

Proceedings
of
**5th International Multi-Topic
Conference on Engineering and
Science (IMCES)**

29-30 June 2022

Department of Energy Technology, Aalborg
University, Esbjerg, Denmark

Proceeding Editors:

Bishwajeet Pandey, D M Akbar Hussain

Chair Message

As a chair, we have the honor to welcome you with great respect and enthusiasm to the 5th International Multi-Topic Conference on Engineering and Science (IMCES) to be held in Hybrid Mode on 29-30 June 2022 (ONLINE for participant who unable to come to Denmark). IMCES'2022 intended to attract innovative technical and scientific work in the field of science, technology and engineering. The response to the conference was overwhelming and we are proud to state that we have received really good quality contributions and we are sure as a participant you will share the same sentiment. All accepted papers will be submitted to either SCOPUS or WOS-ESCI Index Journal (see list on conference website) and hopefully these papers will be available online by end of 2022.

As a chair and on behalf of the organizing committee, we are extremely happy to host you at Denmark and we are working to provide you a memorable hospitality as you are coming from different parts of the world to share and contribute in the areas of their expertise. We hope to provide a good platform to the participants, where not only they meet and share their vision, ideas but also fertilize their thoughts in the ever-growing area of computer science and electronics engineering technologies. We are also confident that our keynote speakers will be able to enrich your knowledge during the conference.

It is the 21st conference hosted by Gyancity Research Consultancy in association with partner university across the globes, next two conference in 2022-2023 are following:

8th International Conference on Green Computing and Engineering Technologies (ICGCET[®])
22 Sep - 23 Sep 2022, Shandrani Beachcomber, Mahebourg, Mauritius
<https://icgcet.org/>

8th International Conference on Recent Trends in Computer Science and Electronics (RTCSE[®])
January 5-7, 2023, University of Hawaii, Manoa 2520 Correa Road, Hawaii, USA
<https://rtcse.org/>

Best wishes.

Prof D M Akbar Hussain, Aalborg University, Esbjerg, India

Dr Bishwajeet Pandey, Gyancity Research Consultancy, India

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IMCES'2022 Schedule

29 June 2022

Video Presentation:

Available 24x7 on YouTube Channel of Gyancity Research Lab:
<https://www.youtube.com/channel/UCHtdIuXB1evhmQb3zQ82uCA>

10:00-12:00 (Danish Time)

Satellite Session @ Gyancity Research Consultancy, India

Zoom Link: <https://zoom.us/j/95765841800?pwd=cTJ5ZjhobEhLVFZzTjI2dDJHbmY2QT09>

Meeting ID: 957 6584 1800

Passcode: 971875

Keynote Speech by **Prof Dr. Ciro Rodriguez, National University of San Marcos, Peru**
After Keynote Paper Presentation.

Paper Id: 7287, 9632

Chaired by **Dr Bishwajeet Pandey, Jain University, India**

30 June 2022

10:00-11:00 AM (Danish Time)

- **Inaugural Speech: General Chair Prof Dr. D M Akbar Hussain, Aalborg University, Denmark**

11:00-13:00 (Danish Time)

- **Session 1: Chair: Prof Dr. Ciro Rodriguez, National University of San Marcos, Peru**
Paper Id: 181, 3534, 3939, 4816

13:00-15:00 PM (Danish Time)

- **Session 2: Chair: Prof Dr. Doris Esenarro Vargas, Ricardo Palma University, Peru**
Paper Id: 5010, 5924, 2785, 7276

ICGCET'2015: 1st International Conference of Gyancity at Dubai, UAE



RTCSE'16: 2nd International Conference of Gyancity at Kuala Lumpur, Malaysia



ICGCET'2016: 3rd International Conference of Gyancity at Aalborg University, Esbjerg, Denmark

Institut i Esbjerg samler forskere fra hele verden

DEL   Af [Edmund Jacobsen](#) 15. august 2016 kl. 05:31

40 forskere og studerende fra hele verden samles på Institut for Energiteknik, Aalborg Universitet Esbjerg, i tre dage i denne uge, når der afvikles en international konference, der handler om at gøre computerteknologi mere grøn.

D.M. Akbar Hussain, lektor ved Institut for Energiteknik på Aalborg Universitet Esbjerg, har sammen med en kollega fra Indien arrangeret konferencen International Conference on Green Computing and Engineering Technologies.

Det er planen, at disse konferencer skal afvikles i Esbjerg hvert andet år – ganske enkelt fordi Institut for Energiteknik i Esbjerg er internationalt anerkendt.



RTCSE'17: 4th International Conference of Gyancity at Kuala Lumpur, Malaysia



IMCES'17: 5th International Conference of Gyancity at Kuala Lumpur, Malaysia



ICGCET'2018: 6th International Conference of Gyancity at Limerick, Ireland



RTCSE'2018: 7th International Conference of Gyancity at Bangkok, Thailand



ICGCET'18: 8th International Conference of Gyancity at Aalborg University, Esbjerg, Denmark



RTCSE'2019: 9th International Conference of Gyancity at Univeristy of Hawaii, USA



IMCES'2019:10th International Conference of Gyancity at Port Louis, Mauritius



ICGCET'2019: 11th International Conference of Gyancity at Casablanca, Morocco



RTCSE'2020: 12th International Conference of Gyancity at University of Hawaii, USA



IMCES'2020: 13th International Conference by Gyancity at Jakarta, Indonesia

ICGCET'2020: 14th Conference by Gyancity at St Petersburg, Russia



Jammu, September 18: Dr. Amit Kant Pandit, Faculty, SoECE, SMVDU chaired an online session in 6th International Conference on Green Computing and Engineering Technologies (ICGCET®).

The international conference is scheduled from 16th-18th September 2020 at Herzen State Pedagogical University, St Petersburg, Russia. The traditional face-to-face meeting was replaced by the online meeting due to a pandemic situation. The first online session was conducted through CISCO WebEx app.

Dr. Pandit along with co-chair Dr. Bishwajeet Pandey, Birla Institute of Applied Sciences, Bhimtal Uttarakhand, and associated with Gyancity Research consultancy conducted the first session and an introductory talk.

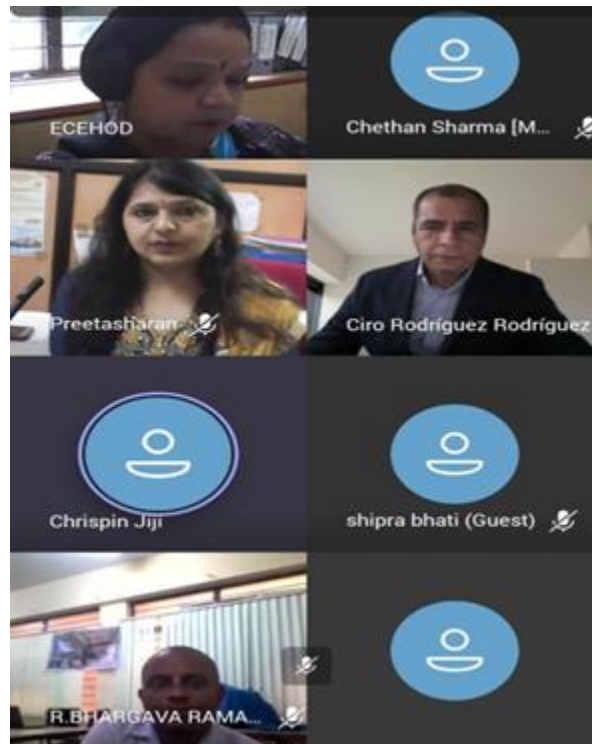
The attendees across the world presented their work through an online meeting and recorded video presentations. The presentation and other videos are uploaded for public viewing on YouTube channel for wider academic sharing.

The convener of the conference Prof. Jason Levy, University of Hawaii, USA. Prof. Geetam S Tomar, Director Birla Institute of Applied Sciences, Bhimtal, India, congratulated on the successful organizing of the session.

Dr. Amit Kant Pandit thanked coordinators for arranging such academic meetings in difficult times.

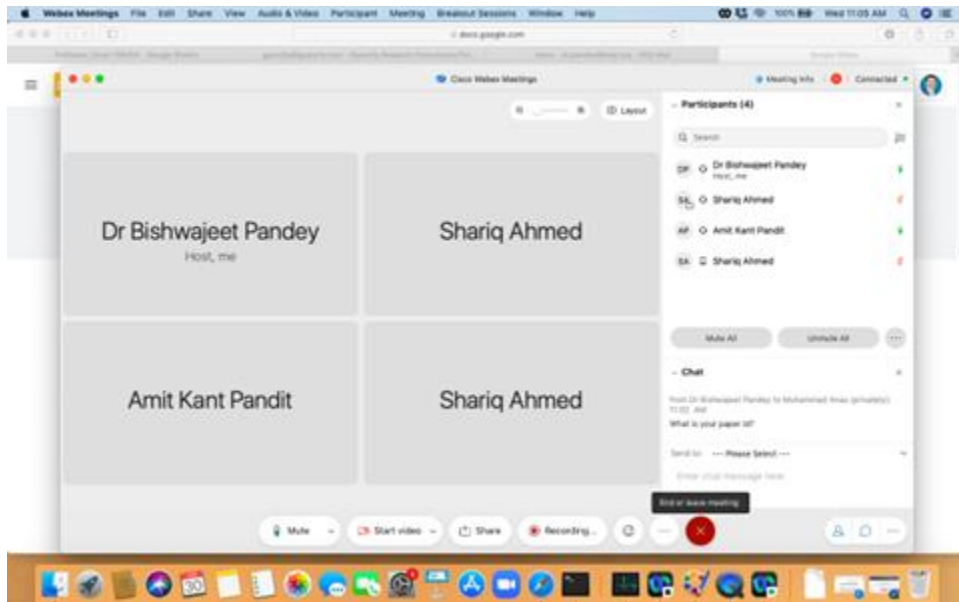
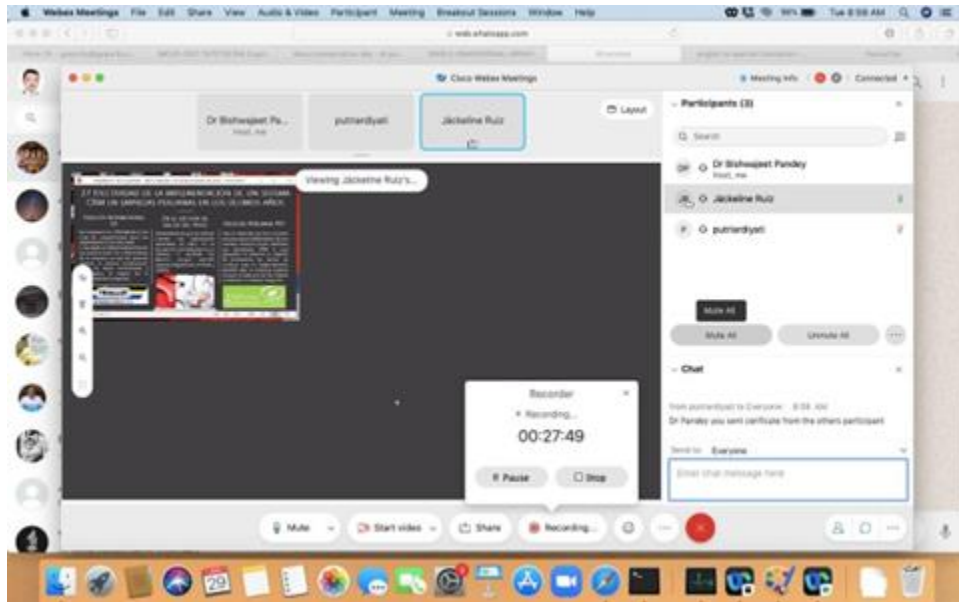


RTCSE'2021: 15th International Conference of Gyancity at University of Hawaii, USA



BMESS'2021: 16th Virtual Conference by Gyancity

IMCES'2021: 17th International Conference by Gyancity at Yarsi University, Indonesia



ICGCET'2021: 18th International Conference by Gyancity at National University of Federico Villareal, Lima, Peru

Evento se dará el 22 y 23 de septiembre. Foto: difusión



16 Set 2021 | 12:40 h

Actualizado el 16 de Setiembre 2021 | 12:40 h

Este 22 y 23 de septiembre se realizará la 7ª Conferencia Internacional sobre Tecnologías de Ingeniería y Computación Ecológicas 2021 (ICGCET-2021) y la 13ª Conferencia Internacional en Inteligencia Computacional y Redes de Comunicación 2021 (CICN 2021), eventos que tendrán como sede a la Universidad Villareal (UNFV).

Juan Alfaro, rector de la UNFV, será el encargado de inaugurar los referidos certámenes, el miércoles 22 a las 10.00 a. m. Previamente, Akbar Hussain, de la Universidad Aalborg de Dinamarca, será el encargado de brindar las palabras de bienvenida.

La ICGCET-2021 presentará las investigaciones de diferentes áreas de la ciencia y la tecnología, y proporcionará una plataforma para que investigadores y científicos de todo el mundo intercambien y compartan sus experiencias y resultados de investigación.

La República

ÚLTIMAS NOTICIAS POLÍTICA ECONOMÍA SOCIEDAD MUNDO DEPORTES ESPECTÁCULOS REI

● EN VIVO - Emmy 2021: sigue aquí la premiación a lo mejor de la TV y el streaming

NOTAS DE PRENSA

Conferencias internacionales se desarrollarán en Universidad Villarreal

Cada evento contará con la participación de destacados expertos de la investigación.

7th International Conference on Green Computing and Engineering Technologies
(ICGCET®)
22 - 23 September 2021
Universidad Nacional Federico Villarreal (National University of Federico Villarreal), Lima, Peru

ICGCET'2021: 18th International Conference by Gyancity at National University of Federico Villareal, Lima, Peru



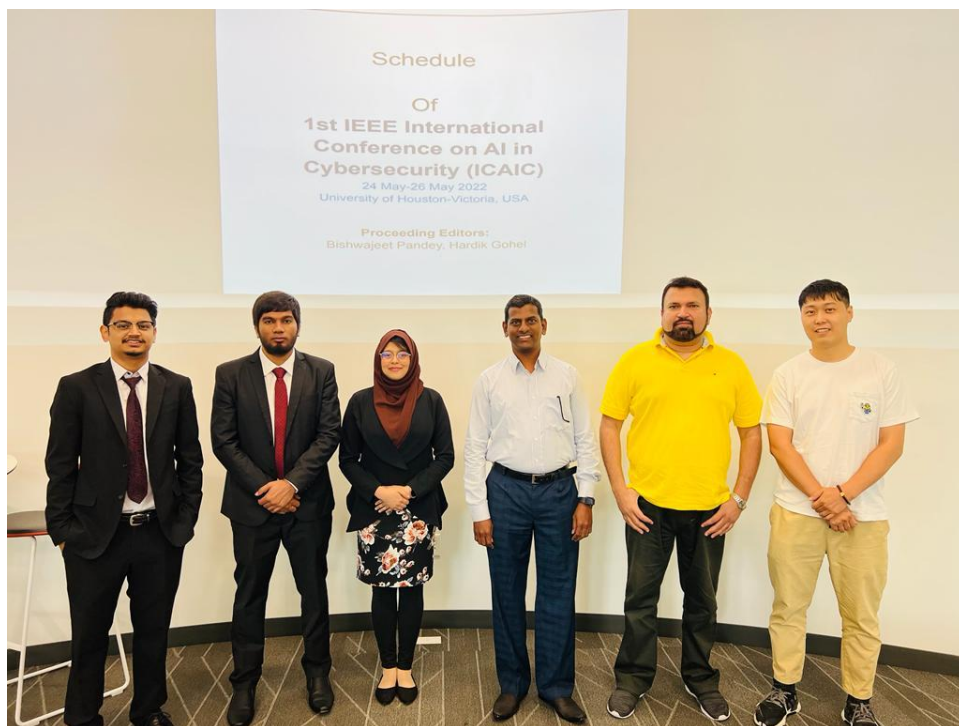
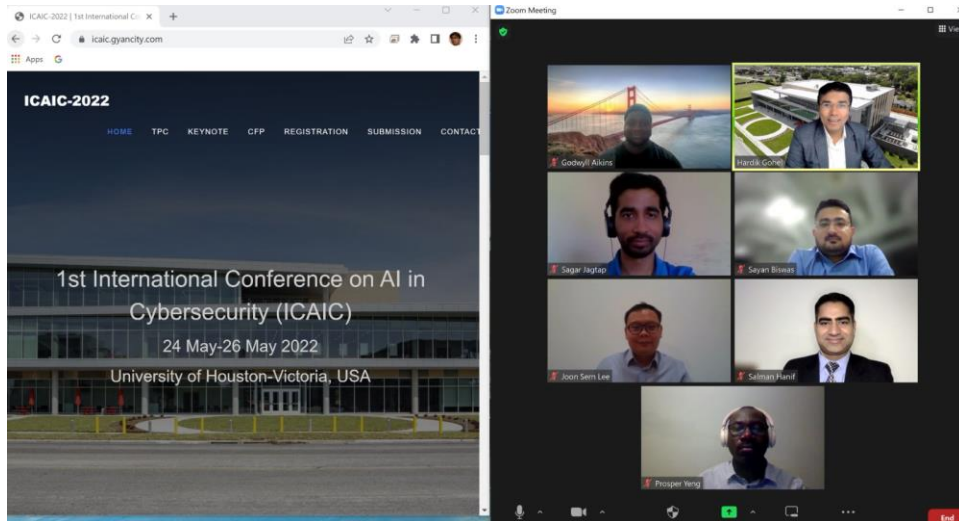
RTCSE'2022: 19th International Conference of Gyancity at University of Hawaii USA



BMESS'2022: 20th International Conference by Gyancity at Bath Spa University UAE



ICAIC'2022: 21st International Conference by Gyancity at University of Houston-Victoria, USA



Abstract of Paper Accepted in IMCES'2022

0181

Polycrystalline photovoltaic panels in Saudi Arabia: Development and challenges

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ABSTRACT

Throughout the years, oil has always been the primary energy source that was most commonly used worldwide. However, with the skyrocketing cost of oil the world is facing nowadays, including the high rate of carbon emission and pollution, which is increasing day by day, Saudi Arabia and other developed countries started to aim for using renewable and sustainable energy and its sustainability by harvesting the solar energy for their nations. Solar energy is considered one of the essential energy sources on earth; there can never be life without solar energy. It is known that the solar radiation amount which reaches the earth is commensurate to how much life needs on earth, which we utilize a small portion of it. Unlike any other energy, solar energy can be viable, sustainable, cheaper, and environmentally friendly. The fact that Saudi Arabia lies within the sunbelt near the equator encouraged it to acquire photovoltaic technology. The fundamental objectives of the paper are to establish an understanding of the polycrystalline photovoltaic panels from multiple aspects, their development for the last two decades, and the challenges in the hope of providing support to other researchers future work. In addition, this work includes a significant number of references for further interpretation.

Keywords: Polysilicon, photovoltaic technology, silicon production, solar panels installation, solar challenges

Abstract of Paper Accepted in IMCES'2022

2785	<p data-bbox="423 344 1386 447" style="text-align: center;">Informative sentence Abrogative Between the necessity of the rank and its retraction</p> <p data-bbox="469 512 1341 617" style="text-align: center;"><i>Abdul Hai Mohamed Abdul Hai Mahmoud</i> Assoc. Prof., Prince Sattam Bin Abdulaziz University, Saudi Arabia a.mahmod@psau.edu.sa</p> <p data-bbox="818 623 992 651" style="text-align: center;">ABSTRACT</p> <p data-bbox="391 659 1422 1457">Informative sentence Abrogative has many provisions, the most important of which are the provisions of the rank of this predicates in the Arabic sentence. The original is in the rank of Informative sentence Abrogative, such as subject predicates, but sometimes it requires this rank, and sometimes it can be mediated between Abrogative verb and its noun, or between Abrogative verb and an instrument ahead of it. And sometimes it must be presented to the abrogative verb itself, and sometimes it is permissible. The grammatical rank, and its necessity, or sometimes retracting it according to linguistic controls, grammatical rulings, and contextual and rhetorical reasons are among the precise issues that have a great impact on contexts, methods, and meanings. Because it is a description of the subject in the meaning, and it is judged by it, and the description and the judgment are later than the described and the judged and it may be deviated from that and predicates the predicates for minutes required by the meaning, or required by the context. This is evident in the Informative sentence Abrogative—particularly kāna and her sisters ; Therefore, I singled out this topic as an applied grammatical study in the Noble Qur'an, the most eloquent and eloquent speech. This research looked forward to investigating the evidence of this grammatical issue in the Noble Qur'an, with its study and analysis and highlighting the secrets of the language in it, and to collecting the elements of this subject and its issues scattered in the bellies of the books of grammar, language and parsing of the Noble Qur'an, then arranging and classifying them, and dealing with them by research and study according to the descriptive-analytical approach.</p> <p data-bbox="391 1488 1073 1522">Keywords: predicates - Abrogative - Inceptive - rank.</p>
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Abstract of Paper Accepted in IMCES'2022

3534

Using RFID Technology in The Retail Industry to Manage Inventory

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ABSTRACT

Current generation of technology seeks the path of perfection and implementing devices on almost everything to make a better outcome. Following that trend in security and management in retail businesses comes the RFID technology, it works by implementing RFID tags and RFID readers in the outlets to prevent various problems that occur in the industry. The main objective of this research is to study the RFID technology and its advantages and disadvantages, also to formulate which technology leads to a better inventory management system, and to study how shoplifting can ruin a business and how RFID can improve the security system. This study will help most people who interact with the store and improve their experience, except for those who try to commit a crime and try to shoplift. The research conclude that the system implementation and development process is rather simple and easy to install and it has a huge benefit for the industry compared to other current systems.

Keywords: RFID, Inventory and Warehouse Management, Shoplifting, Technology in Industry, Malaysia.

Abstract of Paper Accepted in IMCES'2022

3939

Improving Malaysian Online Shopping Platforms to Keep Pace with Global Development

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ABSTRACT

E-commerce websites are rising dramatically in Malaysia. The growth of e-commerce companies has seen an increase in the number of online companies worldwide. Consumers are now opting for online business commerce, which is very convenient compared to conventional transactions. Deniably, e-commerce businesses deliver more advantages than conventional "bricks-and-mortar" businesses, but the difficulties and obstacles faced by e-commerce companies should not be missed. This research highlighted e-commerce problems and challenges and a collection of suggested solutions to those problems and challenges. Trust, readiness and protection are among the issues. Proposed solutions are proposed for each of the problems and challenges.

Keywords: E-commerce, Online Shopping, electronic Business, problems and solutions, Business Improvement, Malaysia.

Abstract of Paper Accepted in IMCES'2022

4816

The Role of The Malaysian Government in Teaching and Learning the Arabic Language

Ashraf Hassan Mohamed Hassan¹, Muhammad Lukman Bin Mat Sin², Amir Adel Mabrouk Eldeib³, Azwira Bin Abdul Aziz⁴, Mohamed Abdelmonem Elsayed Khalil⁵

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ABSTRACT

This paper deals with the efforts of the Malaysian government in teaching and learning the Arabic language, and the importance of the article appears by mentioning the experience of the Malaysian government in caring for the Arabic language. The article aims to provide an explanation of the Malaysian government's efforts in teaching and learning the Arabic language in Malaysian primary schools and to show the efforts of the Malaysian government in teaching and learning the Arabic language in Malaysian universities. And an explanation of the Malaysian government's efforts to pay attention to the Arabic language in the Malaysian media. The researchers used the inductive analytical approach to collect and analyse data to achieve the goals, and one of the most important results of the Malaysian government's success in teaching and learning the Arabic language at the level of basic pre-university education as well as at the level of university education, while the shortcomings appeared in the media. And calling on the media to play a better role in teaching and learning the Arabic language, as it is the language of religion and worship for the majority of the Malaysian people.

Keywords: Malaysian Government, Education and Learning, Arabic Language, Mass Media

Abstract of Paper Accepted in IMCES'2022

5010	<p style="text-align: center;">A Proposed Intelligent Model For predicting Student Performance Using Sentiment Analysis Techniques</p> <p style="text-align: center;">Mohamed Hegazy Mohamed Business Information Systems (BIS) Department, Helwan University, Cairo, Egypt Mhegazy90@hotmail.com Mohamed.Hegzay21@commerce.helwan.edu.eg m_hegazy_el-sayed@cic-cairo.com</p> <p style="text-align: center;">SAYED ABDELGABER, Laila Abd-Ellatif Information Systems (IS) Department, Helwan University, Cairo, Egypt sgaber14@gmail.com, Drlaila_mohamed@yahoo.com</p> <p style="text-align: center;">ABSTRACT</p> <p>Understudies are a magnificent item concerning ringing in pay for the scholarly establishment. Consequently, this one is critical to guarantee the feelings and commitments of understudies are dealt with really to guarantee an unending expansion in schooling alongside an opportunity for improvement. Of late, Opinion Mining (OM) has acquired undeniable quality among specialists in different areas, including the planning space. Particularly in the field of direction, managing and treatment of understudy presumptions are a jumbling try as a result of the kind of phonetics utilized by students and the tremendous amount of data, and the motivation behind Attitude Mining is coming, however, challenges remain. The proposed SASCM tends to the Sentiment Analysis Student Comment Model recommendation inquisitively the capacity to mine Student remarks from understudies sans overview message remarks. In like manner, it can help the managers with empowering cultivating the general Opinion Mining process and play out the further evaluation for refreshing higher edifying establishments to chip away at understanding for themselves and stay away from their ominous implications for process learning. The proposed model includes three modules; the Data preprocessing module, and the Opinion Mining module. The principal objective of our article is to upgrade schooling systems through the investigation of understudy remarks, educator remarks, and course remarks. The proposed SASCM model purposes the language-based strategy for figuring out how to wipe out as far as possible from each remark in the dataset. Moreover, it utilizes a packaging undertaking to make lots of packs for Students through its remarks. The exploratory review is familiar with looking over the arranged example and the results uncovered the sort's ability to analyze understudies' remarks. The datasets were 10000 cases from the College of Management and Technology (CMT) 80% for preparation and 20% for testing The outcomes showed that the K-Means Algorithm is the best exactness time/Sec was 0.03 and the accurately grouped 8000 occurrences equivalent to 96% and erroneously characterized 2000 examples equivalent 4%, Precision 95%, Recall equivalent 94.8% and F-Measure 93.7% between others Algorithms in bunching stage and the Chi-Square assessment is preferred Association Rule Mining over the extra comparable 0.04 time/Sec and tests Cluster Quality was 1.0 for certainty test.</p> <p>Keywords - Opinion Mining; Natural Language Processing; Deep Learning; Machine Learning; students' comments</p>
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Abstract of Paper Accepted in IMCES'2022

5924

A Review of Hazard Management in Petroleum/Chemical facilities– Fires and Explosions

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¹Process Systems Engineering Centre (PROSPECT), Research Institute for Sustainable Environment, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia.

²Assisstan professor, School of Engineering and Technology, Chemical Engineering Department, American University of Middle East, 250 St., Block 6, Building 1, Egaila, Kuwait

ABSTRACT

The purpose of this article is to provide an overview of the hazards and risks associated with the Petroleum/Chemical sector to students, scholars, governments, and non-governmental organizations. The evaluation concentrated on fire and explosion as the most evident risks that frequently occur in these facilities. It is critical to any country's economic prosperity. A discussion of the different casual features of such threats at various Petroleum/Chemical sites is offered. The most typical cause factors are combustible materials, static electricity, and lightning strikes, among others. The impact of risk mitigation and management studies based on various approaches and techniques, such as qualitative, quantitative, and dynamic changes in risk assessment, is clearly highlighted. According to most research publications, tank farms are the most dangerous region in the plant for sparking fires. The secondary effects of fire and explosions, such as the domino effect and air pollution, are investigated. To summarize, all efforts must be coordinated in order to successfully manage risks and crises in Petroleum/Chemical facilities and prevent their recurrence in the future.

Keywords: facilities; Fire and Explosion; analysis and assessment; tank farm

Abstract of Paper Accepted in IMCES'2022

7276

The Structurally Declarative But Meaningfully Request Sentences: A Grammatical applied Study In Sahih Al –Bokhari

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ABSTRACT

The research aims to clarify the linguistic forms of the structurally declarative but meaningfully request sentences contained in Sahih Al-Bokhari, and to provide a grammatical analysis of them, with a new tabulation based on dealing with them in one place after they were scattered in most of the books of grammarians and rhetoricians, and the approach followed in the research is the descriptive-analytical approach. Among the most important findings of the research: the diversity of the forms of the structurally nominal but meaningfully request sentence contained in Sahih Al-Bokhari, between: a structurally nominal sentence that carries the meaning of the command, and a second that carries the meaning of supplication, and a third that bears the meaning of oath, as well as the multiplicity of the forms of structurally verbal but meaningfully request sentence contained in Sahih Al-Bokhari between: a structurally verbal sentence that carries the meaning of command, a second that carries the meaning of prohibition, and a third that carries the meaning of supplication, a fourth bears the meaning of wishing, and a fifth bears the meaning of Esperance, and a sixth bears the meaning of oath, and the coming of the structurally verbal sentence issued by a past tense verb bearing the meaning of supplication, separating between the vocative noun and the answer to the vocation....etc. The research suggests encouraging researchers to conduct more research and studies in the structurally declarative but meaningfully request sentences contained in the different prose texts.

Keywords- The Declarative sentences, Meaningfully request, applied, Sahih al-Bokhari.

Abstract of Paper Accepted in IMCES'2022

7287

Augmented Reality in Smart Manufacturing: A User Experience Evaluation

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ABSTRACT

In recent years, technological advancements including computational capabilities have rapidly increased. This advancement has led to the feasibility of developing advanced technological applications through the integration of Augmented Reality. This article presents an optimal model and application utilising Augmented Reality, Simultaneous Location, and Mapping algorithm for device identification within a smart manufacturing environment. The devices are identified based on their positions by detecting their features utilising the ORB-SLAM algorithm. The device identification is based on the use of markerless identifiers for the purpose of reducing the manual process of pasting markers on every device within the manufacturing plant. This model offers an alternative solution, with the properties of detecting devices based on their position and features. Thus, validation of this approach involved a control group to provide a broad-base evaluation. The results are positive, with the majority of the individuals recommending the adoption of the application and its utilisation within a wider-scale deployment. Specifically, the findings demonstrate that 70% of the users approve of the use of the application in an industrial setup, 65% are satisfied with the accuracy and reliability of the app and 80% recommend the adoption and utilisation of this app in an industrial setup.

Keywords: User Experience, Augmented Reality, Smart Manufacturing, SCADA, Markerless Identification, Computer Vision

Abstract of Paper Accepted in IMCES'2022

9632

A data-driven approach to understanding the impact of Covid-19 on dietary habits amongst Bangladeshi Students

Jaynab Sultana, Sheikh Elhum Uddin Quadery, Fahad Rahman Amik, Tushar Basak, Sifat Momen

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ABSTRACT

The advent of COVID-19 has brought upon behavioral changes in food habits and overall nutritional lifestyles. It is necessary for nutritionists to analyze how the crisis affected human behavior, particularly general well-being. The purpose of this research is to see how quarantine affected food habits amongst Bangladeshi youngsters. A cross-sectional survey consisting of a three-part questionnaire (personal details, pre-COVID habits, and during COVID habits) was done on 230 students. Exploratory data analysis was done to summarize the resulting dataset. Afterward, K-means clustering was used to find the natural groupings that exist in this dataset. Later on, elbow and silhouette methods were applied to determine the number of optimal clusters so that machine learning classifiers could be run on them. Finally, SHAP was implemented to identify the features' importance. After clustering the data, the silhouette method identified 5 as the optimal cluster number to try the models out on. Out of all the models utilized, Extra Tree Classifier worked the best since it scored the highest in all the evaluation criteria. SHAP revealed that the habit of not eating carrots had the most significant impact in predicting the membership of a cluster class. These findings demonstrated that although there was indeed a negative edge to the crisis, there were slits of positive outcomes among nutritional behaviors which could be leveraged for a healthier societal change. Some of the values are within the consensus (reducing intake of fruit juice) while others are novel (smoking patterns being unchanged). These ideas will help in creating a broader idea as to how nutrition can take a nosedive and can be managed using data.

Keywords: COVID-19, eating habits; physical activity, quarantine, machine learning.

Next Conference

8th International Conference on Green
Computing and Engineering
Technologies(ICGCET®)

<https://icgcet.org>

22 - 23 September 2022

Shandrani Beachcomber, Mahebourg, Mauritius

8th International Conference on Recent
Trends in Computer Science and
Electronics (RTCSE)

<https://rtcse.org/>

January 5-7, 2023

**Room 105, University of Hawaii, Manoa 2520 Correa
Road, IT Center Honolulu, HI 96822**