

Proceedings  
of  
**2nd International Conference  
On Business, Management,  
Environmental, and Social  
Science 2022 (BMESS-2022)**

30-31 March 2022

Bath Spa University, Academic Center Ras Al-Khaimah-  
UAE

**Proceeding Editors:**

Bishwajeet Pandey, M N Brohi, D M Akbar Hussain,  
B S Chowdhry

## About BMESS'2022

2<sup>nd</sup> International Conference On Business, Management, Environmental and Social Science 2022(BMESS-2022) to be held in Hybrid mode on 30 March-31 March 2022 (ONLINE for those participants, who don't reach UAE, offline for those participants, who shall reach UAE). BMESS'2022 intended to attract innovative technical and scientific work in the field of computer science and electronics 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 either online or offline participant you will share the same sentiment. All accepted papers will be submitted to WOS-ESCI/Scopus (see list on conference website) and hopefully these papers will be available online by middle of 2022.

As a chair and on behalf of the organizing committee, we are extremely happy to host you in UAE. And as a participant, you shall be able to visit UAE from different parts of the world to share and you will contribute in the areas of your expertise. We hope to provide a good hybrid platform to the participants of BMESS'2022 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 and we wish you a very safe stay at your home country if you are not coming to UAE and happy Journey if you are coming to UAE.

It is the 20<sup>th</sup> conference hosted by Gyancity Research Lab, there are two more in 2022:

5<sup>th</sup> International Multi-Topic Conference on Engineering and Science (IMCES)

29-30 June 2022

Aalborg University, Esbjerg, Denmark

<https://imces.tech/>

8<sup>th</sup> International Conference on Green Computing and Engineering Technologies (ICGCET®)

**22 Sep - 23 Sep 2022**

Shandrani Beachcomber, Mahebourg, Mauritius

<https://icgcet.org/>

Best wishes.

**Prof M N Brohi**, Bath Spa University, Academic Centre Rak Al Khaimah, UAE

**Dr Bishwajeet Pandey**, Jain University, Bangalore, India

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## BMESS'2022 Schedule

### 30 March 2022

#### **Video Presentation:**

Available 24x7 on YouTube Channel of Gyancity Research Lab:

<https://www.youtube.com/channel/UCHtdIuXB1evhmQb3zQ82uCA>

Paper Id: 283, 1740, 2237, 4017, 4416, 4854, 5819, 6130, 6359, 7631, 7768, 8215, 8908

#### **Inaugural Session**

**10:00AM-10:15AM (UAE Time)**

**Welcome Speech: General Chair Prof M N Brohi, Bath Spa University, Academic Centre Ras Al Khaimah, UAE**

**10:15AM-10:30AM (UAE Time)**

**Inaugural Speech: Dr Steve Reissing, Chief Academic Zone Officer, Ras Al Khaimah Economic Zone**

**10:30AM-10:11.00 AM (UAE Time)**

**First Keynote: Prof B S Chowdhry, Mehran University of Engineering and Technology, Pakistan**

**Physical Session @ Bath Spa University, Academic Center Ras Al-Khaimah-UAE**

**11:00-13:00 PM (UAE Time)**

**Session Chair: Prof P Sivaram, Jain University, Bangalore, India**

Paper Id: 3084, 3194, 4825, 4844, 7042, 9090, 9874

**13.00-13:30 (UAE Time)**

**Second Keynote by Prof C R Manjunath, Jain University, Bangalore, India**

**13.30-14.30: LUNCH**

**14:30-16:00 (UAE Time)**

**GOOGLE MEET Sessions @ Bath Spa University, Academic Center RAK-UAE**

Link: <https://meet.google.com/srg-jyvx-nwb>

Paper Id: 1394, 1878, 4497, 5198, 5732, 9967,

Chaired by **Prof M N Brohi, Bath Spa University, Academic Centre Ras Al Khaimah, UAE**

**31 March 2022**

**UNIVERSITY LAB, INCUBATION CENTER, VISIT**

**OFFLINE SESSION 11:00-13:00 (UAE Time)****SESSION CHAIR: Prof Sivaram P, Jain University, Bangalore, India**

<b>S.No.</b>	<b>Paper Title</b>	<b>Authors Name</b>
<b>3084</b>	<b>THE COVID-19 PANDEMIC: AS AN ENABLER OF FILIPINO ENTREPRENEURS IN THE UAE</b>	<b>Edgar Bacason, Noor Un Nisa and Salem Husain Fadaaq</b>
<b>3194</b>	<b>Implementation and Power Quality Analysis of Half Bridge Modular multi-level inverter using nearest level modulation technique up to 22 Levels</b>	<b>Jahangeer Badar Soomro, Faheem Akhtar Chachar, Farah Shah, Jamshed Ansari and Sadaqat Rajput</b>
<b>4825</b>	<b>Evaluation of the use of adhesive tape in laser welded ultra-high-strength steel lap joints</b>	<b>Mikko Hietala, Markku Keskitalo and Antti Järvenpää</b>
<b>4844</b>	<b>Surface Roughness Improvement of PBF-LB Manufactured 316L with Dry Electropolishing</b>	<b>Timo Rautio, Matias Jaskari and Antti Järvenpää</b>
<b>7042</b>	<b>Fostering the Concept of Creativity in Business: An Employees' Perspective</b>	<b>Noor Un Nisa, Nathaniel Bonador, Jamshed Adil Halepota and Iftikhar Alam Khan</b>
<b>9090</b>	<b>Gratitude, Self-Regulation, and Academic Motivation during COVID-19 in University Students: Differential Associations for Earning and Non-Earning Students</b>	<b>Shameem Fatima, Sehar Waheed, Sana Daud and Sadia Aslam</b>
<b>9874</b>	<b>Knowledge Management and Green Technology Adoption in Transportation Industry: An Approach towards the Environmental Sustainability in Malaysia</b>	<b>Maryam Kalhor, Hui Nee Au Yong, Charles Ramendran SPR, Noor-Un Nisa Shahani, Abdelhak Senadjki</b>

**ONLINE SESSION 14:30-16:00 (UAE Time)**Link: <https://meet.google.com/srg-jyvx-nwb>**SESSION CHAIR: Prof M N Brohi, Bath Spa University, Academic Centre, RAK, UAE**

<b>S.No.</b>	<b>Paper Title</b>	<b>Authors Name</b>
1394	Person Identity Recognition System Using CNN with SSD and OCR Techniques	Jawaria Sallar, Maryum Ikram, Sallar Khan, Madiha Tanveer, Wardah Ahmed and Muhammad Shoaib
1878	The Impact of Emotional Intelligence Dimension in Human Resources Development and Training	Mehreen Umer, Sallar Khan, Waleej Haider, Asad Abbasi, Qurat-Ul-Ain Khalid and Javeria Nadeem
4497	RISK MANAGEMENT IN AGRICULTURE	Natalya Gritsenko
5198	Propuesta e Implementación de un Modelo para el Rediseño Organizacional y su Influencia en la Transformación Digital en el Sector Público	Jorge Lira Camargo, Luis Gerónimo Lira Camargo and Zoila Rosa Lira Camargo
5732	Safeguarding vernacular and green architecture as a tourist, cultural and heritage resource. The case of the heritage transportation route of the 16 churches of the Chilota School of Religious Architecture in Chiloé.	Stefania Pareti, Ignacio Tampe, Claudia Bustamente and David Flores
9967	Image Learning and Correction as a Means of Evaluating and Fault-Finding Computer Tomography Scanner Image Artefacts	Joe-Herve Benganga and Ben Kotze

## ICGCET'15 Group Photo: 1st Conference at Dubai





## RTCSE'16 Group Photo: 2<sup>nd</sup> Conference at Malaysia





## ICGCET'2016 Group Photo:3<sup>rd</sup> Conference at 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 Group Photo: 4<sup>th</sup> Conference at Malaysia



## IMCES'17 Group Photo: 5<sup>th</sup> Conference at Malaysia





## ICGCET'2017 Group Photo: 6<sup>th</sup> Conference at Ireland



# RTCSE'18 Group Photo: 7<sup>th</sup> Conference at Thailand





## ICGCET'18 Group Photo: 8th Conference at Denmark



# RTCSE'19 Group Photo: 9<sup>th</sup> Conference at Hawaii, USA





## IMCES'2019 Group Photo:10<sup>th</sup> Conference at Mauritius



## ICGCET'2019 Group Photo: 11th Conference at Morocco





## RTCSE'20 Group Photo: 12<sup>th</sup> Conference at Hawaii, USA



## IMCES'2020 13<sup>th</sup> Conference at Indonesia: No Photo Due to Covid-19 Lockdown

## ICGCET'2020 14<sup>th</sup> Conference at St Petersburg, Russia: No Photo Due to Covid-19 Lockdown



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®).

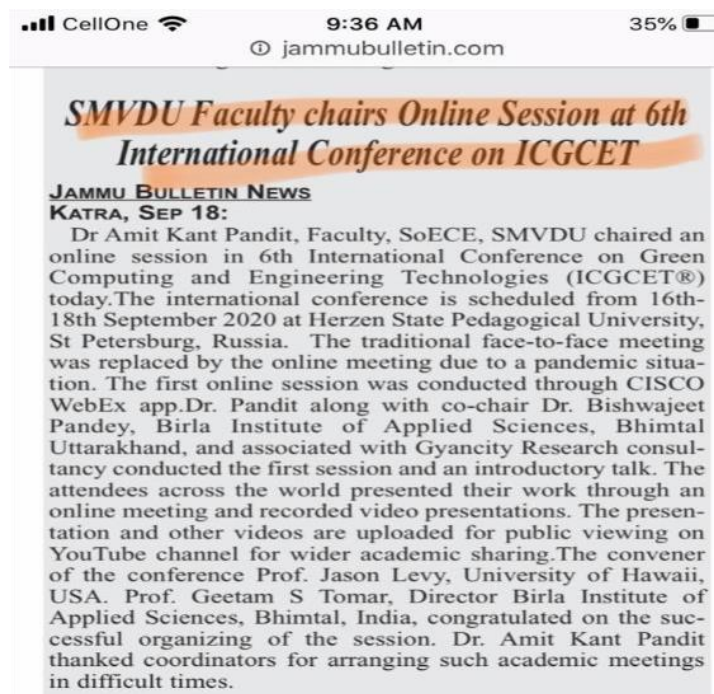
The international conference is scheduled from 16th-18th September 2020 at Herzen State Pedagogical University, St Petersburg, Russia. The traditional face-to-face meeting was replaced by the online meeting due to a pandemic situation. The first online session was conducted through CISCO WebEx app.

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.

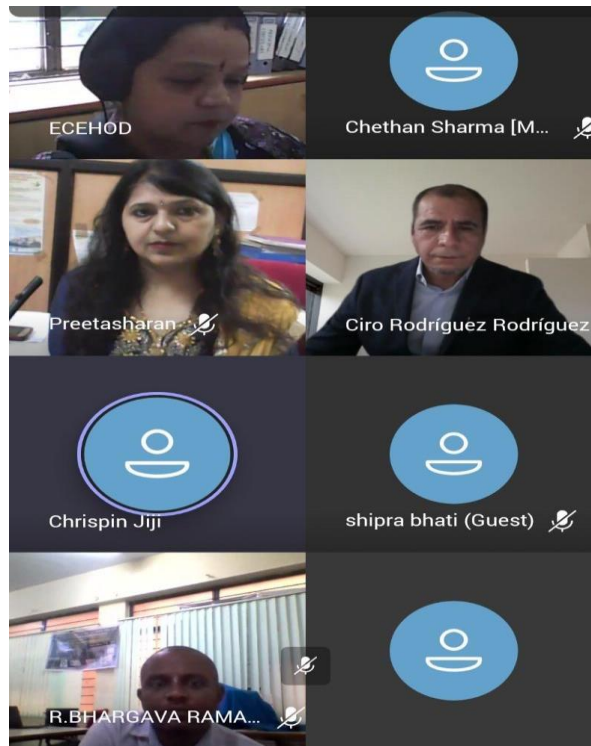
Dr. Amit Kant Pandit thanked coordinators for arranging such academic meetings in difficult times.





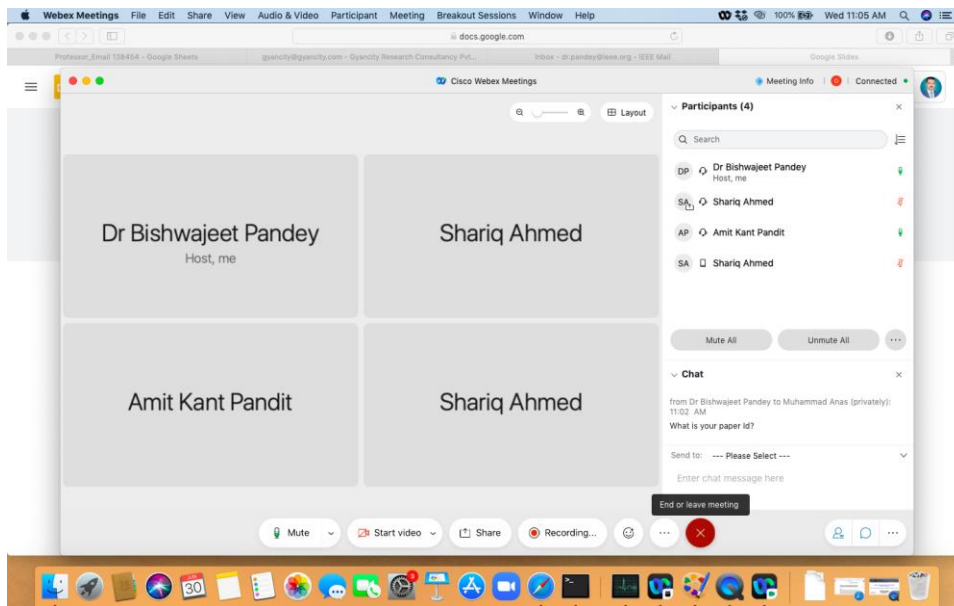
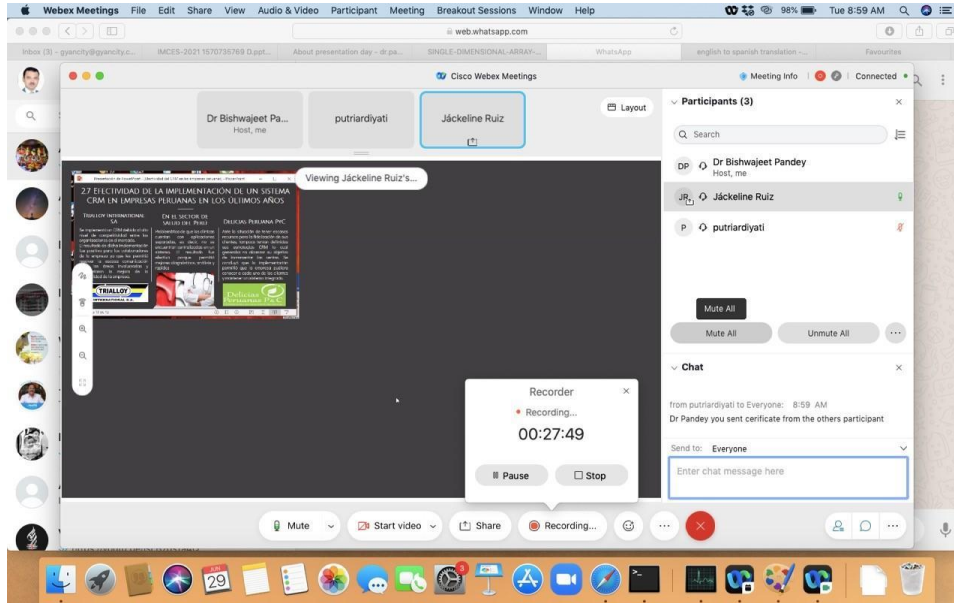
30-31 March 2022  
<https://bmess.gyancity.com>

## RTCSE'2021 GROUP PHOTO 15th Conference at USA



# BMESS'2021 16th Virtual Conference

## IMCES'2021 17th Conference at Jakarta, Indonesia



## ICGCET'2021 18th Conference at Lima, Peru

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



**La República**  
@larepublica\_pe  
ediciondigital@glr.pe

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.



### NOTAS DE PRENSA

## Conferencias internacionales se desarrollarán en Universidad Villareal

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





## ICGCET'2021 18th Conference at Lima, Peru



## RTCSE'2022 GROUP PHOTO 19th Conference at USA



## Abstract of Paper Accepted in BMESS'2022

0283

**Kahoot application in the Virtual Formative Evaluation in mathematics, Ricardo Bentín Educational Institution, Rímac****Lolo José Caballero Cifuentes<sup>1</sup>, Guillermo Pastor Morales Romero<sup>2</sup>, William Alberto Huamani Escobar<sup>3</sup>, Juan Carlos Huamán Hurtado<sup>4</sup>**Universidad Nacional de Educación "Enrique Guzmán y Valle", Lima, Perú<sup>1,2,3,4</sup>[lcaballero@une.edu.pe](mailto:lcaballero@une.edu.pe)<sup>1</sup>, [gmorales@une.edu.pe](mailto:gmorales@une.edu.pe)<sup>2</sup>, [whuamani@une.edu.pe](mailto:whuamani@une.edu.pe)<sup>3</sup>,[jchuaman@une.edu.pe](mailto:jchuaman@une.edu.pe)<sup>4</sup>**ABSTRACT**

The impact of information and communication technologies continues to bring benefits to education. The objective of this article is to analyze the influence that the Kahoot application has on virtual formative assessment in the learning of mathematics. The research has a descriptive, correlational and cross-sectional design. For the collection of information, two previously validated and reliable surveys were applied with V. Aiken and Cronbach's Alpha, which consisted of 20 items each, the sample consisted of 109 fifth grade high school students, which was determined using the probabilistic method with proportional stratified sampling. For hypothesis testing, Rho Spearman's statistic was used with a confidence level of 95% and a significance level of 5%. The results show that 39% of the students presented average levels of knowledge, skills and learning skills in mathematics as a result of the kahoot

**Keywords:** *Autonomy; formative evaluation; Kahoot App; Motivation; Self appraisal.*

## Abstract of Paper Accepted in BMESS'2022

1740	<p style="text-align: center;"><b>THE DEVELOPMENT AND ASSESSMENT OF THE THINKING MAPS FOR ARABIC SPEAKING SKILL AMONG SECONDARY RELIGIOUS SCHOOL STUDENTS</b></p> <p>Elsayed Makki Elbishr Ali Hassan<sup>1*</sup>, Muhammad Anas bin Al Muhsin<sup>2</sup>, Mohammed Abdulaziz Mohammed<sup>3</sup>, Aladdin Assaiqeli<sup>4</sup></p> <p><sup>1,2,3,4</sup> Faculty of Languages and Communication, Universiti Pendidikan Sultan Idris (UPSI) Malaysia  <a href="mailto:elsayed@fbk.upsi.edu.my">*elsayed@fbk.upsi.edu.my</a></p> <p style="text-align: center;"><b>ABSTRACT</b></p> <p>Oral proficiency or conversation is a cornerstone of the communication process. It is also one of the purposes behind language teaching and learning. Arabic language students at secondary religious school have been found to face difficulties in their oral proficiency. They are facing in speaking Arabic fluently in the many and diverse situations of daily life and in expressing their thoughts and needs competently. Therefore, the purpose of this study is to identify the problems impeding the development of the speaking skill among students of the secondary religious school, at Sekolah Menengah Agama Slim River, by finding appropriate solutions that can improve this key skill. This study has raised the following questions: what are the most important skills that students must earn to build a good conversation in Arabic? What is the main problem of communication skills among students of secondary religious school? How can thinking maps improve students' conversation skills? What are the suggestions that can help students make good communication with others? The study seeks to answer these questions by attempting to identify the methods that can help students to communicate effectively in Arabic with native speakers. The study also seeks to clarify the ways that students can use to express their past, present, future and experiences, as well as to identify issues in language communication among students. This study highlights how to use thinking maps to improve the speaking communicative activity among students. The study will apply the descriptive analysis methodology. The study will make use of observation and the questionnaire as data collection tools. The study will describe and analyse the problem using SPSS. The findings of this study will help Arabic language practitioners to improve the students' oral proficiency.</p> <p><b>Keywords:</b> Thinking maps, Arabic Language, speaking skill, conversation skills, communication</p>
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## Abstract of Paper Accepted in BMESS'2022

2237

## Application to Generate an Optimized Sleep Schedule Using Artificial Neural Network Technique

<sup>1</sup>Yousef A.Baker El-Ebiary, <sup>2</sup>M. Hafiz Yusoff, <sup>3</sup>Ahmad Nazari Mohd Rose,  
<sup>4</sup>Syarilla Iryani A. Saany, <sup>5</sup>Julaily Aida Jusoh, <sup>6</sup>Muhammad Asyraf Bin Mat  
Yusoff

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[julaily@unisza.edu.my](mailto:julaily@unisza.edu.my)

### ABSTRACT

Sleep is an essential state that all living things must naturally come to do. It is when the body and mind take time to recuperate from daily activities. A good night's sleep can improve overall mental and physical health. In this modern age, the number of people with sleeping disorders has arisen over the century. Irregular sleeping schedules can attribute to staying up late at night, overworking, etc. This research aims to create an intelligent application that generates an optimized sleeping schedule using an Artificial Neural Network (ANN). On the surface, it is essentially a smart alarm clock powered by Artificial Intelligence. Unlike a standard alarm clock, users will not have to worry about forgetting to set their alarm before going to sleep. This research heavily leverages the well-known fact that people these days own at least one smartphone. First, we train the neural network using existing datasets that consist of sleep data analysis. The next step is to incorporate the trained neural network into the application to recognize the user's sleep-wake patterns and automatically create an optimized sleep schedule based on that info. A smart alarm built into the application will dynamically adjust according to the generated sleep schedule.

**Keywords:** Mobile Apps, Sleep Schedule, Artificial Neural Network (ANN), Artificial Intelligence, Mobile Application Development



## Abstract of Paper Accepted in BMESS'2022

3084

**THE COVID-19 PANDEMIC: AS AN ENABLER OF  
FILIPINO ENTREPRENEURS IN THE UAE**Edgar Bacason<sup>1</sup>, Dr. Noor Un Nisa<sup>2</sup>Salem Husain Fadaaq<sup>3</sup>Bath Spa University, Academic Centre RAK, UAE<sup>1,2</sup>Sheffield Hallam University, UK<sup>3</sup>**Corresponding Author:** [noor@bathspa.ae](mailto:noor@bathspa.ae)**ABSTRACT**

The Covid-19 virus that has now turned into a much-maligned pandemic of epic proportions has not only cost the lives of millions everywhere but has also ushered an era of new normal. Battered economies are now slowly picking up and fighting hard to recover lost ground. Though emerging variants of the virus are thwarting attempts at full recovery, governments are on double-time to open up their respective economies to revitalize their business sectors and recoup lost revenue. Dubai authorities for example, are busy gearing up for the upcoming Expo 2020 that has been postponed for a year. Even the private schools in the country have announced a return to face-to-face classes in October this year - a much-needed show of normalcy. Other businesses are slowly coming to life again, thanks to the massive inoculation program of the government. Surprisingly though, a number of businesses not only survived the pandemic but were even started because of it, contrary to popular belief that all trading activities froze to a halt. This research focused on those businesses and the five brave entrepreneurs who started them as well as their reasons for venturing at the height of the crisis. The results showed familiar entrepreneurial themes like economic opportunity and innovation and creativity as primary motivators. Perhaps unsurprisingly, the themes list was topped by the Social Groups theme. This reflects the strong ties between the Filipino entrepreneurs and their social groups – who at the time of the Pandemic were all at once their beneficiaries, their benefactors, as well as their marketing tool.

**Keywords:** Entrepreneur, Entrepreneurship mindset, Pandemic, opportunity, innovation

## Abstract of Paper Accepted in BMESS'2022

3194	<p data-bbox="358 296 1386 386" style="text-align: center;"><b>Using Nearest Level Modulation Technique Up To 22 Levels</b></p> <p data-bbox="358 394 1386 457" style="text-align: center;">Jahangeer Badar Soomro<sup>1</sup>, Faheem A. Chachar<sup>1</sup>, Farah Shah<sup>1</sup>, Jamshed Ahmed Ansari<sup>1</sup>, Sadaqat Ali<sup>1</sup>, Afaque Manzoor Soomro<sup>1</sup></p> <p data-bbox="456 464 1386 520" style="text-align: center;"><sup>1</sup>Department of Electrical Engineering, Sukkur IBA University, Sindh, Pakistan Jahangir.soomro@iba-suk.edu.pk</p> <p data-bbox="805 527 980 554" style="text-align: center;"><b>ABSTRACT</b></p> <p data-bbox="326 604 1419 890">Modular Multilevel inverters have now become need for most of the modern applications like HVDC systems, Electric vehicles, Variable speed drives and Flexible Alternating-current Transmission system (FACTS) because of their better power quality and lesser total harmonic distortion as compared to other inverters. Many PWM techniques are used to power these converters. The existing techniques are reason for greater switching losses. This paper provides a practical criteria for the choice of modulation technique for MMCs. Also, there is an attempt to implement MMC up to 22 levels by using nearest level modulation technique which is considered to be simpler and robust for the systems like MMC, and these levels are then compared in terms of THD produced by each level.</p> <p data-bbox="326 919 1419 982"><b>Keywords-</b> Modular Multilevel Converter (MMC), Nearest level Modulation (NLM), Total Harmonic distortion (THD).</p>
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## Abstract of Paper Accepted in BMESS'2022

4017	<p style="text-align: center;"><b>Padlet application and learning of the area of mathematics in students of the fifth grade of secondary school at IE Vitarte</b></p> <p style="text-align: center;">Adrián Quispe Andia<sup>1</sup>, Guillermo Pastor Morales Romero<sup>2</sup>, Trinidad Loli Nicéforo Ladislao<sup>3</sup>, Aurelio Julián Gámez Torres<sup>4</sup>, Teresa Guía Altamirano<sup>5</sup>, Shirley María, Teresa Quispe Guía<sup>6</sup></p> <p style="text-align: center;">Universidad Nacional de Educación "Enrique Guzmán y Valle", Lima, Perú<sup>1,2,3,4,5</sup> Universidad Privada del Norte, Lima, Perú<sup>6</sup></p> <p style="text-align: center;">aquispe@une.edu.pe, gmorales@une.edu.pe, ntrinidad@une.edu.pe, agamez@une.edu.pe, tguia@une.edu.pe, shirley.quispe@upn.edu.pe</p> <p style="text-align: center;"><b>ABSTRACT</b></p> <p>The present research work entitled Padlet Application and Learning of the Mathematics Area. in Fifth Grade Secondary Students at IE Vitarte, had as a result a favorable influence on the learning of mathematics when applying the Padlet application and the parametric statistic was used Student's t for independent groups. The result of the * p value in each case was 0.000 and less than 0.05: therefore the alternative hypotheses are accepted and the corresponding null hypotheses are rejected. Based on the results obtained, it was concluded, at a 95% confidence level, that the Padlet application significantly improves the learning of the mathematics area in students of the fifth grade of secondary school at EI Vitarte, as evidenced in the hypothesis contrast (sig. = 0.000&lt;0.05).</p> <p><b>Keywords:</b> collaborative; competence; Mathematics learning; motivation; padlet application.</p>
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## Abstract of Paper Accepted in BMESS'2022

4416

## Food Ordering Web-based System Applying QR-Code Technology in Covid-19 Time

<sup>1</sup>Julaily Aida Jusoh, <sup>2</sup>Ahmad Nazari Mohd Rose, <sup>3</sup>M. Hafiz Yusoff, <sup>4</sup>Syarilla Iryani A. Saany, <sup>\*5</sup>Yousef A.Baker El-Ebiary, <sup>6</sup>Nurhamizah Binti Marzukhi

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[syarilla@unisza.edu.my](mailto:syarilla@unisza.edu.my), [yousefelebiary@unisza.edu.my](mailto:yousefelebiary@unisza.edu.my)

### ABSTRACT

Me2Odr is Food Ordering System, is a web-based system that using QR-Code for customer and admin to perform transaction and purchase more smoothly through the online to the internet. The aim of the system is to ease the customers to place the order as per they like without go to the café specially during Covid-19 pandemic. Then the admin will check the order and prepare the food then delivery food. Users of this system consist of user and admin. The aims or objectives of this research are to create a convenient to use this system for user to make an order or buy food using online by reducing time and cost for a student. It also, to develop a system that can facilitate UniSZA's Cafe and student to buy food without scrambling and long queue and test the system function with user. In addition, the main function of the cafe in this system is to provide food orders that have made by customers using the Priority Scheduling technique. By using this technique, it will update their status up to date by admin. It is significant to use the Priority Scheduling in café UniSZA because it helps to serve the order menu in bulk rather than serve it one by one and it can save many times. The expected outcome for this research is able to manage order by using the services from the website efficiently, display daily menus and prices for customers and allows customers to place an order directly. In conclusion, with the new technology implement in this system can help order food with systematic and properly for the future.

**Keywords:** Food Order System, QR-Code, UniSZA, Malaysia, Web-based System, Covid-19 Pandemic.

## Abstract of Paper Accepted in BMESS'2022

4497	<p style="text-align: center;"><b>RISK MANAGEMENT IN AGRICULTURE</b></p> <p style="text-align: center;"><b>Natalya Gritsenko,</b> Head of the Water Economy Sector, Candidate of Economic Sciences, Department of "Technology and Irrigation Technique", Kazakh Scientific Research Institute of Water Economy Limited Liability Company, 12 Koigeldy street, Taraz city, zip code 080003, Kazakhstan, <a href="mailto:natalya1998@inbox.ru">natalya1998@inbox.ru</a>.</p> <p style="text-align: center;"><b>ABSTRACT</b></p> <p>Agro-formations in the course of their activities face various types of risk, which differ in external and internal factors, in the method of their analysis and description methods, in the place and time of occurrence. The basis for the systematization of risks in agricultural production is the sources of occurrence in the production process, their origin in the external environment and internal structure, and the forecast of market conditions.</p> <p><b>Keywords:</b> risks, Economy, <i>Agro-formations</i>, agricultural associations, risk management, agriculture</p>
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## Abstract of Paper Accepted in BMESS'2022

4825

**Evaluation of The Use of Adhesive Tape in Laser Welded Ultra-High-Strength Steel Lap Joints**Mikko Hietala<sup>1,a \*</sup>, Markku Keskitalo<sup>1,b</sup> and Antti Järvenpää<sup>1,c</sup>

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In the present work, use of adhesive double-sided tape in laser welded ultra-high-strength steel lap joints was evaluated. The test material in the study was ultra-high strength abrasion resistant steel (AR400) with an ultimate tensile strength of 1.35 GPa. The morphology of the welds was examined from the cross-sections of the lap joints by optical microscopy. The mechanical properties of the joints were evaluated by hardness measurements and tensile shear strength tests. The use of tape resulted in an air gap between the plates which has several advantages. Air gap significantly increased the width of the weld at the interface of the plates. It was observed that hardness of the fusion zone was 12% higher compared to the base material hardness. There was softened zone in the heat-affected-zone (HAZ). Air gap increased the shear strength of the joint by up to 20%. The adhesive tape itself did not have a significant effect on the shear strength of the joints. The main advantages of using the tape were a constant air gap and its function as a fastener in welding, so that separate fasteners are not needed.

**Keywords:** Ultra-high-strength steel, Laser welding, Adhesive tape, Lap joint, Shear strength

## Abstract of Paper Accepted in BMESS'2022

4844

## Surface Roughness Improvement of PBF-LB Manufactured 316L with Dry Electropolishing

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### ABSTRACT

Laser powder bed fusion (PBF-LB) is currently the most widely used technique for metal additive manufacturing. While the surface roughness is among the lowest that AM can offer the Ra values are measured typically in the 10  $\mu\text{m}$  range. In this work, a dry electropolishing machine was used to improve the surface quality of 316L parts manufactured with the PBF-LB. The process was repeated for several sets with different grades of pre-grinding to find the optimal distribution of preparation and polishing for the targeted surface quality. Polishing after severe shot peening (SSP) and the effect on residual stresses were also investigated. The effect on the surface quality was measured with laser optical microscopy and the results show that this polishing method can be used to reach Ra levels down to 0.13 if pre-grinding is used and up to 80% reductions could be reached with rougher initial surfaces. Beneficial residual stresses after SSP were also preserved beneath the surface during the polishing which should increase the fatigue properties of the material. Laser powder bed fusion (PBF-LB) is currently the most widely used technique for metal additive manufacturing. While the surface roughness is among the lowest that AM can offer, the Ra values are measured typically in the 10  $\mu\text{m}$  range. In this work, a dry electropolishing machine is used to improve the surface quality of 316L parts manufactured with the PBF-LB. The process was experimented with different grades of pre-grinding to find the optimal distribution of preparation and polishing for the targeted surface quality. The effect on the surface quality was measured with laser optical microscopy and the results showed that this method can be used to reach Ra levels down to 0.13 if pre-grinding is used and up to 80% reductions could be reached with rougher initial surfaces. In addition, it was found that beneficial residual stresses after severe shot peening were also preserved beneath the surface during the polishing which should increase the fatigue properties of the material.

**Keywords:** 316L, Dry electropolishing, PBF-LB, Polishing, Surface quality

## Abstract of Paper Accepted in BMESS'2022

4854	<p style="text-align: center;"><b>Malaysian Confinement Lady Finder System Using Web Technology</b></p> <p style="text-align: center;"><b><sup>1</sup>Yousef A.Baker El-Ebiary, <sup>2</sup>Ahmad Nazari Mohd Rose, <sup>3</sup>M. Hafiz Yusoff, <sup>4</sup>Syarilla Iryani A. Saany, <sup>5</sup>Julaily Aida Jusoh, <sup>6</sup>Siti Nadia Binti Ahmad Nazari</b></p> <p style="text-align: center;"><i>UniSZA University, Malaysia,</i></p> <p style="text-align: center;"><a href="mailto:yousefebiary@unisza.edu.my">yousefebiary@unisza.edu.my</a>, <a href="mailto:anm@unisza.edu.my">anm@unisza.edu.my</a>, <a href="mailto:hafizyusoff@unisza.edu.my">hafizyusoff@unisza.edu.my</a>, <a href="mailto:syarilla@unisza.edu.my">syarilla@unisza.edu.my</a>, <a href="mailto:julaily@unisza.edu.my">julaily@unisza.edu.my</a></p> <p style="text-align: center;"><b>ABSTRACT</b></p> <p>A confinement lady is someone who is experienced in taking care of the special needs of a mother and her new-born baby. A confinement lady will provide the opportunity to mother to have comfortable rest and peace of mind. A professional confinement lady is well versed in child care knowledge and equipped with skills required in taking care of a new-born baby. This proposed Malaysian Confinement Lady Finder System aims to create a platform for mothers to find the best confinement lady according to their preferred criteria. The criteria will include confinement skills, general knowledge, reliability, etc. Living in the urban areas has made it hard for mothers to find the best confinement lady that meets all the criteria that mothers preferred. Even if there are volunteers, issues such as experiences, information, and profiles are not easily accessible, for the mothers to do some considerations. The process of finding and hiring will be done through advertising on social media, which is not that very informative. In solving this problem, the Analytic Hierarchy Process (AHP) method will be used to advise users based on the criteria defined by the user when selecting the appropriate confinement lady. The users will be able to give ratings to the confinement lady based on some of the criteria. So that when the next customers want to choose the confinement lady, the system will display the list of confinement lady according to their needs and rating. The expected result of this research to manage information effectively, provide profiling of services, and process the information stored based on user request. Next, this system also expects the users can get a good confinement lady that serves great services during their post-natal period and also give the best care for their new-born baby.</p> <p><b>Keywords:</b> Confinement Lady System, Web-Based System, Analytic Hierarchy Process (AHP), Malaysia.</p>
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5198

## Propuesta e Implementación de un Modelo para el Rediseño Organizacional y su Influencia en la Transformación Digital en el Sector Público

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### ABSTRACT

This paper reviewed the literature on the topics of organizational redesign, digital transformation, strategic planning, process management, administrative simplification, continuous improvement, redesign and automation, and also considered the activities developed to implement organizational redesign in the quarantine declared by the Peruvian state as a result of COVID 19, with the purpose of proposing a methodology for organizational redesign towards digital transformation in public entities, with a strategic and operational approach. For the implementation of the strategic approach, the institutions that functionally depend on the Ministry of Education were involved, considering the current situation in relation to the operational and territorial capacities of each region, in order to develop the strategic and process design. Likewise, for the implementation of the operational approach, the results of the virtual course on process management for administrative simplification 2 were used, involving several institutions that proposed and implemented improvements towards the digitization of processes, promoting digital transformation. The results of the present work consider the effective time of the administrative procedures and the cost of implementation. The effective time of the procedures was reflected in a reduction of 11% and 52% in the reduction of the cost of the procedures.

**Keywords:** Diagnosis Model, Process Design, Value Chain, Process Improvement, Organizational Design, Digital Transformation.



## Abstract of Paper Accepted in BMESS'2022

5732	<p data-bbox="380 268 1398 390" style="text-align: center;"><b>Safeguarding vernacular and green architecture as a tourist, cultural and heritage resource</b></p> <p data-bbox="402 478 1338 688" style="text-align: center;"><b>Stefania Pareti<sup>1</sup>, Ignacio Tampe<sup>2</sup>, Claudia Bustamante<sup>3</sup>, David Flores<sup>2</sup></b> Universidad Andrés Bello Pontificia Universidad Católica de Valparaíso Universidad Técnica Federico Santa María <a href="mailto:s.pareti@uandresbello.edu">s.pareti@uandresbello.edu</a>, <a href="mailto:ignaciotampevargas@gmail.com">ignaciotampevargas@gmail.com</a>, <a href="mailto:claudia.bustamante@sansano.usm.cl">claudia.bustamante@sansano.usm.cl</a>, <a href="mailto:daflores2@uc.cl">daflores2@uc.cl</a></p> <p data-bbox="781 726 958 751" style="text-align: center;"><b>ABSTRACT</b></p> <p data-bbox="321 789 1421 1348">The main objective of this study is to explore whether the consolidation of transportation routes as a marketing tool for the place can turn out to be a tourist resource, to promote the sustainability of cultural heritage for the safeguarding and enhancement of vernacular and green architecture. The route of the 16 UNESCO heritage churches of Chiloé is selected as a case study, because: (1) they make up the vernacular architecture of the place, (2) they are a tourist, cultural and heritage resource, (3) their material heritage, intermingled with the immaterial one, facilitates the control of tourism-phobia and gentrification of the place, (4) the religious component of its architecture transcends for a greater historical-cultural interest. The methodology is carried out, through an architectural analysis of the 16 churches, regarding their design, materiality and followed by an analysis through word clouds regarding the main headlines based on previously defined parameters to create the filter. It is concluded that safeguarding vernacular and green architecture turns out to be a tourist, cultural and heritage resource, as can be seen in the enhancement of the 16 churches of the Chilota School of Religious Architecture.</p> <p data-bbox="321 1381 1235 1411"><b>Keywords:</b> place marketing, vernacular architecture, chiloé's churches.</p>
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## Abstract of Paper Accepted in BMESS'2022

5819

## A Survey of Monocrystalline Silicon Photovoltaics in Saudi Arabia

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### ABSTRACT

As a global leading oil producer, Saudi Arabia is fully aware of its responsibility in advancing the fight against climate change and its pioneering role in stabilizing energy markets. The country continues this role to achieve leadership in renewable energy by launching various projects. Producing solar electricity contributes to the Kingdom's strategic goal of diversifying its non-oil economy and developing the renewable energy sector to provide alternative energy sources. Monocrystalline photovoltaic cells are one of the most popular options on the market, with higher levels of efficiency and longevity. However, the work that covers this topic in Saudi Arabia seems very limited, encouraging the purpose of this work. This article focuses on developing monocrystalline photovoltaic panels in Saudi Arabia and reviews the latest literature on this topic. The paper aims to understand the monocrystalline photovoltaic panels from multiple aspects, their development for the last two decades, and tackle the challenges to contribute and provide support to future works.

**Keywords:** photovoltaic technology, silicon production, single crystal silicon, solar challenges.

## Abstract of Paper Accepted in BMESS'2022

6130

**E-Commerce Adoption: Problems facing SMEs in Nigeria****<sup>1</sup>Yousef A.Baker El-Ebiary, <sup>2</sup>Yazeed Al Moaiad, <sup>3</sup>Ahmed Hassan Hassan, <sup>4</sup>Mahmoud Al-Kofahi, <sup>5</sup>Omar (Mohammad Ali) Alqudah, <sup>6</sup>Abdilahi Liban, <sup>7</sup>Zakarya Mohsen Al-hodiany, <sup>8</sup>Shadi M S Hille**<sup>1</sup>*Faculty of Informatics and Computing, UniSZA University, Malaysia,*  
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[shadihilless@gmail.com](mailto:shadihilless@gmail.com)**ABSTRACT**

Developing countries can adopt E-commerce as a driver to economic growth and poverty eradication. The Small and Medium Enterprises (SMEs) Sector has a significant contribution in national economy and a key player in job creation, and GDP increase. SMEs contribute greatest part of Nigerian productive units and economy, in recent time's Nigerian government introduced many initiatives to support and develop SMEs capabilities. Low usage of e-commerce among SMEs in Nigeria could be factored into many reasons. This research investigated the reasons for low adoption of e-commerce among SMEs in Nigeria. The finding of the research show that many factors contributed in non-adoption of e-commerce in SMEs sector: technical problems, lack of Internet security, lack of legal and regulatory support, limited knowledge/use of Internet banking and web portals by SMEs.

**Keywords:** E-commerce; Technology Adoption; Small and Medium Enterprises; Development; Developing Countries

## Abstract of Paper Accepted in BMESS'2022

6359

**Tutor Finder System Using Web Technology****<sup>1</sup>Syarilla Iryani A. Saany, <sup>2</sup>Ahmad Nazari Mohd Rose, <sup>3</sup>M. Hafiz Yusoff, <sup>4</sup>Julaily Aida Jusoh, <sup>5</sup>Yousef A.Baker El-Ebiary, <sup>6</sup>Nor Atiqah Binti Hamzah***UniSZA, Malaysia**[syarilla@unisza.edu.my](mailto:syarilla@unisza.edu.my), [anm@unisza.edu.my](mailto:anm@unisza.edu.my), [hafizyusoff@unisza.edu.my](mailto:hafizyusoff@unisza.edu.my),  
[julaily@unisza.edu.my](mailto:julaily@unisza.edu.my), [yousefelebiary@unisza.edu.my](mailto:yousefelebiary@unisza.edu.my)***ABSTRACT**

Technologies are keep evolving and growing where almost all activities and services such as in the area of trading, commerce and education can be completed via online. However, searching tutors for teaching Quran has not yet widely online. Normally, when an individual want to search Quran tutor, they have to search through media advertisement who can recommend a highly qualified and expert tutor with affordable fees. This will take time for an individual to find qualified tutor. In order to make this process easier, this research propose a system for finding a Quran expert tutor through Quran Tutor Finder System. Anyone can search availability of the tutors based on rating and review that has been given by the other users. This system will provide user a platform for finding Quran tutor according to the qualification and needs specified by the users of the system. This system will be helpful for those who need immediate assistance on Quran expert tutor.

**Keywords:** Tutor Finder System, Quran, Web-Based System, Collaborative Filtering.

## Abstract of Paper Accepted in BMESS'2022

7042

**Fostering the Concept of Creativity in Business: An Employees' Perspective****Dr. Noor un Nisa<sup>1</sup> Nathaniel Bonador<sup>2</sup> Dr. Jamshed Adil Halepota<sup>3</sup>**

Sindh Madressatul Islam University, Pakistan

**Iftikhar Alam Khan<sup>4</sup>**Bath Spa University, Academic Centre RAK, UAE<sup>124</sup>**Corresponding Author: [noor@bathspa.ae](mailto:noor@bathspa.ae)****ABSTRACT**

This research focuses on a contemporary theoretical paradigm emerging in the study of human creativity in the field of business. The question is where creativity can be best fitted? It is argued that creativity is a multi-disciplinary approach Darbellay, Moody and Lubart, 2017. While this concept and its application of theories/models can be applied in different fields of knowledge which includes but not limited to psychology, sociology, anthropology, economy, business and management and philosophy. This study explores creativity in business perspective for instance to how people see creativity as creative practitioners. To conclusion the purpose of this research is explain creativity that aims to provide a concrete guide to the 'fostering' of creativity in business and to complement a deeper understanding of its application from the perspective of working people in the UAE.

**Keywords: Creativity, Psychology, Business**

## Abstract of Paper Accepted in BMESS'2022

7631	<p data-bbox="342 296 1395 338"><b>Machine learning techniques to predict solar radiation</b></p> <p data-bbox="334 380 1403 485">Giancarlo Sánchez Atuncar <sup>1</sup>, Francisco Hilario Falcón <sup>2</sup>  <i>Graduate University School, Universidad Nacional Federico Villareal, Lima, Perú.</i>  <a href="mailto:2018042798@unfv.edu.pe">2018042798@unfv.edu.pe</a>, <a href="mailto:fhilario@unfv.edu.pe">fhilario@unfv.edu.pe</a>,</p> <p data-bbox="781 594 954 625" style="text-align: center;"><b>ABSTRACT</b></p> <p data-bbox="318 646 1421 1255">The purpose of the research is to develop several machine learning models to predict UV-B radiation and determine the best algorithm, whose type of research is applied and experimental design of pre-experimental type with a quantitative approach. The methodology used for the development was the KDD (Knowledge Discovery in Database) methodology which consists of the following stages: Data selection, data processing, data transformation, data mining and interpretation. For the study, 43425 thousand meteorological data from SENAMHI between 2016 and 2021 were used, of which 80% and 20% of the data were used for training and validation of the respective models. The results obtained show that of the six algorithms used, among which is the decision tree, Close Neighbors, Logistic regression, Bayesian networks, neural networks and SVM, it was possible to determine that with respect to the Decision Tree: accuracy = 100%, sensitivity = 100%, specificity = 100%, Recall = 100% and F1 score = 1.98; KNN: accuracy = 99.24 %, sensitivity = 98.12%, specificity = 99.52%, Recall = 98% and F1 score= 1.94; Logistic Regression: accuracy = 99.77%, sensitivity = 99.44%, specificity = 99.86%, Recall = 99% and F1 score = 1.96; Bayesian networks: accuracy = 80.44%, sensitivity = 62.36%, specificity = 86.80 %, Recall = 62% and F1 score = 0.6; Neural networks: accuracy = 90.24%, sensitivity = 98.09%, specificity = 99.52 %, Recall = 98% and F1 score = 1.94; SVM: accuracy = 99.39%, sensitivity = 98.16%, specificity = 24.92 %, Recall = 98% and F1 score = 1.94. Concluding that the decision tree allows to predict with high precision, sensitivity, specificity, Recall and F1 score of UV radiation.</p> <p data-bbox="318 1293 1421 1350"><b>Keywords:</b> algorithms, solar radiation, decision tree, Close Neighbors, Logistic regression, Bayesian networks, neural networks and SVM</p>
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7768

## The Internet of Things as A Revolution to Enhance the Technology of the Future

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### ABSTRACT

Internet of things has brought a technological change or advancement in the traditional system way of living into developed high technological ways of living, examples of Internet of things technological advancement or enhancement is mobile banking, smart devices e.g. Androids and IOS, smart transportation, energy-saving, smart city, pollution controls, and others. There are different types of researches been conducted on how to apply the Internet of things ineffective to traditional ways. However, there are still many challenges facing the applications of the Internet of Things (IoT) in the traditional system. This research will explain some issues facing the use of Internet of things in the traditional system, and the solutions. The article discusses different challenges and key issues of IoT, architecture, and important application domains. Also, the article brings into light the existing literature and illustrated their contribution to different aspects of IoT. Moreover, the importance of big data and its analysis with respect to IoT has been discussed. This article would help the readers and researcher to understand the IoT and its applicability to the real world.

**Keywords:** Internet of Things (IoT), IoT architectures, IoT challenges, and IoT applications.

## Abstract of Paper Accepted in BMESS'2022

8125

## Cyber Attack detection Using K-means Machine Learning

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### ABSTRACT

Network Intrusion Detection System (NIDS) is a threat because in the explosion of computers networks and the myriad of recent content-based threats, which occur almost on a daily. As well as an overview of machine learning approaches for signature and anomaly detection methods, this article discusses several machine learning strategies applied to intrusion detection and preprocessing. The NIDS taxonomy and attribute classifier have been given to create classifications are outlined. Using many data sets, machine learning methods are widely utilised in anomaly detection. Additional preprocessing methods have been added to that include, for example, sorting and discretization have been applied to that data collection of measured values. Custom methods focused on the usage of search algorithms using machine learning that use novel search algorithms are vulnerable to being revealed. This analysis is highly relevant to the use of machine learning methods used in computer security, which furthers their cause.

**Key words:** intrusion detection, k-means algo, machine learning, swarm intelligence



## Abstract of Paper Accepted in BMESS'2022

8908

## The Usage of Mobile Technology in Malaysian Real-Estate Sector

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### ABSTRACT

E-RentHouse are a mobile application that allow student to rent houses around UniSZA especially in Campus Besut efficiently. The system consists three main users which is students, admin and owners. The students in this system can search for the houses by selecting the criteria that they prefer such as the affordable price of the houses that he/she can afford to rent. The admin in this system can manage the system. The owners (landlord) can advertise their house inside the system by uploading some photos, address and price of their houses. The added values in the system is the user can have a live chat with the seller and user can give rating to the seller. The system will also find the best recommended house for student when the student enters the criteria that they want. The system implemented ahp method to solve multi-criteria decision making.

**Keywords:** Mobile Apps, Real-Estate, Malaysia, Mobile Application Development, AHP technique, UniSZA.

## Abstract of Paper Accepted in BMESS'2022

9090

**Gratitude, Self-Regulation, and Academic Motivation during COVID-19 in University Students: Differential Associations for Earning and Non-Earning Students****Dr. Shameem Fatima, Sehar Waheed**  
COMSATS University Islamabad, Lahore Campus.  
**Sana Daud, Sadia Aslam**  
Bath Spa University Academic Center, RAK.**ABSTRACT**

It is known that we have entered in a challenging era when the educational systems are digitalized with a heavy reliance on digital technology. The challenge of keeping the students engaged, academically motivated, and self-regulated is common across grade levels, subject matters, and types of educational institutions around the globe. This challenge is particularly relevant to the students who work alongside education to meet their finances. This study was aimed at assessing whether earning and non-earning students would score differently on gratitude, self-regulation, and academic motivation during online education. A secondary objective was to assess whether gratitude and self-regulation would differently associate with specific academic motivation constructs across earning and non-earning students in online education. A cross-sectional research design was used and a sample of 247 participants (M age= 24.20 years, SD = 2.25 years; earning university students = 122 & non-earning = 125) was selected and approached through an online survey. The gratitude scale, self-regulation scale, and academic motivation scale were used to assess the levels of gratitude, self-regulation, and extrinsic and intrinsic academic motivation, in the sample. Results from t test analyses demonstrated that earning students scored significantly higher on four academic motivation outcomes including intrinsic motivation to know, intrinsic motivation towards accomplishment, extrinsic motivation of identified regulation, and extrinsic motivation of external regulation compared to non-earning students. Both the gratitude and self-regulation significantly and positively correlated with the 3 intrinsic motivation outcomes and 3 extrinsic motivation outcomes. Finally, analyzing the mediated moderation models, it was found that gratitude was strongly associated with all academic motivation constructs except extrinsic motivation of interjected regulation in earning students compared to non-earning students. Also, self-regulation significantly mediated the association of gratitude with all academic motivation constructs for all participants.

**Key words:** Gratitude, Intrinsic Motivation, Extrinsic Motivation, Self-regulation, Earning and Non-Earning Students, Covid 19 pandemic

## Abstract of Paper Accepted in BMESS'2022

9874

## Knowledge Management and Green Technology Adoption in Transportation Industry: An Approach towards the Environmental Sustainability in Malaysia

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### ABSTRACT

As transportation, storage, production, and consumption of products and services have increased due to globalization, environmental issues have arisen. In the logistics systems of enterprises and the global market, transportation services and infrastructure play a critical role. As transportation and logistics systems become more integrated, their impact on the physical environment becomes a key concern. To implement innovative green transportation that promotes environmental sustainability, the current study recommends the role of knowledge management in the transportation industry. The research paper proponents for green transportation in the transportation businesses and integrates environmental concerns into Malaysia's logistics management. The study discovered that applying information that boosts knowledge production, knowledge acquisition, knowledge sharing, and knowledge management improves the knowledge management and green technology adoption.

**Keywords:** Knowledge Management; Green Technology Adoption; Transportation Industry; Environmental Sustainability

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## Image Learning and Correction as a Means of Evaluating and Fault Finding Computer Scanner Image Artifact

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### ABSTRACT

The concept of image reconstruction modeling in both the industry and academia has led to the investigation of different artifacts found in the medical fraternity, specifically in radiology and x-ray. This concept is aimed at optimizing the efficiency of fault-finding image artifacts in the CT scanner. It is for such reasons that an automated artifact detection model with capabilities for artifact image restoration and solution prediction model needs to be investigated, developed, and implemented to evaluate the feasibility and reliability of such a system in a live environment setup for service engineers and specialists alike. During the image acquisition process, images were taken from Toshiba medical equipment for image processing and machine learning purposes. The data collected contains 100 images in the dataset consisting of 50 ring and metal artifact images for data testing with 19 iterations. Training of the model is created to allow the model to learn by identifying the different features. This paper demonstrates the consistency of the model in distinguishing between the ring and the metal artifact from a “normal” scanned image. However, the model accuracy was inconsistent and required data augmentation to stabilize the system, hence the need for algorithm optimization to accurately detect and distinguish the artifacts despite the image sample number.

**Keywords:** Artifact, Image Processing, CT Scan, Artificial Intelligence, OpenCV, Machine Learning.

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