ICASETEM-19

International Conference on Applied Sciences, Engineering, Technology & Management

Kuala Lumpur, Malaysia

16th-17th October, 2019

Organized by:

Institute For Engineering Research and Publication [IFERP]

In Association with:

Asia Pacific University of Technology & Innovation (APU)

Preface

The ***"International Conference on Applied Sciences, Engineering, Technology & Management (ICASETEM-19)"*** is being organized by ***IFERP-Institute for Engineering Research and Publications*** in association with ***Asia Pacific University of Technology & Innovation (APU),*** Kuala Lumpur, Malaysia *on 16th & 17th October, 2019*.

The ***"International Conference on Applied Sciences, Engineering, Technology & Management"*** 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 **"Applied Sciences, Engineering, Technology & Management"** which were given International values by ***Institute for Engineering Research and Publication (IFERP).***

The International Conference attracted over 122 submissions. Through rigorous peer reviews 59 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.

ICASETEM-19

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 ***Asia Pacific University of Technology & Innovation,*** Kuala Lumpur, Malaysia. I am delighted to welcome all the delegates and participants around the globe to ***Asia Pacific University of Technology & Innovation, Kuala Lumpur, Malaysia*** for the ***"International Conference on Applied Sciences, Engineering, Technology & Management (ICASETEM-19)"*** Which will take place on ***16th-17th October'19***

Transforming the importance of Engineering, the theme of this conference is ***"Raising the bar for awesome future trends with engineering, technology & management"***

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&APU)** 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 ***Kuala Lumpur, Malaysia***

Sincerely,

Rudra Bhanu Satpathy

Message from Chair

Prof. Ron Edwards

Vice Chancellor

Asia Pacific University of Technology & Innovation (A.P.U), Malaysia

"On behalf of the Asia Pacific University of Technology and Innovation, Malaysia, it is my pleasure to welcome academics and students from all over the world to attend the International Conference on Applied Sciences, Engineering, Technology and Management (ICASETEM-19).

Stemming from developments in engineering, technology and management, social change has been rapid and disruptive. The signs are that the rate of change and associated disruption are likely to accelerate. Challenges and opportunities now confront the engineer, technologist and manager.

These conference shares insights into these developments, giving participants privileged access to the latest cutting edge knowledge and perspectives into what might come next. Equipped with this knowledge, participants will be able to 'raise the bar'.

We're looking forward to an excellent meeting with great researchers from different countries around the world who will share their latest research results.

I wish to thank our friends at IFERP and the conference organizing committee that has worked so hard to deliver an exciting conference."

Message from Co-chair

Prof. Dr. Ir. Vinesh Thiruchelvam
Deputy Vice Chancellor (DVC) & Chief Innovation Officer (CIO)
Asia Pacific University of Technology & Innovation (A.P.U), Malaysia

" Welcome to ICASETEM 2019….Welcome to Malaysia and Asia Pacific University of Technology & Innovation (APU).

It is an honour to host the researchers and academicians who are participating in this conference. We look forward to further collaborations with you and your institutions/organizations post this conference.

Have a successful conference in terms of your engagements at APU and the stay here in Malaysia.

Message from General Chair

Assoc. Prof. Dr. Thang Ka Fei

Head, School of Engineering,

Asia Pacific University of Technology & Innovation (A.P.U), Malaysia

As the General Chair, I am delighted that the International Conference on Applied Sciences, Engineering, Technology & Management (ICASETEM) will be taken place at Asia Pacific University of Technology & Innovation (APU) on 16th October 2019. With Industrial Revolution 4.0 looming, key technologies such as machine-learning, internet-of-things (IOT) and artificial intelligence in general has become the focus of research and development world-wide. I am delighted to know that many abstracts that we received are in these areas with practical application and implementation being highlighted. I hope that the parallel sharing sessions that we have put in place will greatly enhance your technical knowledge and feel free to network with working professionals, academicians and researcher alike during the sessions. The keynote speakers who will present at this conference are very experienced and knowledgeable. I am certain that all participants at the ICASETEM conference will go back delighted and fulfilled. Enjoy your stay in Kuala Lumpur and do enjoyed to the fullest during the conference. I will be happy to welcome you to APU!

Message from Convener

Dr. Sathish Kumar Selvaperumal

Asia Pacific University of Technology & Innovation (A.P.U),

Malaysia

I am indeed honored to be the convener at International Conference on Applied Sciences, Engineering, Technology & Management (ICASETEM-19). The conference is jointly organized by the Asia Pacific University of Technology & Innovation (APU) and Institute for Engineering Research and Publication (IFERP).

Technological and scientific research and development seem to be the only resolution for the mankind to deal with such challenges. It has become mandatory that; the contemporary researchers and enthusiasts should cooperatively discover solutions to these issues through abiding perseverance and determination. It aims at bringing together the researchers, scientists, engineers, and scholar students in all areas of Engineering, Technology and provides an international forum for the dissemination of original research results, new ideas and practical development experiences which concentrate on both theory and practices. The ideas and innovations in technologies need to be verified at universal level. International conferences like ICASETEM-19, provide supreme platform for peer investigators to discuss their innovative concepts and offer the opportunity for joint efforts in order to obtain enhanced results. The conference has the focus on the frontier topics in the Computer Science, Civil, Mechanical, Electrical and Electronics Engineering subjects.

As the convener of the conference on behalf of APU, I convey my hearty greetings to all and wish ICASETEM-19 a great success.

ICASETEM-19

International Conference on Applied Sciences, Engineering, Technology & Management

Kuala lumpur, Malaysia, 16th-17th October, 2019

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ICASETEM-19

International Conference on Applied Sciences, Engineering, Technology & Management

Keynote Speakers

Pastor Arguelles

Dean, College of Computer Studies

University of Perpetual Help, Molino Campus, Philippines

MESSAGE

I am indeed honored to receive this highly envied invitation as I know that it comes rare and far. I knew that the first time I entered into this esteemed organization, this would be THE place for me to advance my academic and research career.

I am appreciative of every opportunity that I have been given since my humble beginnings with you in IFERP. Thank you for the opportunity, and I wouldn't have traded my learning and skills for any other.

Everyone has been truly blessed with you all as we travel on the journey of academic excellence and research collaboration. I truly appreciate all the challenges that came along my way to mold me the way I am; I believe this molding will bring us out of our shadow one day.

More power to you IFERP.

Estrella O. Simon

President

First City Providential College, Philippines

MESSAGE

I am indeed honored to be the Keynote Speaker at " International Conference on International Conference on Applied Sciences, Engineering, Technology & Management (ICASETEM), together organized by Asia pacific University, Kuala Lumpur, Malaysia and Institute For Engineering Research and Publication (IFERP) at APU on 16th-17th October 2019.

The conference aims at bringing together the researchers, scientists, engineers, and scholar students in all areas of Engineering, Technology and provides an international forum for the dissemination of original research results, new ideas and practical development experiences which concentrate on both theory and practices.

The conference has the focus on the frontier topics in the Computer Science, Civil, Mechanical, Electrical and Electronics Engineering subjects. This conference provides an interdisciplinary forum for Engineers, scientists, industrialists, researchers and delegates to meet international keynote speakers and debate on technological innovations. This Conference also offers scope for engineering professionals to present their research and innovations leading to solve many problems of application in several disciplines. ICASETEM-19 will create a knowledge bridge between industry professionals and academic researchers and provides an excellent International platform for sharing research knowledge in the fields of Engineering & Technology.

IFERP, being a leading professional Association body of South Asia, organizes conferences at National and International levels; thus, providing technical knowledge to enhance

Research & Development activities and publishing high quality International Journals and other transactions.

I extend a warm welcome to all the speakers, researchers and delegates of the conference and wish that ICASETEM-19 will bring forth valuable outcomes.

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ABSTRACTS

ICASETEM-19

Organized by:

Institute For Engineering Research and Publication (IFERP)

In Association with

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Leverage Networking Tasks Using Network Programmability

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Yaseein Soubhi Hussein, Asia Pacific University of Technology and Innovation, Technology Park Malaysia, Bukit Jalil, Kuala Lumpur, Malaysia

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Abstract:--

Network computing has grown tremendously in various aspects such as the network design, number of users, and complexity. With this expansion, managing, monitoring, and configuring networking devices efficiently is vital to ensure the network is running with its best performance. Network automation and programmability have gained wide adoption by prominent networking vendors and experts as well as researchers. The approach has proven that it would be the future of networking field as it simplifies the process of configuring and managing networking devices, especially for enterprises. This paper presents new design and development of a network automation tool that helps network administrators to automate and shorten the process of configuring and managing networking devices. This research also identifies the importance of network programmability and automation and how they can help network engineers and organizations.

Keywords:-

Network automation, programmability, Network monitoring, and analysis

Application of Treatment System Using Lepironia Articulata and Scirpus Grossus for Drinking Water from Tasik Chini, Pahang

Aiman Syafiqah binti Mohd Yusof, Universiti Kebangsaan Malaysia

Abstract:--

Phytoremediation is a green technology treatment for polluted water which uses plant and increasingly receiving attention as it is a cost effective treatment and produces low amount of waste. In this study, phytoremediation is used to treat polluted water from Chini Lake through a series of reed bed system in order to produce clean potable water and it has been compared with the National Water Quality Standard (NWQS) for drinking water. The system used two aquatic plants, Scirpus grossus and Lepironia articulata which grows abundantly around the lake. This study used batch flow and free surface flow (FSF) for a month. Result shows that S. grossus alone managed to remove 100% of COD. L. articulata solely is able to remove 76% of TSS and 86% amount of E.coli which was higher than S. grossus alone and combination of both plants. Nevertheless, the combination of both plants resulted in 100% removal of colour and improved the pH value. As for the trace elements removal, L. articulata managed to remove 34.8% of arsenic (As) and 64.2% of lead (Pb) while S. grossus removed cadmium (Cd) and manganese (Mn) 46.8% and 75.6% respectively. Combination of both plants has succeeded in removing 74.3% of iron (Fe). In summary, system that contained S. grossus alone is the most effective in producing treated water that fulfilled the NWQS for drinking water.

Design and Development of High Level Hexapedal Mobility Robot

Arun Prashan, Asia pacific university, Kuala Lumpur, Malaysia

Arun Seeralan, Asia pacific university, Kuala Lumpur, Malaysia

Abstract:--

The main problem in current hexapod and hexapedal robot is the power source. In order to overcome the supply problem in most of the robots used currently, energy generation would be a good option. Although, energy generation is feasible for bigger robots only, some additional mechanical actuations are necessary in comparatively smaller robots to generate current in order to charge its power source or battery. For motion in all types of terrain, hexapedal robot is a better option. Hexapedal robot which is also known as RHex will be an option which will be easier to replicate both biological based design and to implement battery charging and system performance monitoring method. The developed design is inspired closely to locomotion of cockroach and is classified as a hexapedal robot. After deep research and reference, C-shaped leg made from 3mm stainless steel sheet was designed and fabricated. C-shaped leg used in this design is the simplest version available for hexapedal robot. Developed design is fully implemented into operation using arduino based microcontroller (UNO R3). In order to monitor the developed design's performance, the battery level is monitored throughout using LabVIEW based GUI. As the robot operates, its batteries will discharge accordingly. The battery current and voltage will be displayed in control station through radio frequency data transfer. On the whole, the developed design is able to move well in numerous types of unplanned terrains (irregular surfaces) and is able to climb obstacle upto a height of 70mm.

Review on Heuristic Algorithms used in Power Grid and its suitability to Smart Grid

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Abstract:--

Smart grids are the next generation of the power grid system. The transition from power grids to smart grids is to ensure an environmental and economically efficient power system. Smart grid, unlike the traditional power grid, integrates a vast variety of generation source of electricity into the grid. Hence the complexity of efficiently monitoring the smart grid is high. PMUs are high-speed sensors used for real-time monitoring, protecting and control of the power system. Data from PMU assists in providing reliable and continuous power supply. However, placing PMUs at all the buses of a power system is economically infeasible. Optimal PMU Placement (OPP) has been an area of high interest as it focuses on finding the minimum PMUs required without compromising on maximum system observability. Meta-Heuristic algorithms have been widely used in the OPP problem. Various Heuristic algorithms have been applied to the OPP problem in both power systems and smart grids. The need to adapt to the changing environment from power grids to smart grids adds more complexity to the heuristic algorithms. This paper provides the literature review of the heuristic algorithm for OPP in power grids and smart grids. This paper reviews a few heuristic algorithms used in power grids and its suitability to smart grids applications. We expect this review to be beneficial to researchers and industries who are researching in smart grids.

Keywords-

Power Grid, Smart Grid, PMU, Heuristic Algorithms.

Comparison of the Nutritional Values in Fresh and Smoked Corbicula Fluminea (Etak) Tissue via Traditional Smoking Process

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Abstract:--

Smoked Corbicula fluminea or smoked Asian Clam was known as "etak salai" in Kelantan dialect is widely consumed as snack in Kelantan. Smoked Asian clam fans consumed them with zero knowledge on the nutritional value that might reduce during marinating and smoking process. Thus, this study would like to determine and compare nutritional value of fresh and smoked C. fluminea. Fresh and smoked C. fluminea samples were collected three replicates from six different stalls at two districts which is main producers and the widest coverage of consumers in Kelantan. Fat, protein and carbohydrate were analysed based on Association of Official Analytical Chemicals (AOAC) method. This study found that protein (10.92%) and Carbohydrate (1.91%) were highest in smoked C. fluminea compared to fresh C. fluminea from stall 6 and 5 respectively at Tumpat. Meanwhile, fat content was recorded the highest in fresh C. fluminea from stall 1 (Pasir Mas) ($p < 0.05$). The finding of this study are able to guide smoked C. fluminea fans to estimate the amount of smoked C. fluminea consumption in a day, a week or a month, so that, they can control and balance nutrition in their body.

Keywords

Corbicula fluminea, nutritional value, fat, protein, carbohydrate

Malicious E-Mail Detection using Artificial Neural Networks

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Abstract:--

The proliferation of spam email presents a harmful, costly, and evolving threat to Internet users. Some of the effects of spam are fills Inbox with number of ridiculous emails, degrades Internet speed to a great extent. To compact this, different data mining classifiers are used to identify the spam mail. In this paper email classification is done using machine learning algorithms. The aim of this study is to distinguish between ham and spam emails by building a perfect and sensitive classification model that gives good accuracy with low false positive rate. Three significant machine learning algorithms namely, Artificial Neural Network (ANN), Decision Tree and J48 are tested for their efficiency in classifying emails as spam or ham. In ANN model multilayer perception is trained with backpropagation learning algorithm in which generalized delta' rule is used for weight adjustments for hidden layers. We employed supervised machine learning techniques to filter the email spam messages. We import data from the e-mail accounts and applied preprocessing techniques such as file conversions, searching for frequency of a word by Knuth–Morris–Pratt (KMP) algorithm, and feature selection using Principal Component Analysis (PCA). Finally the three algorithms are compared based on their evaluation criteria. In e–mail filtering false positives (FP) and false negatives (FN) are given more consideration when studying the performance (predictive accuracy) of a classifier. This is because false positives are more expensive than false negatives in the real world. The results of our MLP model are reasonable in terms of Accuracy FP rate, FN rate, MCC, Precision, Recall, ROC area, PRC area. Finally, we present the comparison of three classifiers with accessible techniques in terms of false positive and false negative rates also to obtain the predictive accuracy of the classifiers. Along with this, various visualization techniques like Receiver Operating Characteristic (ROC) and Precision Recall (PRC) curves are also obtained for comparison of proposed classifiers. The numerical simulations have shown that most classification methods achieve acceptable prediction rates.

Keywords

Artificial Neural Network (ANN), Precision, Recall, False positives (FP) ,False negatives (FN), and Receiver Operating Characteristics (ROC)

Wireless Power Transfer using Solar Energy for small scale applications

Farahsat Jabin, Asia pacific university, Malaysia

Ravi Lakshmanan, Asia pacific university, Malaysia

Abstract:--

This paper focuses on the magnetic resonant coupled WPT technology, incorporating Solar Power to provide a secure, economical, appropriate and green method of transferring electrical power to distant static portable electrical appliances. A wireless transmitter and receiver system is designed and a certain air-gap is maintained in between them . Further, Sunlight is absorbed by solar panel as a source of energy to produce electricity and generated electricity through the solar panel is given as an input to the designed system and consequently the given input power is transmitted through the transmitter and received by the receiver wirelessly in order to power up the load. The maximum power transfer distance between TX-RX coil achieved is 15 cm, when the receiver is loaded with two 7.5 watts LED lamp but without load the transfer distance between TX-RX is increased to 19 cm. Finally, the system designed proved to be very efficient with 82.44% with no loaded condition and 80.46% with loaded condition for a minimum air-gap, as compared to the various techniques employed in the literature.

A Review Paper on Framework of Internal Risk Factors in Construction Projects

Fatin Nur Ashyqin Binti Shamenan, The National University of Malaysia (Universiti Kebangsaan Malaysia)
Noraini Hamzah, Universiti Kebangsaan Malaysia

Abstract:--

In developed countries, infrastructure development is rapidly increase parallel the growth of countries economy. Consequently, those mega projects involve crucial risks for the completion within schedule and planned budget. In this connection, large amount of losses occur due to various risks associated with such commercial centers, bridges and skyscraper. Hence, the purpose of this paper is to critically review the internal risks factors based on the most comparative study that suggested in the previous journals. This paper reviewed 50 articles published relevant on the studied of risks in construction projects. Throughout the study, authors had stated the internal factors that later been classified according to its risk categories. This framework identifies items that cause delays in construction project, which will encourage the practitioners to manage risk analysis in their project. This review concluded that the constructed framework on internal factor of risks of the construction project will lead to better management of risks.

Important Features Extraction by using POS Tag Pattern of Dependency Relation for Online Movie Reviews

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Norwati Mustapha, Universiti putra, malaysia
Masrah Azrifah Azmi Murad, Universiti putra, malaysia
Nurfadhlina Mohd Sharef, Universiti putra, malaysia

Abstract:--

With the emerging of web technologies, online reviews become trending and lead to the growth of sentiment analysis research. Feature extraction is the most important task in sentiment analysis of online reviews that help researcher to differentiate between relevant and irrelevant features in sentiments. The relevant features will kept for later process while the irrelevant features will be discarded. Dependency relation is one technique that can be used in features extraction process. By exploiting the dependency relation between words in reviews, the features and their corresponding sentiment can be identified. However, not all types of dependency relation are able to extract the features and their corresponding sentiments. In this paper, the most useful of specific types of dependency relation with POS tag pattern for extracting the relevant features from movie reviews dataset is proposed. The proposed pattern will be used to filter out the relevant features that later will send to the classification process. By doing this, it will increase the classification accuracy as well as decrease the time taken for classification process.

PikPat: Warehouse Pick and Path for Narrow Aisle Setup Algorithm Analysis

Jayson T. Guia, San Pablo Colleges
Jose B. Tan Jr, Technological Institute of the Philippines

Abstract:--

Accelerating the business process brought the digital revolution for a new methods to innovate warehouse routing methods. This paper focused on comparing different algorithm to improve the picking process specifically in a narrow setting environment. The selected algorithms to compare are the following: truncated branch and bound, breadth first search and Dijkstra algorithm.

The algorithms were compare using the predefined data (order) in a common aisle warehouse setting using a two picker to simulate its effectiveness. The result shows the shortest time generated a path and creates a model that test and train to avoid the collision or picker blocking. The results of the simulation confirmed the application using the truncated branch algorithm is most efficient as to compare with other algorithm used.

The simulation model provides methods for the comparison of warehouse pick path strategies, this will give new information to the practitioner to reduce the routing time and to make the warehouse more sustainable. The truncated branch and bound algorithm proved to be the most desirable algorithm among the three because of its ability to minimized the collision with other picker.

Determine Research Trends Using Text Mining Techniques: A Case Study of the Compendium of Agriculture and Fisheries R&D Projects

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Flordeliza Fernandez, Finden Technologies Inc.
Dr. Enrico Chavez, Technological Institute of the Philippines

Abstract:--

Digital disruption brings the explosions of "big data." The tremendous flow of unstructured and structured information. There is a need to develop a new tool for the Philippines to aggregate and navigate each and every document of the Bureau of Agricultural Research. The goal of this study is to detect the trending topics of research in the compendium of Agriculture and Fisheries Research and Development Projects.

The study is based on the gathered datasets that is processed through the text mining techniques. The use of clustering algorithm has led to the process of forming of several agricultural branches and summarizing each major branch. Then, the research trends and progression for each of the major branch is explored. A two-dimensional approach was conducted to text mining approach that includes the use of Latent Dirichlet Allocation (LDA) for the clustering algorithm and network analysis, in line to the detection of trends of the major branches. The study focus to create a simple text mining tools by using the open-source and commercial tools to solve it effectively in a text-based query computing scaffold.

Specifically, the research output intends to reveal research trends in the agricultural stations for assessment and evaluation which will be useful for internal and external auditors, regulators, decision-makers and researchers.

Keywords:

Text Mining, Clustering, Network Analysis, Trend Analysis

The Development and Validation of Interview Protocol Design for Factor Affecting Agile Maintenance Adoption

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Aziz Deraman, School of Informatics and Applied Mathematics, Universiti Malaysia Terengganu

Abstract:--

Qualitative research often been used when there is a problems or issues that need to be explored. The exploration is needed since certain variables are extracted from informants voices based on their experiences in the phenomenon studied. Interviews is one of the data collection approach in qualitative research. Prior to conduct the interview sessions, qualitative researcher need to prepare an interview protocol to facilitate the process. Managing software maintenance requires different knowledge and experience from the practitioners. Despite, the emergence of new method in performing software maintenance processes requires deep understanding from the practitioners. Furthermore, introducing agile methodologies in software maintenance imposed significant impact to software industries. This phenomenon sparks the need to understand the practitioners' thoughts to develop understanding based on their experience. The objective of this study is to refine the previously constructed interview protocol to identify the current practice in agile maintenance and the criteria involved during the selection of agile method. This is to ensure that the protocol is easily understood and covers all research questions and objectives. This study employed the four steps in Interview Protocol Refinement (IPR) framework which is (1) ensure alignment of research questions and interview question, (2) construct inquiry-based conversation, (3) received feedback on interview protocols and (4) interview protocol pilot testing. The IPR framework is a helpful tool in order for researcher to improve the interview protocol reliability and validity. This study presents the design of the interview protocol that was based on the findings from literature review and experts' validation.

Keywords:--

software maintenance, agile maintenance, qualitative research, interview protocol

Performance of Sentry Glass Plus (SGP) Interlayer Laminated Glass Subjected to Air Blast Loading

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Norazman Mohamad Nor, Faculty of Engineering, University Pertahanan Nasional Malaysia, Kem Sungai Besi, Kuala Lumpur, Malaysia
Ariffin Ismail, Faculty of Engineering, University Pertahanan Nasional Malaysia, Kem Sungai Besi, Kuala Lumpur, Malaysia

Abstract:--

This paper presents the result of the field blast test conducted on the laminated glass with Sentry Glass Plus (SGP) as an interlayer and laminated glass with PVB interlayer as control sample. The objective of this research was to investigate the blast resistance of laminated glass with SGP interlayer and laminated glass with PVB interlayer. In this research a field blast testing was carried out using ASTM F 1642-04 to obtain the blast related data and also to investigate the behaviour of the laminated glass subjected to air blast loading. The blast test result shows that laminated glass with SGP interlayer and laminated glass with PVB interlayer able to withstand the peak overpressure of 337.84 kPa and reflected pressure of 4688.43 kPa. Therefore, there is potential for the SGP interlayer to be use as an interlayer in the blast proof glass.

Keywords:

Field blast test, SGP interlayer, Laminated glass, Air blast loading

Development of Emulsion Explosive Using Palm Olein for Blasting Works

Madinah Ariff, National Defence University of Malaysia
Mohammed Alias Yusof, National Defence University of Malaysia

Abstract:--

Malaysia is one of the biggest producer of palm olein in this world. There are many applications of palm olein from ice cream to lipsticks. Current progress in the new infrastructure in Malaysia, namely; ECRL, MRT which involve a lot of blasting work that require huge amount of explosive. Therefore, this research explores the potential of using palm olein as a fuel phase in emulsion explosive for blasting work. The objective of this research is to obtain the optimum velocity of detonation (VOD) by varying the microballons and water content. In this experiment, palm olein is used as fuel phase.

15 samples of emulsion explosives were developed with a content 3% of palm olein and ammonium nitrate used fix content of 90%. Three samples were made as control, in which six samples were made variety of water range and follow by another six samples of microballons (1-3%). Detonation velocity testing using fibre optic method was conducted to access the VOD obtain from using 18% water and 3% of microballons, which give a maximum VOD 5800 m/s. The result showed the usage of palm olein with combination of water, microballons can produce higher VOD of emulsion explosive as compared with control sample. Thus, it can be used as an alternative emulsion explosive in blasting industries.

Keywords:

Palm Olein, Emulsion Explosive, Velocity of Detonation, microballons, blasting

Intelligent Vehicle Counting for Video Surveillance Application

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Abstract:--

Unstructured data such as video data generated tends to be huge, with no way to handle and process all of it in a short span of time using manpower alone due to limitations in human capacity, video analytics is serving as a useful asset to make generated video data more valuable. However, other methods work only in ideal environment which make researchers find new ways on how limitations like occlusions, nighttime and camera angle can be solved. Meanwhile, artificial intelligence is giving surveillance cameras digital brains to match their digital eyes, allowing them to analyze live video with little or no human intervention.

This paper demonstrates using a deep learning method to accurately detect, classify and count vehicles on urban roadways in a certain city. Additionally, a vehicle classifier was built and tested using a machine learning framework known as TensorFlow. Captured CCTV-video dataset was used to train the vehicle classifier. The performance of the newly-trained classifier has been evaluated using different classification metrics. Results show that using the proposed method, high accuracy in detecting, classifying and counting vehicles was achieved based on labeled data. However, researchers also took note of the detection errors that showed during testing. Configurations in some steps has been provided to minimize such misclassifications. It was also recommended that the method be integrated as vital part of Intelligent Transportation Systems (ITS) in terms of vehicle detection and classification for future smart cities.

Colorblindness and Your Career Dreams: An Assistive Technology for Individual with Color Vision Deficiency using Daltonization Algorithm

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Corazon Barcenas Rebong, Technological Institute of the Philippines, Manila, Philippines

Abstract:--

A website, especially government website is a universal address where every citizen is entitled to information retrieval. Environment for information retrieval such as government e-services caters a wide range of audiences that could be of great value for everyone accessing it. However, while e-services became very used for every individual, there are still barriers to information for persons with a disability, although it is mandatory to have equal access [1]. Web content accessibility guidelines (WCAG) 2.0 is a guideline that offers web accessibility standards. This guideline with the help of W3C organization disseminates information that covers recommendation for making the web content more accessible for PWDs. This study aims to present the processes of creating assistive technology for Philippine government websites specifically for users with color vision deficiency to help these individuals richly access e-services of the Philippine government. This paper also presents essential issues that persons with CVD are dealing with how this could affect the choice of young generations to choose their dream career in the future. The assistive technology was developed using JavaScript presented in the form of a plugin. This plugin is empowered by daltonization algorithm to determine different types of colorblindness and PostgreSQL that allows extraction of data and report generation from the developed web services. It gives a real-time assessment of user's visual status in terms of colorblindness in which helping them be aware of the situation. This paper concludes by suggesting the use of the assistive technology given that it assists its Philippine constituents e-services users. By using this assistive technology, it shows that the Philippine government can extend the help to people with CVD by letting everyone use its website with special assistance.

Keywords

The Philippine government website, website, e-services, PWD, assistive technology, WCAG 2.0, color vision deficiency, daltonization, plugin

ClaWs: Waste Classification System Using Convolutional Neural Network

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Jose B. Tan Jr, Technological Institute of the Philippines – Manila

Abstract:--

The Philippines has among the highest trash collection rates in Southeast Asia yet it's the world's 3rd biggest source of plastic leaking into the ocean (Ranada, 2015). Though there are programs implemented in collecting wastes, garbage is still a global problem that affects everyone and all living beings.

One of the most important steps of waste management is the separation of the waste into the different components. This process is normally done manually by hand-picking which sometimes cause bad and hazardous to human health if not properly done. In order to reduce the process, the proponent created ClaWs: A Classification of Waste using Neural Network with a pre-train Convolutional Neural Network model which is a machine learning tool that can classify waste in different types such as plastic (plastic, plastic bottle, plastic cap, plastic cutlery), paper (paper, paper cup), carton and eco bag. The proposed system is tested on the trash image dataset which and was able to achieve an accuracy of 96.67% on the dataset. This kind of segregation process of waste will become faster and perceptive using the proposed waste classification reducing human involvement and eventually can have an efficient and correct way of sorting recyclable materials.

Keywords:

Waste, RA 9003, Classification, Machine Learning, Neural Network

Optimal Condition of Torrefied Biomass Production with High Energy Yield

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Abstract:--

This study aimed at producing the torrefied biomass with high energy density in the purpose of bio-fuel application. Ground biomass wastes; coffee ground, sawdust and corncob, were mixed at the fixed ratio of 4:3:3 by weight. CCD was applied for experimental design with two independent factors: temperature and time for torrefaction. The optimum condition of torrefaction was investigated by response surface methodology (RSM). The severity factor (SF) in the term of process variables was represented to justify the response as weight loss, heating value and energy yield. Increase of SF reduced the energy yield resulted by the weight loss and heating value of torrefied biomass. Compared to the raw biomass waste, the heating value of torrefied mixed-biomass waste was improved about 29.51 to 61.02%. The heating value and weight loss in biomass slowly increased as the SF increased up to 6.90 and then quickly increased when SF over than 6.90, resulted to the decreased of O/C and H/C molar ratio. From the optimal condition at about 267°C and 43 min, weight loss, heating value and energy yield, was 40.77 % 83.35 % and 25.00 MJ/kg, respectively. This torrefied biomass will be further densified in the pellet form to meet the requirement of industrial sector.

TRIPPLANNER: Embracing New Adventures in Pakistan "Providing Safe Haven to the Tourist"

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Abstract:--

A "TRIPPLANNER" system which is a standalone application is being built to focus on the tourism industry of Pakistan. It is to help boost the tourism in Pakistan and also help the travelers that come to Pakistan by easing their planning for the trip. Most of the travelers use various apps to plan their trip but most of the time the apps are always missing out on something. The main aim of this project is to design and implement a windows-based system that would assist the tourists that opt to come to Pakistan. The system aims to provide all type of functions that the travelers use to plan their trip to a certain destination.

Index Terms

Tourism, Application, Travelers, System

Analysis of Domestic Energy consumption: A case Study for north eastern region of Thailand

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Abstract:--

Energy consumption in domestic sector was analysed for a selective north-eastern part of Thailand. 303 families in the region were randomly sampled. They are scattered and cover 14 provinces. All of them were classified into 2 groups namely municipal areas and rural areas. The 150 municipal families and 153 rural families were interviewed. The data were then analysed to determined energy consumption characteristics. The results showed that averaged energy consumption per family were 17,092.26 MJ/year and 16,462.21 MJ/year for the municipal and rural areas respectively. For municipal area, 51% of electrical energy, 12% of LPG and 37% of renewable energy were found while families in rural areas consumed 49% of electricity, 1% of LPG and 50% of renewable sources. The data were also plotted to determine the relation between energy consumption (EC) and the number of family member (n). It was found that energy consumption was in forms of power functions: EC = 13,393n0.273 (R2= 0.97) and EC = 11,625n0.2702 (R2=0.97) for municipal and rural areas respectively. Moreover, energy use per person was found to decrease when number of member in the family was increased.

Keywords:

Energy consumption, Rural, Municipal, Domestic, family

Effect of Electric Potential and Electrolyte Solution in Anode Coating on Structure and Specific Capacitance of Titanium Dioxide Nanotubes

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Abstract:--

We report the synthesis and electrochemical properties of oriented TiO2 nanotube arrays (TNA) formed by anodization of Ti-alloy as electrodes for supercapacitors. Physical or chemical cleaning method was applied for surface pretreatment of Ti-alloy sheet. The anodic TNA was fabricated by single-step and triple-step anodization in ethylene glycol electrolyte containing 0.5wt % NH_4F under the potential applied of 40 and 50 volts, and anodizing time for the last step of 3 and 5h. The influence of aqueous ethylene glycol electrolyte containing 0.5wt % NH_4F and 5wt% distilled water on TNA morphology was compared. Annealing the as-grown TNA at temperature of 500 °C transformed them from an amorphous phase to crystalline phase. Morphologies, crystal structure and supercapacitor performances of samples were characterized by scanning electron microscopy, X-ray diffraction and electrochemical analysis, respectively. Cyclic voltammetry (CV) was measured in 1 M H_2SO_4 electrolyte at 0.7-0.1 V with different scan rate; 5, 10, 20, 30, 40 and 50 mV/s. Electrochemical impedance spectroscopy (EIS) was investigated with the frequency ranging of 0.01Hz-100kHz in the same electrolyte. Results show that triple anodization of chemical-cleaned Ti alloy sheet with 5 h of the last step (115) in aqueous electrolyte under 50V flowed by air annealing gave the well-porous dense structured TNA. Moreover, its capacitance was up to 58.605 Farad/g at 50 mV/s measurement corresponded to the EIS behavior.

GIS TOTER: GIS Technology One Touch Emergency Response for San Pablo City

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Abstract:--

Maintaining peace and order is one of the important mandate of Local Government Unit (LGU). Formulating plans and recommending measures which will improve or enhance the public safety, peace and order. This study has strengthened the advance technology to set up an emergency Hotline that allows every locals of San Pablo to connect on the Command Center to access the services it provides in touch. The utilization of GIS technology is algorithmically demonstrated the predicted forecast of crimes. It helps to identify spot of the crime patterns and the socio-economic characteristics of San Pablo City locals.

This study intends to create a one touch emergency response to report a location-based information with the use of GIS technology. This will help every locals of San Pablo City to bring this crime buster through their finger tips. This is beneficial to the locals, barangay, police unit as well as the Local Government Unit (LGU). It aims to get us aware in surroundings as well as to protect people and its property.

KPIS Calculation for Gap Analysis in Urban Planning Management

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Nguyen Trong Hiep, University of Transportation and Communication (UTC)

Abstract:--

This research focuses on the management of urban planning implementation, to propose a concrete management framework for the performance of urban plans in practice, utilizing the Logic model to develop Key Performance Indicators (KPIs), KPIs calculation - Benchmarking for the target outcomes by a suitable simulated tool (Computable Urban Economic (CUE) model), and Gap Analysis for policies' effects. To illustrate how the framework operates, the Hanoi master plan is investigated. To achieve the study' goal, five methodologies are given, including: data collection; development of KPIs by Logic model; KPIs calculation - Benchmarking by modeling; analysis and comparison; and taking experts advices. The study gives results with five issues: general framework of KPIs calculation and gap analysis; KPIs selection by the Logic model, focusing on the specific outcome "Decrease growth rate of population in city center"; Hanoi urban data needs for KPIs calculation; tool for KPIs Calculation (CUE model) with its inputs, outputs and operation flow; process of KPIs Calculation and Gap Analysis, to measure policies' effects the growth rate of population in the city center. The detailed process of KPIs Calculation and Gap Analysis shows how far the planning goal have been achieved by checking the deviation, appropriateness and completeness between the actual and expected results. For calculating the population-KPI, CUE model outputs the distribution of labors by zones of Hanoi, from that can we calculate population by zones. For gap analysis, to measure the outcome "Decrease the growth rate of population in city center", we have to measure, analyze and fill the gap between actual and target value of "Population in city center".

Key words:

Management, KPIs Calculation, Gap Analysis, Urban Planning, Hanoi.

IOT BASED PET FEEDER

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Abstract:--

Automation can be done independently by machines, but it can be enhanced with monitoring and controlling features with the help of IoT, as the world becomes increasingly interconnected, the Internet of Things (IoT) creates an extensive network of devices that regularly exchange data. While this interconnection is happening in businesses and throughout organizations on a global level, it's also happening in individual homes. Smart home devices and gadgets are becoming more popular with consumers who enjoy having all their devices interconnected to serve the purpose of increased convince, comfort, energy effeincncy and most importantly personalization which is one of the focus points on this project, with the help of automation of electronics and IoT the experience becomes much more personalized for the user. This research proposed a pet feeder system which is divided into two main sectors including measurements and control unit. System perform periodic measurements of the pet's weight and food level inside the tank. On control unit, the system can operate under smart mode where user can define the energy fact of the food inside the tank and type of the cat. The cat's weight will be, further, measured and the system can compute the right amount of the food to be dispensed to cat. The right amount of food is based on the adequate energy that selected cat shall take per day. The Smart Pet Food Dispensing Algorithm is based on the energy fact of food, type of cat, cat's weight to regulate the flow rate of the feeder. The large outlet is only used in smart mode where its flow rate was calculated as 183.11 cm^3/s while the small outlets allows a flow rate of 8.62 **cm^3**/*s*.

Keywords

IOT, PET FEEDER, Arduino UNO, Smart home.

An Analysis of Moderation effect of Discussion Forum on Learners' Satisfaction with respect to Input, Process and Product Variables in a MOOC Intervention

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Ravichandran Purushothaman, Dean of Centre of Postgraduate Studies, University College Fairview, Malaysia

Abstract:--

Massive open online courses (MOOCs) has been in high usage among the higher educational institutions in the recent times. However, there are many points of views on the importance of teacher/instructor interventions in MOOCs and how these influence learner engagements. Further, research suggests that instructors' participation in discussion forum activity and their active support of learners during the implementation of a MOOC positively influence learning outcomes. Therefore, it becomes imperative to examine the actual influence of discussion forums with respect to various moderating variables on learners' satisfaction in a MOOC. In this study, data from 84 out of a total of 5647 respondents were analysed based on a MOOC led by the University College London on 'ICT for Primary School Teachers'. Research structural model method was used to test hypotheses related to the effects of the moderating and collaborative roles of both instructor and peers related to Presage. Partial Least Squares technique was applied to analyse the casual relationships between constructs. While the results showed that the discussion forum moderates the relationship between input and process, it did not influence the relationship between product and learner's satisfaction. Thus, only two out of three hypotheses tested were supported.

Key Words:

Discussion forum; presage variable; process variable; product variable; moderating variable

Technology Enabled Learning Experience among International Baccalaureate Students through Experiential Mobile Learning App

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Ariel Schatenstein, University College Fairview, Malaysia
Valerynne Chang, University College Fairview, Malaysia

Abstract:--

In today's world of digital technologies, the number of mobile apps used from the billions of users around the world appears to be increasing. However, keeping track of all these mobile apps on their efficiency and effectiveness becomes inevitable for any educational institutions that wishes to incorporate mobile apps as an avenue for Blended teaching and learning. During the process of implementing Blended learning, it is quite often for pedagogical community to decide on the best pedagogical approaches for the delivery of their teaching content to their students. Technology-Enabled Learning is one such feature that is taken to refer to the application of some form of digital technology to teaching and/or learning in an educational context. In this research study an attempt has been made to examine the BeEd Experiential Mobile Learning App for its acceptance among the two International Baccalaureate Schools with a population of 510 students. Students from Grade 5 until Grade 9 were asked to respond to the online survey questionnaire. Findings of this research study reports on the responses based on quantitative analysis received from the 275 students who had responded the survey questionnaire. The results of the analysis showed the student's satisfactions towards the usage of the BeED Mobile App to be positive with respect to the three variables, Knowledge, Activity and Reflection.

A Machine Learning-based Decision Support System for Disaster Response: A Mobile Approach

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Abstract:--

Machine learning is considered as one of the top emerging sciences and has an extremely broad range of applications. While disaster management, in the hope of the urgent response on the affected communities, the concept of the latter is attributed. The disaster is a serious disruption in a community that causes human, material, economic and environmental losses that result from concerns on the ability of the community to cope using its own resources. Generally, the objective of this research is to develop a machine learning mobile-based system for disaster management that can respond in a timely manner and provides decision support on evacuation mapping, relief good operations, school allocation, and job assistance. The proponents considered the existing process of the various local government agencies on reaching out to the affected communities. The Agile method was employed on system development to ensure the efficiency and transparency of the actual system design. Based on system and unit testing, it was revealed that the system meets the specified requirements of the various agencies. Hence, the K-Means Clustering was utilized to produce information that enables the organization to efficiently make decisions, validate the results and improve the activities that support the risk reduction management. The study proved that the application of machine learning in Disaster Management can dramatically improve the operations and can work on data in decision making for future references.

Sensitivity Analysis of the Revised Universal Soil Loss Equation's Rainfall Erosivity Factor (R-Factor)

Samuel Law Lik Ging, Swinburne University of Technology
Kuok King Kuok, Swinburne University of Technology

Abstract:--

The Erosion and Sedimentation Control Plan (ESCP) is undoubtedly useful for mitigation of soil erosion at construction sites and agricultural areas. However, the ESCP computational factors of the Manual Saliran Mesra Alam 2nd Edition (MSMA 2) are only for application in the Peninsula, and such factors are not available for Sarawak and Sabah. This research aims to carry out the sensitivity analysis of the R-Factor of the Revised Universal Soil Loss Equation (RUSLE). In this research, a study site was identified, and the actual equatorial characteristics of the study area were used as inputs. The Sensitivity analysis were carried out within specific typical equatorial rainfall intensities of 2,000-6,000 mm/yr. Based on the findings, it is found that the degree of sensitiveness of R factor 0.34%. The findings could be used as supplementary information for Sarawak Urban Stormwater Management (SUStoM) for a development project. By knowing the sensitiveness of R-factor of the study area, the same methodology can be applied to achieve better outcomes of reduction in soil loss for a better environmental quality in Sarawak.

Keywords

Revised Universal Soil Loss Equation (RUSLE), Equatorial Characteristics, Rainfall Erosivity Factor (R), Annual Soil Loss, Sensitivity Analysis.

Comparing Experimental Design of Storm Water Detention Systems

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Abstract:--

The aim of this study is to evaluate the treatment efficiency of a series of experimental storm water detention devices receiving runoff. Prior to the detention, the runoff has been treated by filtration with different aggregates. Gully pot liquor was collected from several random locations on the university on Nottingham Malaysia campus to represent the road runoff. In order to stimulate a 'worst case scenario', the experimental system is fed by larger volumes and higher pollutant concentrations in comparison to large-scale detention systems under real (frequently longer but diluted) runoff events. Gravel, sand, block paving, woodchips and grass were investigated in terms of their effect on the water quality. Concentrations of biochemical oxygen demand (BOD) compared to suspended solids (SS) were frequently reduced to below international secondary wastewater treatment standards. The denitrification process was completed. This resulted in lower outflow than inflow nitrate-nitrogen concentrations. An analysis of variance indicated that some systems were similar in terms of most of their treatment performance variables including BOD and SS. It follows that there is no need to use additional aggregates with high adsorption capacities in the primary treatment stage from the water quality point of view.

Keywords

Storm water; detention; pollution; drainage; sustainable; vegetation.

Trend Analytics Trickle Irrigation System Using Wifi and GSM-Based Plant-Self Watering System

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Abstract:--

Technology has given a new direction for agriculture disruptions. In this paper the researchers review the potential of this integrated technologies application for the utilization of Wi-Fi and GSM-based wireless sensors network to address the availability of water for land cultivation in agriculture sector. This paper provides a mechanism for the distribution of water using the trickle irrigation. Interpolation method provides an optimal solution for water distribution by monitoring numerous factors such as temperature, humidity and soil moisture. Trend analytics employed from the data collected of soil moisture and temperature. It gives an avenue water management, fertilizer and nutrients managements for farming improvement.

Mobile device sets the threshold value for the threshold value for the moisture of the crops to control the trickle device; and a camera for plant growth monitoring and for safety and security purposes. Raspberry Pi is use to utilize to Wi-Fi and GSM-based agriculture sensors, renewable and power-saving energy and environment-friendly conservation techniques for water resource, fertilizer, and nutrients management. The development of the system came as a result of finding

means on how to provide convenient and cost-effective means to the farmers, particularly in reducing labor cost and improving crop production. The research shows that all essential elements of the system are practical and applicable which can be utilized by the institution where

it will be implemented.

Benefits of Standard Method of Measurement Implementation in the Malaysian Construction Industry

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Abstract:--

The need to implement a standard method of measurement in the construction industry reflects the productivity of the projects indirectly. However, the implementation of the standard is still not widespread among the construction stakeholders. To date, no attention has been given towards to the need to review the existing knowledge of benefits affecting the standard method of a measurement implementation. Previous relevant literature on the benefits of implementing the standard method of measurement in construction had been located from electronic databases including Google Scholar, academic journals, conference papers, textbooks, unpublished research articles, and standards. It has been found that the most reported benefits are to provide consistency, accuracy, and uniformity for the measurement principles. It also offers competitive and reliable tender price, minimizes unnecessary disputes, improves the effectiveness of construction project control and contract management, and to provide a better bill of quantities arrangement. Based on the review on the available literature sources, this paper discusses the identified benefits to examine how far these benefits may well affect the process of the standard method of measurement implementation in the Malaysian construction industry.

Keywords

Benefits, Construction Industry, Literature Review, Standard Method of Measurement.

Assessment of Heavy Metals in Water, Fish and Sediments in Dams around Mining Vicinities in Zamfara State, Nigeria

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Abstract:--

The concentrations of heavy metals in water, sediment and fish (Tillapia Monsambicus) in the three major dams in Zamfara State along gold mining vicinities were determined using standard methods for two years in 2014 and 2015 (four seasons). The concentration of heavy metals determined in water, sediment, and fish were generally high during the dry season with exception of Hg which recorded its highest concentration in year 2015. Zn and Cr levels in the water, sediment, and fish were within international safe limits while Cd (0.1022 mg/l), Pb (0.2104 mg/l) and Hg (1.8818 mg/l) levels were far above (0.01, 0.01 and 0.001mg/l) USEPA safe limits respectively for drinking water. Two major indices such as contamination factor (CF) and pollution load index (PLI) were used for determining the contamination level of water, sediment, and fish samples. The result revealed a high contamination factor for Cd, Pb and Hg across all the six locations and a general overall pollution load across all the locations. Generally, the concentration of the analyzed heavy metals in mg/l for water and sediments was in the order of Hg> Pb >Cd > Cr > Zn. Correlation analysis showed a significant and positive relationship for Cd and Zn and Hg and Cr during the wet season and a significant positive at the ($p>0.05$) relationship for Cr and Zn in the dry season. The pollution index value of the water samples across all the three dams indicated that there is need for immediate intervention to ameliorate pollution particularly in the dry season.

Key Words: -

Dams, Heavy metals, sediments, fish and gold mining.

Competitive Issues among Liners in the Shipping Industry

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Abstract:--

The challenging business environment affects every player, industry and sector. The shipping industry in terms of the liners are not spared. The need to stay competitive is top on their cards. Many liners have started to consolidate by either a horizontal or vertical integration. In 2012, the government of Malaysia implemented the Competitions Act. In 2017, exemptions were awarded to the liners to enable them to overcome the challenges in the business environment. Prior to this, a few companies were found guilty of price fixing and subsequently fined. The purpose of this paper is to analyse the issues facing the liners in the shipping industry.

Keywords:

Cost Efficiency, Effectiveness, Performance, Sustainability

Lean supply chain management practices and process innovation for Sustainable Performance and Impacts in the Thai Automotive Manufacturing Industry: An Integrated Framework

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Varattaya Jangkrajarng, Chiang Mai University

Abstract:--

Automotive manufacturing companies are now being pressured to operate sustainablyably by governments and customers. Many companies are using lean supply chain management (LSCM) practices to reduce waste over their organizational value chain, which contributes to sustainable development. Process Innovation has also been used to meet the requirements of the customer as well as the legislation of policymakers through cleaner production, environmental management systems, eco-design. While previous studies show the impact on sustainable practices, LSCM and Process Innovation individually, the integrated impact of these on sustainable results is not well established. Besides, there is little research into the moderating impact of LSCM and Process Innovation on sustainable results. This is significant because lean supply chain management practices and Process Innovation are considered to performance. The study first proposes an integrated conceptual framework for these three structures (Lean supply chain management practices, Process Innovation, and Sustainability perform). This conceptual framework is based on LSCM that consider three factors: supplier factors, operations factors, and customer factor. In this model, the following sustainability performance are is defined as dependent variables: Economic (EC), Environmental (EN), and Social (SC). Finally, this study offers practitioners a reference model to adoption of a lean supply chain management practices to sustainability performance.

Fault Classification in Transmission Lines Using k-Nearest Neighbour Approach

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Abstract:--

In the generation of pursuing to industrial revolution 4.0, there are major changes in most of the industrial sectors relating with technology and engineering to adapt the revolution. With these changes made, the utilities companies are being affected due to the increase in demand of electrical power. With the importance of electrical power, the reliability of the grid system is to be expected as ideal with minimal fault. In any case of fault occurrence, the grid system should be able to classify a fault efficiently to progress into protection coordination to minimize the effect of fault occurred. The issue is being studied and a machine learning model had been developed in respond to the issue. The model produces an accuracy of 93.9% in fault classification using k-Nearest Neighbor approach.

Remote Real–Time Monitoring System for Out-Of-Hospital Patients

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Sathish Kumar Selvaperumal, Department of Electronics and Computer Engineering, IOE, Tribhuvan University, Nepal

Abstract:--

This paper proposes an innovative methodology design for remote real time monitoring for out of hospital patients using simple and interactive design system developed using LabVIEW software and Arduino controller to acquire data from the sensor, is used to monitor the vital conditions of the body of the patients. The system proposed is designed to meet the needs of senior citizens who are mostly the number 1 target when it comes to high risk disease which can affect outpatient elderly people suffering from conditions like cardiac arrest and other related heart related diseases. The system proposed and implemented measures 5 vital parameters relating to common diseases suffered by out of hospital patients. In this system Electrocardiography (ECG), Skin Sweat Conductance Response (SCR), Skin temperature and Respiration derived from Electrocardiography (ECG).

Analysis of the system is done by performing two tests, using simulated recorded data and live volunteer subjects not entirely suffering from any particular diseases. Simulation test is done using recorded data from Medical PhysioBank for patients suffering from different kind of heart diseases such as atrial block, Tachycardia and Bradycardia conditions while the other test is performed using volunteer subjects to show the feasibility of the system and achievable results when using live subjects. The system implemented was able to detect up to 87-92% accuracy of the QRS for the ECG, with sensitivity of 76%, for the derived respiration algorithm used and 96.1% accuracy to thermometer measured skin temperature using the system. The real-time monitoring for system achieved using Web publisher provides robust accessibility to the monitored system using internet access from any location with link to the client server.

A Framework for a Secure Brain Image Classification Using Deep Learning and Residue Number System

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Abstract:--

Increasing availability of medical images generated via different imaging techniques necessitates the need for their remote analysis and diagnosis. This development has made privacy and security of patients' medical records to be extremely important. In this paper, we present a brain image classification framework using deep learning model and concept of residue number system (RNS). Special moduli set of RNS will be used to conceal 8-bit binary value of each pixel present in the training and testing image dataset before the usage of a convolutional neural network (CNN) to classify the encrypted images. As part of the classification procedure, image segmentation and data augmentation procedure will be performed in order to identify the region of interest (ROI) and to avoid overfitting respectively. Specifically, this research will attempt to explore the potencies of CNN to classify cases of dyslexia from control subjects using MRI-generated image dataset. This kind of research becomes expedient due to the educational and medical importance of dyslexia learning disability.

Keywords:

Deep learning, Medical imaging, CNN, RNS, MRI, Dyslexia.

Review of sampling hard-to-reach and hidden Populations for HIV surveillance in Nigeria

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Abstract:--

Adequate surveillance of hard-to-reach and 'hidden' subpopulations is crucial to containing the HIV epidemic in low prevalence settings and in slowing the rate of transmission in high prevalence settings. For a variety of reasons however, conventional facility and survey-based surveillance data collection strategies are ineffective for a number of key subpopulations, particularly those whose behaviors are illegal or illicit. This paper critically reviews alternative sampling strategies for undertaking Behavioral or biological surveillance surveys of such groups. Non probability sampling approaches such as facility-based sentinel surveillance and snowball sampling are the simplest to carry out, but are subject to a high risk of sampling/selection bias. Most of the probability sampling methods considered are limited in that they are adequate only under certain circumstances and for some groups. One relatively new method, respondent-driven sampling, an adaptation of chain-referral sampling, appears to be the most promising for general applications. However, as its applicability to HIV surveillance in resource-poor settings has yet to be established, further field trials are needed before a firm conclusion can be reached.

Keywords:

Hidden Populations, HIV Surveillance, Sampling Methods

Over-expression of the Multicopy Associated Filamentation gene of Caldimonas manganoxidans MS1 and determination of the function of MAF protein

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Abstract:--

Cancer is considered as the second leading cause of death worldwide and there are various treatment strategies available for cancer today, however, almost all of them are associated with different adverse health effects. Interest of studies has developed on bacterial proteins and peptides to be used as chemotherapeutic and chemopreventive agents. Multicopy Associated Filamentation (MAF) protein of Bacillus subtilis was identified as a negative regulator of cells, with an inhibitory effect on septum formation during cell division. Excessive filamentation of bacterial cells and subsequent loss of cell viability had resulted as a consequence of exposure to over-expressed MAF protein.

The proteins produced by thermophilic microorganisms are generally known to have thermostable properties and high stability under extreme conditions, hence become potential candidates for many industrial applications such as pharmaceutical and food industries. The cloning and expression of their genes in mesophilic microorganisms using recombinant DNA technology is a better alternative method for production of thermostable proteins. The objective of this research was to clone, express and determine the biological effect on cell viability of MAF protein of Caldimonas manganoxidans MS1, a native thermophilic organism previously isolated from Maha Oya hot water springs of Sri Lanka.

The genomic DNA from Caldimonas manganoxidans MS1 was extracted by a newly developed method. The complete maf gene of Caldimonas manganoxidans MS1 was PCR amplified using gene specific primers, and initially cloned into pGEM®- T plasmid vector and transformed into the cloning host, E. coli JM 109. Thereafter, the maf gene was cloned into the expression vector, pET 28 a(+) plasmid and transformed into E. coli BL 21 (DE3) pLysS expression host. Recombinant colonies were confirmed by colony PCR technique.

The over-expressed MAF protein was purified from culture by using MagneHis™ protein Purification System. SDS PAGE analysis indicated a molecular weight of around 22 kDa for the recombinant, purified MAF protein and a concentration of approximately less than 0.2 µg/µL. Nucleotide BLAST (NCBI) of the complete nucleotide sequence obtained for C. manganoxidans MS1 maf gene from E.coli BL 21 (DE3) pLysS showed 99% identity with the complete sequence of maf gene (Accession: WP_026329982.1, GI: 648638231) of C. manganoxidans ATCC BAA-369 (Accession: NZ_KB905929.1, GI: 485071406).

C. manganoxidans MS1 cells were exposed to the over-expressed, purified, recombinant MAF protein in order to determine the biological effect of MAF protein on cell viability. It was concluded that over-expressed, purified MAF protein has a potential to decrease the number of viable C. manganoxidans bacterial cells in a culture medium, however, the exact mechanism was not known.

In conclusion, maf gene from native C. manganoxidans MS1 strain was successfully cloned, expressed and protein purified in E.coli. The recombinant MAF protein of C. manganoxidans MS1 strain has a negative effect on cell viability of C. manganoxidans MS1 strain, itself.

Max Pooling Technique to Detect and Classify Medical Image for Ovarian Cancer Diagnosis

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Julius Ting Seaa Ho, Asia Pacific University of Technology & Innovation

Abstract:--
Machine Learning play a vital role in the field of Image classification. Researcher's originate image classification is one of the complex process. As well as researcher's strongly consider, the possibility of health screening using machine learning is massive and without compromising technical industries and professional healthcare bodies should compose to create an efficient healthcare screening system. Recently, reduction in the production of medicine and drugs, contribution of health screening in identifying diseases by Artificial Intelligence (AI) is essential. Considering various diseases, ovarian cancer is highly rated among women's. Ovaries are reproductive organs in females that produces ovum, and reproductive hormones. Statistics has shown that early detection allows the patient more choices of treatment and a higher chance of survival, up to 93%. However, only 20% of patients are diagnosed in the early stages. With the application of machine learning and its ability to identify patterns, early stage ovarian cancer can be detected with a better accuracy than doctors. This paper, introduces the methodology known as Enhanced Max Pooling (EMP) for detecting and classifying an ovarian cancer using advanced machine learning techniques. This methodology discusses the possibilities of using machine learning in the image classification and limitations to overcome.

Renewable Energy Harvester Using Human Walking For Health Monitoring Applications

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Abstract:--
The concept of renewable energy technology is growing rapidly and also very easy to fix it into portable gadgets. This paper is presented in the context of generating renewable energy using the piezoelectric module to harvest the kinetic energy from human walking. The microcontroller based electronic system has developed using 32 piezoelectric modules situated at the shoe sole and thereby energy will be harvested and stored whenever user walks or runs. The harvester circuit able to produce an average of 2.941 V and 0.171 mA per step by the person with a weight of 80 kg. In addition, IOT (Internet Of Things) based health monitoring system has built with the aim of utilizing the harvested power to power up the system. The microcontroller in the monitoring system able to work with the harvested power of 279mW per hour. It is observed that the battery of the system will last around 1.6 days under the no-load condition. The energy harvester enables the battery to get full charge with a walking speed of 30 steps/minute, which will take 12.26 hours. At the walking frequency of 30 steps per minute for an 80 kg weighted person, the system generates the power of 905.23 mW and hence the power efficiency of 30.8% is accomplished by the harvester system.

Improved 3D Antenna for Human Head Imaging Applications

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Abstract:--
A 3D antenna was built and simulated by the help of HFSS software. The performance of the developed proposed antenna was evaluated by testing the choice of substrate, thickness of substrate, feeding mechanism and position of feed. It was observed that the designed antenna showed much improvements in parameters such as gain, impedance matching return loss and even bandwidth improvement. The peak gain value was found to be 7.132 dB operating at a frequency of 2.5 GHz which is the suitable frequency for microwave imaging across an operation band of 1-4GHz for microwave imaging applications. The bandwidth of the antenna was found to be 300MHz (2.37-2.67 GHz) and employing a front to back ratio of over 22 dB

A Machine Learning based Software Project Schedule Management Solution

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Abstract:--

Software project schedule management has become a concern for many small and medium-sized companies. They still use traditional project management solutions and are unable to meet the needs of modern software. Some large software companies do acquire services of professional tools for managing software project progress, but small and medium-sized software companies are still using legacy management methods, resulting in frequent project delays. Artificial intelligence is the trend of current technology development which is shaping the current IT landscape. Nowadays, many industries such as the service industry and manufacturing involve artificial intelligence technologies in their business processes. This paper focuses on the application of machine learning for software project schedule management, which can greatly improve the efficiency of software development and reduce the cost involved. This research uses a linear regression model in machine learning to create a predictive model that can be used to predict the development time required by each developer. Data analysis can then provide effective advice to software project managers.

Keywords

Software Project Schedule Management, Machine Learning (ML), Artificial Intelligence, Predictive Model.

An Adoption Model for Unified Communication in Large Enterprises

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Abstract:--

Unified Communication is described as the process of integrating organisational operations and processes with multiple communication methods. It brings together various communications – voice, telephony, email, instant message, video conference etc. – used by enterprise workers. With the advancement of technology, the need to adapt change has become a necessity to stay current. It justifies the need to have a more contemporary and standard framework of unified communication for large enterprises in order to cater the needs of clients to have a single platform where consistent communication through the use of multiple devices may increase the work productivity significantly. This research intends to identify the issues that concern organizations from adopting unified communication systems and understanding the benefits and challenges that they may experience. As part of this research, a survey is conducted to analyse various aspects that have an impact in the adoption of unified communication in large enterprises. The collected data helped us to come up with a detailed analysis of the benefits and challenges in this regard. Moreover data is also gathered and analysed form enterprises who have implemented unified communication systems as part of their business process. In this research, different models and frameworks are examined to help organizations in adopting and implementing unified communication systems as a solution. At the end, specific guidelines are provided to assist in adopting unified communication solutions within an organization's existing business process.

Index Terms

Unified Communication and Collaboration (UCC), Unified Communication (UC), Enterprise Communication, Communication Methods, Instant Messaging, Unified Messaging.

Index of Site Congestion for Effective Material Storage at Construction Site

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Abstract:--

A project construction requires efficient management of materials storage. Systematic material storage ensures that the workflow of construction works according to the schedule. Limited material storage will cause congestion at a construction site. The objective of this study was to generate a congestion index of construction for the material storage based on the congestion characteristics and the size of the project site itself. The survey questionnaire and site surveys methods were used in this study. The congestion index for the survey questionnaire was tested against 12 site congestion characteristics using Relative Important Index (RII). Site surveys have been carried out on 16 strata-type residential projects by identifying the total site area for calculation of congestion index using formula Non-Building Coverage Ratio (NBCR). The results showed that the congestion with the highest index of 0.8557 was a delay or change in the production schedule of the materials. The results of the site surveys have revealed that there are three sites with high levels of congestion with a range of less than 0.5. In conclusion, knowing the site congestion index can efficiently analyse site management strategies, including the management of material storage. Also, material management can create a more organised site schedule.

An Intelligent Car Parking Management System towards Solving Traffic Congestion Problem in Developing Countries: A Comprehensive Study and Proposal for a Sustainable Solution

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Abstract:--

It has been observed that burgeoning urbanization causes tremendous traffic congestion which is a threat to the developing nations welfare in terms of its economy, growth and social-integration. Apparently, among the various reasons, an adequate car parking management can reduce traffic obstruction, unpredictable accidents, sound pollution as well as carbon emission. Various studies indicate that around 30% of the traffic congestion in the urban cities is caused by inadequate parking system. Oftentimes drivers struggle to find adequate parking space and as a result tend to park their vehicles adjacent to the main roads. Although some private institutions bound drivers to park with their personal initiatives, yet people find it complicated and look for a solution that could lead them to free in/out-bound parking venue. This paper proposes an efficient and sustainable mobile application based solution towards solving traffic congestion problem in developing countries contrary to traditional parking systems which are based on GPS, RFID or Sensors while maintaining sufficient accuracy. The proposed solution intends to eradicate the time-consuming dilemma of public and paid parking by giving access and pre-bookings to the nearest parking space on-forth, enabling unwavering smart cloud-based parking system with tangible and intangible economic benefits for the developing countries.

Index Terms

Intelligent Car Parking; Smart Parking Management System; Traffic Congestion; Sustainable Solution.

In Vitro Germination, Callus Induction and Shoot Multiplication of Important Medicinal Plant, Christia Vespertilionis (L.F.) Bakh.F

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Abstract:--

Christia vespertilionis (L. f.) Bakh. F. is an important medicinal plant belongs to Fabaceae family that plant commonly known as butterfly wing or 'rerama'. It has been used in traditional medicine and was reported to have anticancer, antiinflammation and antiplasmodium activity. In vitro culture technique potentially can enhance the propagation and bioactive compounds production from this unexploited medicinal plant. This study established the *in vitro* cultures of *C. vespertilionis* using seed explants and aseptic seedlings. Four different pre-treatments were used to induce the *in vitro* germination consist of 50% (v/v) HCl, 0.2% (w/v) KNO_3, 0.3 g/L GA_3 and distilled water as control. The highest percentage of seed germination was observed in treated seeds with 50% (v/v) HCl. Induction of callus and shoot multiplication was initiated from aseptic seedlings in MS medium supplemented with different concentration of 6-Benzylaminopurine (BAP) in combination with 1-naphthaleneacetic acid (NAA) or 2,4-dichlorophenoxyacetic acid (2,4-D). Explants of leaf, petiole and stem were produced different colour of callus consist of green, brownish green and yellowish green. The highest callus and multiple shoot production were observed in stem explant cultured on MS medium supplemented with 2.0 mg/L BAP and 1.0 mg/L 2,4-D and MS medium supplemented with 2.0mg/L BAP and 1.0 mg/L 2,4-D, respectively. Green callus was only produced in medium supplemented with NAA whereas green and brownish green callus was observed in medium supplemented with 2,4-D. Compact callus was produced in MS medium with combination of 1.0 mg/L BAP and 1.0 mg/L NAA while most friable callus were produced in MS medium supplemented with 2,4-D. This study is the first to report on the production of callus and multiple shoots from aseptic seedlings of *C. vespertilionis.*

Keywords

callus, Christia vespertilionis, seed germination, shoots multiplication

Engineering Process Management for Enhancement of In-Building RF Coverage of Mobile Networks

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Abstract:--
In this paper, the main aim is to propose an engineering process management for enhancement of in-building Radio Frequency (RF) coverage of mobile networks for customers. Mobile service providers are currently in need of efficient engineering process management that would be able to provide in-building coverage solutions in order to satisfy the customer's expectation. This can be achieved by providing an end-to-end customer management guideline which involves a method of task escalation that will be able to handle customer complaints by providing solutions to enhance the coverage at a given location. The demand for better cellular coverage and higher data rates entails the RF design planners to find possible ways to bring the signal source closer to the mobile user. Therefore, the proposed method is to implement a Distributed Antenna System (DAS) in order to enhance the reception in a building. A DAS incorporates the usage of external antennas, in-building antennas, cables, connectors, splitters, directional couplers, and coverage enhancers such as repeaters. A site survey is done initially at the affected areas to obtain pre-coverage measurements performed at the affected area. Then, a proper design plan which will include installation floor plans and link budget calculations will be done to ensure the design proposed is attainable. A performance test will then be performed to ensure that the solution provided is able to strengthen the coverage signal for the customers inside the building.

A Refined Model of Quality of Service Engineering for Cloud Computing based Applications

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Abstract:--

Recent years have witnessed the growing usage of cloud computing services in different aspects as it promises a wide change in how information is stored and used to run applications. This emerging trend has rapidly become a new computing paradigm of great interest for the software practitioner community. All cloud based applications needs to be delivered in higher level of quality than conventional applications due to the wide risk it face. As cloud based applications are highly dynamic and versatile, therefore conditions can change very quickly based on changes in user requirements. However, while searching for a standardized quality metric for cloud based applications, it has become evident that there is a dire need of a unified approach in this regard. From software quality perspective, the final quality of the cloud services is directly influenced by the quality of each service. Therefore, there is a high demand for devising a quality model for cloud application developers to measure and evaluate these services. This research critically evaluate the current quality models for cloud based applications and how these are implemented, deployed and integrated within various cloud services. Finally, by identifying gaps and current requirements, authors propose a refined quality of service engineering model for the cloud computing applications based on the existing cloud platforms.

Index Terms

Quality of Service Engineering, Cloud Computing, Machine Learning (ML), Software Quality, Quality of Service Models.

APU Online Exam Docket System

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Abstract:--
Quick Response Code, which also known as QR Code are becoming more common among youngsters especially students in tertiary education as it has been implemented on various areas for different purposes. Furthermore, the evolving of e-wallet in Malaysia has made the society more understanding about the functionality of QR Code. Thus, it would be great to implement QR Code in Asia Pacific University (APU) Exam Docket System so that it can save the time for the process of distribution and collection of exam docket. The management of the university just need to generate exam docket to the students through this proposed system and the attendance will be updated once the QR Code is being scanned at the exam hall. This paper will explain about the technical research and process flow of the proposed system. Interview and questionnaire will be conducted towards the students and staff to make sure the proposed system able to meet the requirements and needs of the users. Lastly, the researcher will discuss about the implementation details of the proposed system.

Account Receivable Mobile Application for small and middle Enterprise to reduce Bad Debt

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Chong Mien May, School of Technology and School of Computing, Asia Pacific University of Technology & Innovation.

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Abstract:--

Nowadays, people are increasingly demanding parking lots, and their security awareness is most important for parking. Smart Parking Mobile Application for Parking System has become a development trend. The development of new technologies such as information and communication has led to the increasing automation of parking lots, and unmanned services have become the norm. Smart Parking Mobile Application for Parking System has realized networked data sharing through network platforms.

In this paper, we discussed the multiple subsystems and adopts technologies of the Smart Parking Application for Parking System with help of information technology. This system is to solve the problem of car driver or owner difficulties in finding parking spaces, avoid blind parking, parking reservation services for parking slots ,improving parking efficiency, improve the utilization of the traffic road and alleviate the traffic congestion

Blood Bank Management System for Hospitals in Malaysia

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Tusen S. Chandrasegarran, School of Technology and School of Computing, Asia Pacific University of Technology & Innovation.

Abstract:--

Blood bank in Malaysia needs a systematic and integrated blood bank management system. Currently, the blood banks are either standalone or else they are limited to integrated among their group of hospitals. This paper is focused on web-based Blood Bank Management System (BBSM) which will be integrated throughout the blood banks in nationwide. This solution is aimed to serve the blood bank managements and as well as the donors. Individual blood bank has their own ways and approach of handling the blood pack stocks. This integrated system is to unite all the approach and the requirements. Integrated BBSM is to benefit both the donor and the blood banks. This system strongly follows the requirements of Health Level Seven (HL7) and World Health Organization (WHO). Donors will be able to keep track of their donation details and also their blood test report. As well as the blood bank management will be able to keep track on the inventory of donated bloods, upcoming donation campaigns and blood bank stock management.

Fractals in Digital Mammogram Analysis for the Early Detection of Breast Cancer

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Abstract:--

Breast cancer is one of the frequent and leading causes of mortality among women in the world. Women with early-stage breast cancers are expected to have greater probability of survival. Digital mammogram is emerged as a most reliable screening technique for the early diagnosis of breast cancer and the presence of masses in mammograms is an important early indication of breast cancer. Fractal geometry is an efficient mathematical approach that deals with self-similar, irregular geometric objects called fractals. As the breast background tissues have high local self-similarity, which is the basic property of fractals, fractal analysis finds its place in the effective analysis of digital mammograms. This chapter emphasizes the recent facts on breast cancer risk and projects the significance of fractal applications in the early diagnosis of breast cancer that includes suppression of pectoral muscles, removal of artifacts, detection and segmentation of masses in digital mammograms. The fractal applications in the analysis of digital mammograms are discussed using suitable illustrative research experiments.

Keywords:

Digital Mammogram; Fractals, Fractal Analysis; Breast Cancer Risk; Masses; Digital Image Processing; Medical Image Processing.

A Study on Machine Learning bound Algorithms for Tumor Detection

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Abstract:--

Cancer is being considered as the deadliest disease among all diseases across the globe. Since two decades, many academic researchers are contributing their work for automated detection of tumor from the data of screening modalities and the results of those researches are enhancing the probability of earlier detection of the disease which enable for proper timely treatment. This review article does a survey of several machine learning algorithms being involved in the earlier detection and classification of tumors and this review is expected to provide a detailed basis for the researchers who carry out their study in the development of automated diagnosis system for cancer detection.

Keywords:

Cancer, Tumor Detection, Machine Learning.

Image Processing Techniques in Automatic Diabetic Retinopathy Screening Systems

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Abstract:--

With the increased number of people suffering from diabetes, there is an urgency to automate Diabetic Retinopathy Detection. According to the International Diabetic Federation, there are over 93 millions of patients suffering from Diabetic Retinopathy world-wide. Currently, there are three types of manual screening procedures to detect Diabetic Retinopathy which include Pupil Dilation, Ophthalmoscopy and Tonometry. Several attempts to automate the screening of Diabetic Retinopathy has been made over the last two decades. An Automatic Diabetic Retinopathy Screening System (ADRSS) serves as a supporting tool for an Ophthalmologist to increase the speed and accuracy of Diabetic Retinopathy Detection. In the domain of research, several such systems have been made available which makes use of ocular images different imaging modalities. Depending upon different modalities, different image processing algorithms have been put in practice. In this juncture, this proposed aims to study and analyze all the different detection techniques available with an emphasis to techniques for respective image modalities. This proposed paper will conduct a detailed review on the different algorithms that are being implemented of the different types of images from different modalities with their diagnostic level of accuracy in Diabetic Retinopathy Screening.

Keywords:

Automatic Diabetic Retinopathy Screening System, imaging modalities, ocular images.

Remodelling 3-Pin Plug Design to Improve Product Sustainability

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Abstract:--
3-pin plugs are devices that connect electricity to devices and imply safety of humans and electrical appliances. A 3-pin plug consists of three pins (hence the name). Each pin must be correctly connected to the three wires in the electrical cable. Each wire has its own specified color so as it can be easily identified. Plastic wastage is one of the major problems now a days. Properties of plastic is the main reason why it is used so frequently, it is light weight, versatile, flexible, moisture resistant, strong and relatively inexpensive. A normal plastic product like bottles, straws which is one time use it takes about 450 years to biodegradable. The main objective of this paper is to reduce the plastic content of the plug, which is useless, because sooner or later the world must unite to fight against plastic problem. If there a way to make a plug with less plastic content than there is no need to put extra plastic. As a result, it also takes less space which also reduce the transportation cost and the overall cost of the plug will also decrease. Solid works (3d simulation software) has been used to make the 3d model of the design, the idea is to make the design on it and then go for the prototype and then do the testing. The result shows some amount of success, but the problem is the design is to complex which is difficult to make with the 3D printer and plastic.

Keywords:
biodegradable, moisture resistant, Solid works, versatile.

Identification and Evaluation of Saccades and fixations from Event Related Spectral Dynamics During Reading

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Abstract:--
Electroencephalographic data obtained from children during a reading activity was used to generate time-frequency event related spectral perturbation (ERSP) plots which were then used to identify eye saccades and fixations. In the ERSP plots it was possible to identify the onset and duration of saccades and fixations which were then used to categorize children with specific reading disorders. In normal controls, it was observed that the saccades begin at about 200 ms after the reading stimuli and lasts for about 100 ms. This is identified by a large vertical gamma spectral band in the ERSP plot ranging from about 30 Hz to 90 Hz.

Keywords:
EEG, ERSP, Saccades, Fixations,Gamma Bands

Brain Topography of Saccadic Suppression during Reading

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Abstract:--
During eye saccades, specific spectral bands of brain electroencephalographic (EEG) frequencies are found to be suppressed. This suppression have been identified using time-frequency event related spectral perturbation (ERSP) plots obtained from EEG data of children during reading. Strong suppression was observed after saccade events and in a horizontal alpha-beta spectral band which ranges from about 7 Hz to 20 Hz. Brain topographic images constructed from the EEG data was used to show that the suppression is dominant in the occipital and temporal areas of the brain. Comparison of children with reading disorders and controls are discussed in this paper.

Keywords:
EEG, ERSP, Brain Topography, Saccades, Suppression

Statistical Approach to Estimate the reasonable Price of a House by Integrating Crucial Factors using Step-wise MLR Model

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Abstract:--
Every business wants to be competitive in the market. Similar situation can observe in the housing business. This study aims to design a statistical model to estimate the price of a house by obtaining and modelling a dataset. The proposed model will be evaluated by incorporating various factors which will be proved beneficial for the housing industry in the coming future as well. If a buyer is informed with the characteristics of any home in terms of the total allocated area, making a decision for buying is still lot confusing. This process of buying certainly needs an efficient statistical approach to estimate the reasonable price of a house while integrating some of the crucial factors about it.

Keywords:
statistical model, correlation, logistic regression, Multi linearity