainability of Reinforced Cement Concrete material and its structures will play predominant role in creating environmental impacts. The alternative material for construction of multi-story structures is the need of hour. The substitute material should be compatible for construction as well as should sustained the seismic forces during earthquake. The substitute material taken is Timber, being an orthogonal in nature, behaves differently from RCC with respect to elastic and physical properties. Here, two geometrically identical multi-story structures are compared to find the seismic compatibility of timber structure as compared to RCC structure. Both the buildings were modelled in ETABS software using different material properties, viz. RCC and Timber, and were analysed using Response Spectrum Analysis. Different parameters were studied and compared for both the buildings like, shear force, bending moment, lateral story displacement and story shear. After analysis, it was concluded that timber structures can be built with lighter sections as that of RCC. And due to much more flexibility of Timber Structures, proper design of connections and their adequate strength is required to increase the stiffness of timber structures.

Keywords

RCC, Response Spectrum, Seismic Performance, Story Displacement, Story Shear, Timber

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Security and Surveillance for human welfare

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Abstract

Problem-Day to day problems have been arising, if we take the problems I saw in the hilly region of the Uttarakhand state of India I was aimlessly sad, so I started doing research on their wire connectivity and network connectivity.

After watching those things continuously I came to conclusion that there are issues facing these were due to natural disaster, human and animal welfare. Either they were stolen or being damaged especially there solar plates and connectors.

Solution- I came up with the solution to develop a bio sensor identifying as a human being or the animal that will define the reaction of the security setup I will make for that that will be connected to a drone and the LED screen presenting the whole scenario

I am trying to develop a bio sensor which will identify by its blood that whether the Human trying to steal out the plates or the animal trying to damage.

In contrast if sensor identify that it is human it will beep an alarm where the drone will be activated with live focus camera rotation at 360 degree which will show the whole scenario and if that sensor identifies that the animal is trying to damage it will give a shock depend upon the size and the intensity of the force with the help of IOT and AI

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Lateral-Torsional Buckling Analysis of Different Steel Sections by using Finite Element Method

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Abstract

This research investigates the behavior of lateral-torsional buckling of I-Sections and Channel sections. When a member loaded in bending deflects laterally and twists at the same time, it is termed as lateral-torsional buckling. LTB may be a failure criteria for beams in flexure. Both the sections modelled are of same grade, specification and property which includes beam web, flanges. The main aim of this study is to propose a realistic analysis by using finite element method techniques & validate it by using elastic critical moment formula which is specified in Indian Standard code of steel structure. Elastic critical moment (M_{cr}) is a very important parameter for explanation of Lateral Torsion Buckling (LTB). Based on manual calculation and analytical method, comparison of elastic critical moment of various sections were carried out to determine which out of these two is most efficient to use it in steel sections as beams & columns (tension and compression). The results obtained from the study validates, elastic critical moment for doubly symmetrical I-section. However, the results for Channel section aren't in complete convenient with finite element method modelling technique. Thus, it requisite further modification of channel section. ANSYS workbench software is used for simulation and modelling which works on the principle of Finite element method.

Index Terms

Channel Beam, Elastic Critical Moment, FEM, I – Beam, Lateral torsion buckling

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Condition Assessment and Structural Audit Before and After Repair of Fire Damaged Structure And Ansys Simulation Of Column Jacketing

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Abstract

This study give details about the rehab process of fire damaged reinforced concrete buildings in basically three categories; condition evaluation, decision making, rehabilitation & retrofitting. Evaluation process of damaged building is based on understanding of condition survey and condition assessment of fire damaged structure. Condition survey includes detailed visual inspection of building whereas condition assessment includes non-destructive testing of building (such as Rebound Hammer test, Ultrasonic Pulse Velocity test, Carbonation test, pH test, Half Cell Potential test etc.). Based on survey and assessment, various repair and retrofitting schemes have been suggested. RC members often need strengthening to raise their capacity to sustain the applied load. This research investigates the behavior of RC columns strengthened using RC jacket technique. A finite element model was stimulated in ANSYS WORKBENCH to study the performance of these columns with and without jacketing, which has been designed for static loading. Based on ansys simulation and Comparison of test result before and after jacketing, it can be said that structure is safe in static loading condition.

Keywords:

Non Destructive Test, Colum Jacketing, Structural Repair, Fire Damage, FEM

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Comparative study of Reinforced Cement Concrete Structure and Concrewall Structure

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Abstract

In constantly developing countries especially South East Asia(India), there is increase in population, which leads to growth of needs and increase in poverty. This is why there is a need of faster, lighter and affordable means of construction. This need has given birth to lot of new and innovative ideas. One such idea is Concrewall Panels. Concrewall is composed of a factory produced panel of undulated (wave shape) expanded polystyrene panel covered on both sides by an electro-welded zinc coated square mesh of galvanized steel and linked by 40 connectors per sq m made of high-elastic-limit 3mm dia wires and shotcreted on both sides. In this paper properties of expanded polysterene panels is explained. A G + 3 structure is designed by using both, conventional reinforced cement concrete method and concrewall method. A study is carried out comparing cost incurred in both the methods.

Keywords:

Concrewall system, Cost comparison, Expanded polystyrene panels, Low cost housing, Reinforced cement concrete structures

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Hybrid Co-Generation

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Abstract

The global energy need is increasing day by day as consumption is increasing and consequently the demand of generation is also increasing. the significant percentage of required capacity increase is based on renewable generation. Focusing on fossil-fuel exhaustion , Many new renewable techniques and effective conversion methods are implanted these days, along with hybrid and co-generation methods which not only electrifies the area but surplus can be synchronized to over-head transmission lines. Wind turbine and hydro turbine has the most effective conversion technologies . but other resources also pay major role in renewable generation like solar , geo-thermal , tidal etc. In last one decade the generation using renewable source especially the hybrid technique his booming. The most efficient and cost-effective method of this type of generation is photo-wind generation where conversion if done using solar and wind turbine technique

Keywords

Hybrid Generation, solar-wind, Power quality improvement Case Study

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Real Time Machine Health Monitoring and Vibrational Analysis using FFT Approach

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Abstract

The most significant role of an industrial machine is its longevity i.e its ability to perform normally and to produce accurate results for extensively long periods of time. To sustain that longevity of the machine, 'Health Monitoring' is required. Health Monitoring is a promoted and very helpful tool for predictive maintenance techniques. When a machine breaks down, the consequences can range from a personal injury to a public disaster. For this reason, early detection, identification, and rectification of machine faults are required to ensure the safe operation of the machine. When the faults begin to develop in a machine, some of the dynamic properties of the machine change, which influences the machine vibration level and spectral vibration properties. Such changes can act as an indicator for early detection and identification of developing faults. Vibrations are majorly found in the rotating shaft. The rotating shaft vibrates extensively due to improper alignments and imperfect bearings. This paper overviews the generalized health monitoring concept for machines and presents the health monitoring of a rotating machine based on Vibration Data Analysis using an enhanced Fast Fourier Transform Approach. Considering the importance of recent trends of the Industrial Internet of Things (IIoT), remote data analysis is implemented using Python, TCP/IP protocol and Hercules server terminal.

Index Terms

Machine Health Monitoring, Fast Fourier Transform (FFT), Vibrational Analysis, Industrial Internet of Things (IIoT)

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Ferrocement and Conventional Soil Retaining Structure Comparison Using Geometrical Configuration

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Abstract

The conventional RCC soil retaining structure has got its certain drawbacks of being too heavy and costly. This paper deals with use of ferrocement as an alternative to conventional RCC soil retaining structure. An analytical study is carried out using Ansys 17.0 software to compare ferrocement soil retaining structure with geometrically identical Conventional RCC soil retaining structure. Ferrocement is advantageously used for its less thickness and flexibility to mould in required shapes. We can use full sectional strength of ferrocement in analysis of structure using optimum geometrical configuration. In the research work, Conventional RCC structure is also compared with rectangular and arch shaped ferrocement soil retaining structure of 50 mm thickness and 5m height, with a retaining soil density of 18kN/m³. The results showed that in arch shaped face and base wall structure, deflection and stresses are very less and within permissible limits. Due to reduced thickness of members, requirement of material is less and thus found to be more cost-effective than RCC soil retaining structure.

Keywords

Geometrical configuration, ferrocement, soil retaining structure, arch shaped retaining wall

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Analysis and Optimization of the Belt truss location in high-rise RCC structure

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Abstract

Rapid improvement in infrastructure to acquire the development of modern civilization is the demand of high-rise structures. As day by day, the height of structures is increasing there is problem with its stiffness which induces lateral stability and sway due to lateral forces, which has to be reduce. One more structural system has been developed to overcome problems related to lateral stability and sway of building. To reduce the lateral deflection due to earthquake or wind forces, one of the most efficient and economical structural system used to knock out these challenges is the use of belt truss and outrigger truss. It is commonly used to control the excessive drift due to lateral load, so that during minor or major earthquake, the risk of structural and non-structural damage can reduce to sufficient amount. The objective of this thesis is to optimize the location of belt truss to control the deflection or sway of building. Here, Belt truss can be shear wall, hollow steel sections, braced sections and many more. In this paper, we are going to compare the results due to different locations of shear wall and X-braced section. Structure is located in earthquake zone IV(India) on Hard rock strata. Different results to be compared are Lateral Deflection, story drift. Study provides comparison between the two, by analyzing and designing the G+24 irregular residential structure. By using belt truss at ideal location, overall lateral deflection reduces by 22%. And this ideal location is obtained when the belt truss is applied at 13th & 14th floors simultaneously. From this location of belt truss, we can conclude that the lateral deflection of the high-rise structure can be reduce by applying the belt truss in the middle floors.

Key words

Belt truss, Lateral deflection, Storey drift, High-rise structures

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Comparative Analysis of Different Lateral Load Resisting System for High Rise Building

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Abstract

As the rate of growth of population is increasing day by day, the requirement of land is increasing for different purposes. To accommodate this increased population, the height of building is increasing thereby subsequently increasing the importance of lateral load resisting system which provide adequate strength against lateral loading arising due to earthquake and wind. In present study various lateral load resisting system have been introduced which can resist the lateral forces and safely transfer them to soil thereby improving the strength and stiffness of column structures. The lateral load resisting systems that are widely used are conventional beam column system, shear wall system, tube system, outrigger system, tubular system etc. Diagrid structural system is generally adopted in tall buildings due to its structural efficiency and flexibility in planning. Compared to closely space vertical columns in Conventional Beam column system, diagrid structure consists of inclined columns on the exterior surface of building. The concrete diagrids member is used in both precast and cast in-situ type. An exhaustive study has been performed on the performance of 20 storey RCC building with plan size 18 m × 18 m using E-TAB software. All structural members are designed as per IS 456:2000 and all the load combinations of seismic forces are considered as per IS 1893(Part 1): 2002. Finally, Parameter such as storey displacement, storey stiffness and time period are compared and obtained results were presented in both graphically and tabular format.

Index Terms

Diagrid structural system, Shear wall system, Tube system, Beam Column System, High rise buildings, storey displacement, storey stiffness and Time period

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Analysis of Road Bridge Composite Steel Girder for Different Load Conditions

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Abstract

A bridge structure is a mean by which a road, railway and many other services are carried over an obstacle such as a valley, river and other road or railway line, either with few number of supports at various locations or with no intermediate support. While finalization of any types of bridge; Economy, Strength, Safety are the basic key features that cannot be neglected in the construction of any bridge. However the Indian standards are basically derived from the British Standards only, but the basic concept behind that is same. Only the value of various parameters varies according to the design and fabrication/ erection practices which exist in India. In this paper a plate girder bridge is designed as per the Limit state method using the IS 800:2007, IRC: 24-2000, IRC: 6-2017 and analyzed with the help of STAAD.pro v8i software. Modeling and analysis of Deck Bridge was carried out by considering various live load conditions such as for Class A loading, 70R tracked and 70R wheeled vehicle. Design calculations are carried out for simply supported single span. Seismic and wind effects are not taken into account at the design stage. Based on the design and analysis results, conclusions are drawn to know the behavior of plate girder bridges for different load conditions. Results are presented in both graphically and tabular format.

Index Terms

Steel bridges, Welded Plate Girder, Indian Road Congress, Class A Loading, 70R Loading.

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Experimental Studies On Settlement Analysis Of Piled Raft System

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Abstract

Present study is an experimental work to analyse the effect of size of raft, length, number of piles on the settlement of the foundation system. In this work, study has been carried out to understand the load sharing ratio of the pile and raft with different patterns of pile and of different lengths. It was observed that, the load carrying capacity increases and settlement ratio reduces for the piled raft foundation tested on dry sandy soils deposits with relative density 70%. Total 39 tests were carried out for the different piled raft models of different raft sizes (15 x 15 cm, 17.5 x 17.5 cm, 20 x 20 cm), number of piles (4 nos., 5 nos., 9 nos.) and of different pile lengths (10 cm, 20 cm, 30 cm, 40 cm). With the increase in raft size, load carrying capacity increased from 8.9 kN (for 15 cm raft) to 10.54 kN (for 17.5 cm raft), 17.22 kN (for 20 cm raft) for 25 mm settlement. Length of pile considerably effect on the foundation settlement, for 5 kN applied load, raft settlement (15 x 15 cm) without pile was 10 mm which reduces to 3 mm, 2.4 mm, 1.8 mm and 1.4 mm for 10 cm, 20 cm, 30 cm and 40 cm pile lengths respectively. Similar results were observed for other pile dimensions. Additionally, it is also observed that, pile number has considerable effect on the load carrying capacity and settlement of foundation system.

Keywords

Piled raft system, load shearing ratio, settlement reduction ratio

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Sensor based Management Information System for Dumpers for Indian Mines

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Abstract

Mining is the backbone of any industrial activity. Mother nature has bestowed India with good deposits of coal, iron ore, limestone, bauxite, manganese and chromite ores. Indian economy is one of the fastest growing economies in the world today. To fulfill 8-10 % growth target, Indian mining industry has to increase its share from 2.4 % to 6 %. (1)Such voluminous increments can be met only by employing big size heavy earth moving machines (HEMM)(2). Dumpers are the common choice in all types of mines for material movement. There are 4200 dumpers of various sizes being used in the different mines in India. The cost of dumpers varies from Rs 1.0 crore for 35 tons to Rs 24 crore for 240 tons version.(3) The availability and utilization percentage of dumpers is low as compared to other HEMM. Hence there is a need for continuous monitoring of operational and machine parameters. Presently, only in large mines GPS based systems are being used to monitor such parameters. In small and medium mines monitoring is manual in nature. Manual method of data generation has its own limitations with respect to time and reliability. GPS based systems are not only costly but also requires qualified manpower to operate and maintain it. This calls for indigenous development of economical management information system (MIS) which could produce temper proof on line data. This research paper discusses one such management information system developed by the authors which is economical, easy to maintain and which produces reliable data

Key Words

HEMM, Costly, MIS

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Design and Development of Mirnov Coil Sensor for Eddy Currents Experiment on Toroidal Vessel

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Abstract

Tokamak is a magnetic confinement device that confines hot plasma in the shape of torus during the process of thermonuclear fusion power generation. In tokamak, eddy currents are produced due to change in plasma positions during plasma instabilities that induce electromagnetic forces on interaction with the induced currents. Mirnov coils are widely used in tokamaks to study plasma positions during plasma instabilities. Principle objective of this paper is the design and development of Mirnov coil sensor to find eddy currents on a toroidal vessel. This paper presents an elaborative and practical construction technique of a Mirnov coil. The calibration method of a Mirnov coil is also discussed. Mirnov coils as an eddy current diagnostics are tested and experiment to measure magnetic field due to induced currents on the toroidal vessel are performed using the coils.

Index Terms

Eddy Current Experiment, Sensor, Mirnov Coil, Helmholtz Coil

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Flame Text Algorithm for Storing Secure Information in Cloud

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Abstract

In the present age, we are putting away our information in the cloud; however, there is a great deal of security requests. So as to improve the security, our venture proposes another encryption calculation called Flame Text Algorithm and furthermore 3 stage check forms takes places for putting away the Electronic Health Records (EHR) data in the cloud. At first, the medicinal expert people can enter their username and the secret key. On the off chance that the client is legitimate and login acknowledged methods, at that point the subsequent stage unique mark verification process takes places. In the unique mark Authentication process the medicinal specialist individual unique finger impression is checked, on the off chance that it is confirmed effectively, at that point a verification code will be sent to the mail id of the specific individual. At that point the individual needs to sign in their very own mail id for the check code. After unique finger impression confirmation, an alarm input box will show up, in that the individual needs to put the verification code to transfer or view the reports of Electronic Health Records of patients. After validation code effective then the therapeutic individual can transfer the archives of their worry tolerant subtleties in the cloud. Before putting away the information in the cloud an encryption procedure happens. This is the new Algorithm system where the security can be more on the grounds that the encryption and decoding take puts similarly. At that point the client can view and impart their subtleties to someone else too. The main feature of this project is the use of own Encryption and Decryption Algorithm (FLAME TEXT) which will secure our data more compared to other techniques.

Index Terms

Electronic Health Records (EHR), Authentication, Flame Text Algorithm, Decryption Algorithm

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Health Monitoring on Social Media over Time Using K-Means Clustering Algorithm

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Abstract

Web based application helps in spreading news, talking about social issues, and so forth and it got its very own place in our life. By utilizing the fast development of the web based application we attempt to investigation the soundness of the people groups by utilizing the tweets/posts in internet based application. Early observing of welfare information is corresponding to post-factum contemplates and empowers a scope of utilizations, for example, estimating social hazard factors and activating welfare efforts. We define two issues: welfare change location and welfare progress prediction. We utilize Temporal Ailment Topic Aspect Model (TM– ATAM). This strategy is utilized to isolate the welfare related tweets from the other tweets. Then Time-Aware Ailment Topic Aspect Model (T–ATAM) is utilized to examination the time advancement of the welfare related tweets. Broad communications sources, explicitly the news media, have generally educated us of day by day occasions. In present day times, online networking administrations, for example, Twitter give a gigantic measure of client produced information, which can possibly contain useful news-related substance. For these assets to be helpful, we should figure out how to channel clamor and just catch the substance that, in light of its comparability to the news media, is viewed as important. Be that as it may, even after commotion is evacuated, data over-burden may in any case exist in the rest of the information subsequently, it is advantageous to organize it for utilization. We propose an unsupervised structure—Health Monitoring — which distinguishes news subjects common in both web-based social networking and the news media, and afterward positions them by significance utilizing their degrees of MF, UA, and UI. Our trials demonstrate that Health Monitoring enhances the quality and assortment of naturally recognized news subjects.

Index Terms

Public health, Ailments, Social media, Topic models

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Identification of Social Spam Bots in Twitter Based On Deep Learning

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Abstract

Computerized spammer in tweets is the vital issue. Its vital issue digital security. A half breed approach for recognizing computerized spammers by amalgamating network based highlights with other component categories, the oddity of the proposed methodology lies in the portrayal of clients dependent on their communications with their supporters given that a client can dodge includes that are identified with his/her own activities. Twitter is a standout amongst the most prominent microblogging administrations, which is for the most part used to share news and updates through short messages confined to 280 characters. In any case, its open nature and substantial client base are every now and again misused via computerized spammers, content polluters, and other badly proposed clients to carry out different digital wrongdoings, for example, cyber bullying, trolling, gossip dispersal, and stalking. As needs be, various methodologies have been proposed by specialists to address these issues. Notwithstanding, the greater part of these methodologies depend on client portrayal and totally slighting shared connections. In this investigation, we present a cross breed approach for recognizing robotized spammers by amalgamating community based highlights with other include classes, in particular metadata-, content-, and cooperation based highlights. The curiosity of the proposed approach lies in the portrayal of clients dependent on their connections with their devotees given that a client can avoid highlights that are identified with his/her own exercises, however dodging those based on the supporters is troublesome. Nineteen distinct highlights, including six recently characterized highlights and two reclassified highlights, are recognized for learning three classifiers, to be specific, arbitrary woods, choice tree, furthermore, Bayesian system, on a genuine dataset that involves favorable clients and spammers. The separation intensity of various component classifications is likewise examined, and collaboration and network based highlights are resolved to be the best for spam location, though metadata-based highlights are turned out to be the least successful. Another dataset of tweets for spam-discovery and continuous spam discovery strategy performs superior to existing frameworks.

Index Terms

Spammer, clustering, Classification

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IOT based anti-poaching sensor system for Trees in forest

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Abstract

Presently a-days there are numerous episodes about carrying of trees like Sandal, Sagwan and so forth. Poaching of monetarily valuable trees has turned into a noteworthy dangerous to the estate of these trees, making an ecological irregularity and hazard the common assets. Distinctive activities have been taken world broadly including foundation of International Anti-Poaching establishment (IAPF). To confine their pirating and to spare woodlands around the world some preventive estimates should be made. We have built up a framework which can be utilized to confine smuggling. This task shows a framework for observing woodland and its region depends on IoT based remote sensor organize innovation. This paper proposes a microcontroller essentially based enemy of poaching framework utilizing WSN innovation. The fundamental thought displayed in this paper include utilizing a cutting edge and a modern innovation in which poachers will be deserted and being gotten effectively there by disposing of Poaching exercises. The framework propose three unique activities of reactions, right off the bat: passages constantly get information about trees area utilizing sensor. The second activity can be called perception where by various picture preparing methods of the got pictures encompassing a trees and in this manner give a sufficient help with understanding what makes sudden development of the trees. The last activity is to send messages to the officer's PDAs about the trees and the area through sensor. Backwoods authorities are told when any occasion happens so fitting move can be made. Remote sensor organize innovation can help build up a vitality effective framework for checking the poaching of trees.

Index Terms

Antipoaching, Arduino-Uno, Temperature Sensor, Tilt Sensor, Sound Sensor

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Microarray Data Analysis for Disease Prediction Using PSO Algorithm

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Abstract

The objective of human genome project is to incorporate genetic data into various clinical treatments. To accomplish this objective diverse computational algorithms are conceived for distinguishing the biomarker genes, reason for complex illnesses. Be that as it may, a large portion of the strategies grew so far utilizing DNA microarray information need in deciphering biological findings and less precise in disease prediction. In the paper we propose two parameters risk factor and confusion factor to recognize the naturally huge qualities for disease advancement. First we evaluate risk factor of each gene and the genes with nonzero risk-factor result misclassification of data, therefore removed. Early and exact identification assumes a key job in treating the disease and enhance survivability of patient. Among data classification algorithms, discrete particle swarm optimization (DPSO), a technique based on standard PSO has proved to be competitive in predicting breast cancer, and in this paper, we execute a classifier utilizing DPSO with new standard pruning technique for detecting lung cancer and breast cancer, which are the most well-known cancer for men and women. Examination demonstrates the new pruning strategy further enhances the order exactness, and the new methodology is powerful in making cancer prediction. Analysis demonstrates the new pruning strategy further enhances the classification precision, and the new methodology is viable in making cancer prediction. Genomic sequence is referred as ordering the gene symbols. Predefined pattern are used to search particular gene sequence. And extend the work to predict diseases from gene symbols using clustering and classification algorithms to improve accuracy.

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Online auction using cloud computing with secure mechanism

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Abstract

In this paper, we initially dissect the attributes of the online sale and propose a general examination system about the plan of online closeout. The principles of this application are, the irregular landing procedure of bidders, the closeouts time, the part measure and the sales costs should be considered on Internet barters. In view of the properties of online sale and a general investigation structure identified with the plan of online sale, at that point we present single-unit and multi-unit ideal closeout models so as to expand the vendor' expected benefits whether the save cost is open or private indicating the favored completion time of the activity, just as a punishment work that portrays the expense of disregarding the due date. We target cloud work barters that executes in an online manner, keeps running in polynomial time, gives honesty ensure, and accomplishes ideal social welfare for the cloud environment and utilization may mirroring the sum that the client is happy to pay for executing its activity and Moving to those these objectives, we influence the accompanying great and new closeout structure procedures. At first, we adjust the posted evaluating sell off structure for inspiring honest online offers. next, we address the test presented by delicate due date limitations through another procedure of conservative exponential-measure LPs combined with double partition prophets. Finally, we create productive social welfare guess calculations utilizing the great base double system dependent on both LP duals and Eschol duals. In single-unit closeout, when the vendor with open or private hold value picks up the maximal expected benefit individually, the ideal open save cost is higher than the ideal private save cost. In multi-unit closeout, it is demonstrated that the dealer with private save cost can pick up the greater benefits than the merchant with open save cost. Finally, numerical results for two cases are given, where we figure the maximal anticipated all-out income

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Predicting Early Reviewers in E-commerce Website Using K-means with Page Ranking Algorithm

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Abstract

Online reviews are the important source of information for users before selecting a product or making a decision. Early reviews of an item will in general highly affect the ensuing item deals. Large amount of data also present in the forms of reviews and ratings in many online shopping websites such as Amazon, Flip cart, snap deal etc., In this paper we study the behaviour characteristics early reviewers through their posted early reviews. At first we divided the product lifetime into three stages (Early, majority and laggards). A person who post a reviews in early stage is consider as early reviewers. The Early reviewers are the first one who responds to the product at the beginning stage. Before performing analysis the data is subjected to many pre-processing techniques and then identifying opinion data in the reviews and classifying them according to their polarity confidence i.e., whether they fall under positive or negative or impartial meaning. We quantitatively portray early analysts dependent on their rating practices. We use k-means with Page Rank to predicting the early reviewers.

Index Terms

Early reviews, Page ranking, Prediction

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Self-Monitoring System for Vision Based Application Using Machine Learning Algorithms

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Abstract

Theoretical the previous decade has seen the utilization of abnormal state includes in saliency forecast for the two recordings and pictures. Lamentably, the current saliency forecast techniques just handle abnormal state static highlights, for example, face. Indeed, high-level unique highlights (likewise called activities), for example, talking or head turning, are too very appealing to visual consideration in recordings. Along these lines, in this paper, we propose a information driven strategy for figuring out how to anticipate the saliency of numerous face recordings, by utilizing both static and dynamic highlights at abnormal state. In particular, we present an eye-following database, gathering the obsessions of 39 subjects survey 65 numerous face recordings. Through examination on our database, we locate a lot of abnormal state highlights that reason a face to get broad visual consideration. These abnormal state highlights incorporate the static highlights of face estimate, focus predisposition what's more, head present, just as the dynamic highlights of talking and head turning. Structure the self-evaluation framework for distinguishing vision close-by screens can utilize web camera for catching human head positions and separate the foundation from frontal area head positions. Utilizing picture handling strategies to distinguish face and perceive.

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Surveillance Veebot Invader using Raspberry Pi

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Abstract

This paper proposes a technique for controlling a remote robot for reconnaissance utilizing an application based on Android stage. The Android Operating System observation robot commonly comprises of a PIC microcontroller, camcorder, a WI-FI module, FM Radios and L298H connect. The Android application will open a website page which has video screen for reconnaissance and catches to control robot and camera. The camera is snared to a stepper engine that makes it conceivable to catch the scene or object of intrigue. The caught video can be improved and made understandable utilizing further picture preparing on the remote Smart Phone there by killing the requirement for the additional DSP equipment and the robot. Android Smartphone and Raspberry pi board is associated with Wi-Fi. An Android Smartphone sends a remote order which is gotten by Raspberry pi board and in like manner robot moves. The Video Streaming is finished utilizing MJPG streamer program that gets jpeg information and sends it through a HTTP session. The Raspberry pi writing computer programs is done in python language. The trial result demonstrates that the video gushed up to 15 outlines for every second. This sort of component is helpful for spying reason in war fields.

Index Terms

Mobile Robot, Android Application, Raspberry Pi, PIC microcontroller

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Transform Android App into Self Defending Tool against Attacks for Women

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Abstract

In today's world, the usage of smart phones among people has increased rapidly. Presently mobile application plays a major role in women protection by means of using platform like Windows, Android, and IOS etc. Hence this project can be used for the personal security of women. This project targets developing an application that ensures instant assistant for women suffering in extreme distress / high threat to safety by sending location to their friends, relatives, police and their neighborhood to their location. It can be utilized to discover and help women's in distress circumstance. By a single touch on this application at the emergency situation sends an emergency alert message. The system uses location tracking that enables instant assistance in locating the victim from multiple sources. The system sends emergency messages to neighbors and nearer base station. One of the special features in this application is to send alert message until the "stop" button is clicked. Continuous spot detecting information via SMS helps to find the location of the victim quickly and can be rescued safely. This technique is helpful to know the movement of the person who is in the distressed condition. Further, the system allows added protection of tracking by multiple persons on different locations and time interval. This might be helpful to identify the details of the victim at the time interval when the alert message is received. These additional details will contain around three to four person details. In addition to these we can send picture of the victim to family, friends, police men and social activists.

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Improving clever chat bot for Web Analytics

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Abstract

This paper characterizes the use of Chat bots in the field of business. The primary thought is about improved web investigative. It is one of the predefined techniques to improve the web examination process. This imperative for achievement in any business stage. Since web investigation bring immense swarm towards the market. For this particular reason, we use chat bots. Chat bots are characterized as PC program intended to mimic discussion with human clients, particularly over the Web. A Chat bot is a man-made brainpower (AI) program that mimics intelligent human discussion by utilizing key pre-determined client phrases and sound-related or message based signs. Chat bots are as often as possible utilized for fundamental client administration and promoting frameworks that visit long range interpersonal communication centers and texting (IM) customers. They are likewise regularly incorporated into working frameworks as canny menial helpers. A Chat bot is otherwise called a fake conversational substance (ACE), visit robot, talk bot, chatterbot or chatterbox. Chat bots can have changing dimensions of multifaceted nature and can be stateless or stateful. A stateless Chat bot approaches each discussion as though it was associating with another client. Interestingly, a stateful Chat bot can audit past connections and edge new reactions in setting. Adding a Chat bot to a companys administration or deals division requires low or no coding; today, various Chat bot specialist co-ops that enable designers to build conversational client interfaces for outsider business applications. These days, Chat bots are broadly utilized essentially for a business reason.

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An Shoulder Peak Resistant Pin Security Scheme Using Concentrate Haptic Feedback

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Abstract

Basic PIN-section plans are helpless against perception assaults. To upgrade the protection from perception assaults, some perception assaults safe PIN-section plans for cell phones dependent on sounds as well as haptics have been proposed. Be that as it may, none of existing perception assaults safe PIN-passage plans can accomplish both great security and high convenience. Here in, we propose another perception assaults safe PIN-section conspire, Loc-HapPIN, for contact screen gadgets giving confined haptic criticism. By utilizing the innovation of restricted haptic input, the ease of use and the protection from perception assaults are improved. Moreover, the client can pick the effectiveness security setting reasonable for them.

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Workflow management with real-time tasks oriented Energy-aware scheduling in virtualized clouds

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Abstract

The cloud, consisting of a collection of interconnected and virtualized computers dynamically provisioned as one or more unified computing resource(s), has become a revolutionary paradigm by enabling on-demand provisioning of applications, platforms, or computing resources for customers based on a “pay-as-you-go” model. The project’s objective is to demonstrate how Cloud software technologies can be integrated to implement an effective environment for designing and executing scalable data analysis workflows. It describes the design and implementation of the Data Mining Cloud Framework (DMCF), a data analysis system that integrates a visual work flow language and a parallel runtime with the Software-as-aService (SaaS) model.

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Identifying Missing Young Child Using Face Recognition across Aging: Comparative Analysis and Evaluation

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Abstract

In today's world, technology has played a key role in helping the human mankind in almost every sphere. Face recognition has reached far beyond our imagination. Face recognition across aging is an open problem yet to be solved. There are various factors which have an effect on facial aging i.e. sun exposure, life style, health issues. Apart from this, every individual has his/ her own aging process. This mean no two persons of same age grow similarly leading to feature variations due to aging on a face and hence leading to a major challenge in face recognition across aging. During the childhood, growth pattern is different than that of adult. One such scenario is when a child gets lost in his early childhood and even if rescued then also neither parent nor child himself become capable of identifying the same person from a given group. Here comparative analysis of various methods face recognition across aging is taken into consideration and are evaluated. Various feature extraction techniques, dimensionality reduction, along with classification methods are evaluated.

Keywords

Face Recognition across aging, child young face image; Age Invariant; rank 1 Face Identification; feature extraction nearest neighbour Classification

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Smart City Management

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Abstract

A 'smart city' is an urban region that's extremely advanced in terms of overall infrastructure, property land, communications and market viability. The proposed system is a model of an smart city management. Most current cities use orthodoxed methods to maintain different sectors like waste management, parking slot allotment etc. The main objective of this project is to change the current network of smart city application under which multiple applications can be operated manually. The project will consists of ultra- sonic sensor and ir sensor. The system will use the Raspberry Pi as its main microprocessor which will process the sensor data that it receives and will accordingly perform multiple functions. The Raspberry Pi will also be used to connect to a wireless network so that live transmission of sensor data can take place. Through the employment of sensors integrated with real-time observance systems, data are collected from citizens and devices – then processed and analyses takes place

Keywords

Raspberry pi, ultra sonic sensor, IR sensor, LDR sensor

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Assistive Technology for the Deaf and Blind

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Abstract

There are about 444,000 deaf-blind people in India alone who face great adversities in going about their everyday routine. The deaf-blind form a helpless minority among the handicapped population and hence, are deprived of even the minimal support services. This venture intends to empower them to become active members of the society by providing them with the right care and support.

Braille has been widely adopted universally to literate the visually impaired and has distinguished advantages over synthetic speech. The Braille being embossed on regular paper, mostly using electronic embossers or manual slates, is susceptible to damage, hence losing readability with time [1]. Braille books which are usually bulky and expensive, are hence rendered useless over time. An alternative to this approach was the advent of the electronic Braille displays [2], but commercially available Braille displays are outrageously expensive and hence are beyond the reach of commons in most of the developing nations. Auditory access devices also go in vain as the individual is hard of hearing. That being the case, free from the demerits of both auditory devices and paper-embossed Braille and at a reasonable price point of hepatic displays, this project aims to address this challenge by rendering an affordable and portable technology for refreshable Braille. Additional functionality includes the Smartphone interface with voice input, readable e-book file input equipped with a speed control unit, color recognition and obstacle avoidance.

Keywords

Assistive technology, Braille, deaf blind, tactile display, ALPHABETICAL

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Identifying Missing Young Child Using Face Recognition across Aging: Comparative Analysis and Evaluation

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Abstract

This paper is an advanced solution for monitoring the weather conditions. In this project we are putting together a Weather Station using a variety of sensors [15]. The platform being used is an EduArm board using wfi module. This will provide communications to the sensor [10]. A hardware module based on wireless technology, which measures temperature, air, wind. The sensors chosen for this project are based on the interface method they use and the available inputs on the EduArm. The data from the sensors are collected and displayed on LCD of EduArm [14] which is LPC1768 based micro controller and also sends the sensor data into the PC by using Serial port. By sending data from device to server by defining protocol and send data over WIFI to server. This information is received by a specially designed application interface running on a PC connected through EduArm and wireless link. The idea behind to this work is to monitor the weather parameters, weather forecasting, and warn the people from disasters effect.

Keywords

Weather Station, EduArm, Portable Station, Sensors

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Identifying Missing Young Child Using Face Recognition across Aging: Comparative Analysis and Evaluation

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Abstract

The main purpose of this paper is getting knowledge how technology innovation has impact on the quality of management in its execution. Execution of new technological innovation is not an easy task for the management. Management must fully equipped for handling the new technology in an organization our society always look for new invention for full filling their needs it is a duty for the manager to help organization to adopt and to execute new technological innovation in better way for achieving their goals and for gaining goodwill in the market. Technical innovation considers an important step towards the growth of economy and also helpful for improving the standard of living. Technical innovation is requirement of our society by these types of innovation we can increase our customers by giving what they want but this is possible only when organization has a effective management and qualified managers those who are able to understand how new technological innovations will execute by optimum utilization of resources.

Keywords

Technological, Innovation, Quality management

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Image Classification Using Machine Learning

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Abstract

In the world of increasing media and interactive content it is very necessary to put forth the algorithms that help the user to find the appropriate and desired output. In this paper, we have briefly discuss the algorithms and techniques that help facilitate in finding the right images in an semantically arranged format and meaningful output production. Our classification system results in most accurate and evaluated results. The purpose of our work is to give the best machine learning application for image classification. Our classification system results in an accuracy of 93.9 % when evaluated on an image database.

Keywords

Linear Aggression, Image Feature extraction, Image Classification, Image Recognition, Image Database, clustering

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Performance Improvement of DC Boost Converter with Fuzzy Controller

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Abstract

This paper presents the improved performance of a fuzzy PD controller than a conventional PD controller to control DC- DC Converter. The experimentation in fuzzy domain using five and seven membership functions with the proposed input and output variables. A fuzzy controller can be implemented where linear control techniques fail. The experimental results of the proposed boost converter using fuzzy control are evaluated in comparison with PD controller. All the analysis and simulations were performed using MATLAB software. The comparison of both the results indicate that the fuzzy controller is able to obtain better dynamic response. The results confirm the capability of the control methods in the improvement of the above-mentioned converter functioning.

Keywords

Boost converter, Fuzzy PD Controller, Membership Functions, Simulation

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An Overview of Microbial Inactivation in Food Using Pulsed Electric Field

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Abstract

Nourishment treatment has been conveyed by thermal or non-thermal strategies. In late days, a conceivable strategy for microbial deactivation in nourishment is done by use of Pulsed Electric Fields (PEF). In the present work, pulse framing network (PFN) for creating high voltage rectangular pulses has been structured and created. Recreation has been done and the impact of keep going stage inductance on the overshoot of the yield waveform is examined. A sterilisable nourishment handling chamber was structured and manufactured. Estimation of electric field in the nourishment chamber has been completed utilizing programming.

Keywords

Pulsed electric field, Food preservation, Chamber, Microbial count, Microbial deactivation

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An Adaptive Genetic Co-relation Node Optimization Routing for Wireless Sensor Network

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Abstract

In wireless sensor networks, the sensors are designed with limited energy rates and bandwidth rates. Maximizing the network life time is a key aspect in tradition Wireless communication to maximize the data rate in typical environments. The clustering is an effective topology control approach to organize efficient communication in traditional sensor network models. However the hierarchical based clustering approach consumes more energy rates for large scale networks for data distribution and data gathering process, the selection of efficient cluster and cluster heads (CH) play an import role to achieve the goal. In this paper we proposed a Adaptive Genetic Co-relation Node Optimization for selecting an optimal number of clusters and optimal cluster heads based on the node status or fitness level. Using the tradition Genetic Algorithm, we achieved the Cluster head selection and the co-relation approach identifies the optimal clusters heads in a network for data distribution. The cluster head assignment problem is formulated as an energy minimization problem that is implemented by GAs. Appropriate GAs operators such as reproduction, crossover and mutation are developed and tested.

Keywords

WSN, GA, Adaptive Genetic Co-relation Node Optimization

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Evaluation of Ultrasonic Sensor in Robot Mapping

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Abstract

This paper presents the simulation and experimental investigation on mapping done using ultrasonic sensor(HC-SR04). Issues of exploration (frontier detection), mapping and localization are discussed. Kobuki base with three ultrasonic sensors were kept as robot mobile base platform. A 2D occupancy grid map is updated by robot when it moves and collects information from the ultrasonic sensor. Ultrasonic sensor being noisy in nature generates unwanted ghost points. This results in outliers in the map especially in the corners of the environment due to specular reflections. The issues like outliers are dealt with image processing techniques.

Keywords

Ultrasonic sensor(HC-SR04), Frontier detection, Mapping, Localization, ROS, Image processing, OpenCV

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Hybrid Optimization Algorithm for Association rules Hiding

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Abstract

Optimization algorithms like a genetic algorithm, particle swarm and cuckoo optimization algorithms have a trade-off in the reduction of ghost rules and lost rules in association rule hiding. This paper proposes a novel Hybrid optimization algorithm that acquires the characteristics of the above said algorithms for association rule hiding and it has been shown that it produces better results in less time. Further, the newly introduced concepts on the lost rule generation and recovery are seen to produce almost 99% of lost rules with a reduction in side effect factors from 24% to 8 5%.

Keywords

Association Rule hiding, Genetic Algorithm, Ghost rules, Lost rules

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Green Inventory Integrated Model with Inflation under Permissible Delay

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Abstract

Trade credit is an important cost reduction tool in the inventory management. The effect of trade credit is studied on the integrated system for sharing the cost benefits realized due to the permissible delay. Credit term factor is introduced to divide the cost benefits between the retailer and the supplier. The various costs in the inventory model are subjected to the same inflation rate. This research paper revisits EOQ model for remanufacturing process under green supply chain with the permissible delay available to the retailer. Numerical examples prove that the optimal re-ordering schedule exists and is unique. Also sensitivity analysis is performed on certain parameters to ascertain their logical implications.

Keywords

Inflation, Supply chain, Credit term, Inventory

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The study of Enhancement of load carrying capacity of Micropile in soil stabilization for different regions in India

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Abstract

In this Study, we must stabilize the soil mass by using micropile. The micropile which is provided for soil stabilization is not greater than 300 mm in diameter. This type of study is taken because there are some limitations for execution of Soil Stabilization by a different technique like by providing pile having diameter is greater than 300 mm. If we provide pile then the heavy machinery is not easily going to site & create more vibration which affects the old building is existing nearby but in case of micropile the headroom required is less, the machine is lighter than pile M/c and creates very less vibration as compared to a pile. Also, the axial and lateral force a consideration during the design of micropile but in case of pile designing only axial force get into consideration. Micropile can be inclined or vertical but in case of the pile, it should be vertical. The main objective of this study is to evaluate the feasibility of micropile based on geotechnical site data also minimize the diameter and maximize the load capacity of different soils of the various location of India. Collection the bore log data of a different region in India & analyses on Software for different C and ϕ value of Soil. By getting these results we are going to find out some relationship between load, diameter, and type of soil. There the various application of this study in different sectors like supporting maximum load and excavation supports in congested areas, seismic structure foundation.

Keywords

Micropile, Slope Stabilization, Angle of Internal friction, Cohesion

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Production of Functionally Graded Material by Powder Metallurgy

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Abstract

The urge of getting properties of different components in a single engineering component is rising as technology surges. Typically, we desire a component must possess low wear resistance or thermal conductivity at its surface also with high interior toughness. For this manufacturing of Functionally Graded Material (FGM) becomes essential. Constitutional variation is the main factor on which the performance of FGM is dependent. Hence, it is mandatory to optimize the compositional distribution in FGM. There are many techniques which have been imposed to manufacture FGMs, including physical and chemical vapor deposition, sintering, plasma spraying, electroplating, Powder metallurgy and combustion synthesis. In this research FGM has been fabricated by powder metallurgy which is efficient and reliable method. This technique includes processes like cold compacting and sintering. By this method microstructure, composition and shape can be controlled. In this research FGM of Silicon carbide (SiC) and Aluminium (Al) has been made successfully. Also, test of mechanical properties and microstructure studies has been carried out.

Keywords

Functionally graded materials, FGM, Powder Metallurgy, Aluminium (Al), Silicon Carbide (SiC)

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An Experimental Investigation into the Applicability of Boric Acid as Solid Lubricant in Turning EN8 Steel

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Abstract

The serious warmth age amid the turning procedure is basic to the workpiece quality. Coolant and lubricant in this manner assume conclusive jobs in turning. The ordinary cutting liquids utilized in machining have certain constraints concerning their utilization for environmental and monetary reasons. Improvement of oils that are eco-friendly is gaining significance. In this specific situation, use of strong ointments has demonstrated to be a possible option in contrast to the customary cutting liquids. Strong ointment, whenever utilized appropriately, could control the machining zone temperature viably by escalated expulsion of warmth from the machining zone. Consequently, the point of present examination is to research the impact of boric corrosive as strong ointment in the zone of machining.

Keywords

Solid lubricant boric acid, Conventional liquid coolant, turning, parameters, eco friendly

