

Proceedings
of
**10th International Conference on
Green Computing and
Engineering Technologies**
(ICGCET®)

18 - 19 September 2024

Sea Cliff Resort, Zanzibar

Proceeding Editors:

Bishwajeet Pandey, Arthur James Swart

Chair Message

As a chair, we have the honor to welcome you with great respect and enthusiasm to the 10th International Conference on Green Computing and Engineering Technologies (ICGCET®) to be held in Hybrid Mode on 18-19 September 2024 (ONLINE for participant who unable to come to South Africa). ICGCET'2024 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 2024.

As a chair and on behalf of the organizing committee, we are extremely happy to host you at Zanzibar 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 32th conference hosted by Gyancity Research Consultancy in association with partner university across the globes, next conferences in 2025 are following:

4th IEEE International Conference on AI in Cybersecurity (ICAIC), 5-7 February 2025

University of Houston, 4800 Calhoun Rd, Houston, TX 77004

<https://icaic.gyancity.com/>

9th International Conference on Recent Trends in Computer Science and Electronics (RTCSE®)

10th International Conference on Green Computing and Engineering Technologies (ICGCET®)

25-26 Jun, 2025, Faculty of Information Technology, Yarsi University, Jakarta, Indonesia

<https://rtcse.org/> <https://icgcet.org/>

Best wishes.

Prof Dr Bishwajeet Pandey, Astana IT University, Astana, Kazakhstan

Tel/Whatsapp: +27-82-856-5780, +91-74-28-640-820,

Email: dr.pandey@ieee.org

ICGCET-2024 Schedule

18 September 2024 (HYBRID PRESENTATION)

10:00-10:30 AM (UTC +3. Eastern Africa Time (EAT))

Inaugural Keynote Speech Prof Dr. Arthur James Swart, Central University of Technology, South Africa

10:30-13:30 (UTC +3. Eastern Africa Time (EAT))

Session 1: Chair: Dr. Arthur James Swart, Central University of Technology, South Africa

Google Meet Link: meet.google.com/buw-ptqu-kgu

PAPER PRESENTER AND PAPER TITLE

10:30 Prof Hertzog, Central University of Technology, South Africa

Paper Title: Effectively connecting batteries to energy systems for the DIY enthusiast

10:50 Dr Malusi Sibiyi, University of South Africa, South Africa

Paper Title: Efficient Text Extraction Methodologies for Sentiment Analysis: Utilizing University of South Africa Students' Email Communications as a Case Study

Paper Title: Machine Learning as a Tool to Forecast the Power Quality of Wind Energy Power Plants: A Systemic Literature Review

11:50 Mr. Kokisa Phorah, University of South Africa, South Africa

Paper Title: Systematic Literature Review on Data Preprocessing for Improved Water Potability Prediction: A Study of Data Cleaning, Feature Engineering, and Dimensionality Reduction Techniques

12:10 Dr Kukuni, Central University of Technology, South Africa

Paper Title: Comparative Sensory Data Monitoring Model Based on Multiple Algorithms Between Server and Client PI Within a Smart Manufacturing Setup

12:30 Mg. Oswaldo Facho Bernuy, Federico Villarreal National University, Peru

Paper Title: Evaluation of road conditions for walkability on main roads in the Miraflores district, Lima, 2023

12:50 Dr Sallar Khan, Technological University, Dublin, Ireland

Paper Title: Solving Mysteries with AI: The Future of NPC Interactions in Murder Mystery Games.

13:10 Dr Chipu Mutongi, Midlands State University, Zimbabwe

Paper Title: Growing Entrepreneurship in high technology segment through Bibliotherapy in Zimbabwe

13:30 Dr Malusi Sibiyi, University of South Africa, South Africa

Paper Title: Comparative Analysis of ChatGPT-Generated Code and Kaggle Champion Performance in Water Potability Prediction: A Few-Shot Learning prompts Approach

14:00-15:00 (UTC +3. Eastern Africa Time (EAT))

LUNCH

15:00-15:30 (UTC +3. Eastern Africa Time (EAT))

Second Keynote Speech by Prof Dr. Chinnaiyan Ramasubramanian, Lingayas Vidyapeeth, India

15:30-18:00 (UTC +3. Eastern Africa Time (EAT))

Session 2: Chair: Dr Bishwajeet Kumar Pandey, Astana IT University, Kazakhstan

PAPER PRESENTER AND PAPER TITLE

15:30 Mrs. Pushpanjali Kumari, Gyancity Research Consultancy, India

Paper Title: Mobile DDR Based Energy Efficient Design on FPGA

15:50 Dr. Sheila Marly Gálvez Rojas, Universidad Cesar Vallejo, Lima, Peru

Paper Title: Explain the contextualization of the curriculum for RBE learning

16:10 Mr. Keshav Kumar, Parul University, India

Paper Title: Design of Seven Malwares in Windows Sandbox and Kali MSFVENOM At LATITUDE:51.1876 and LONGITUDE:71.4491

16:30 Dr. Serna Campos, Universidad Cesar Vallejo, Perú

Paper Title: Planning and Effectiveness in Results-Based Strategic Management in the Health Sector in an Andean Region

16:50 Dr. Juan Tanta Restrepo, Universidad Cesar Vallejo, Perú

Paper Title: Creativity as a transversal competence in the teaching-learning process: review

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®).

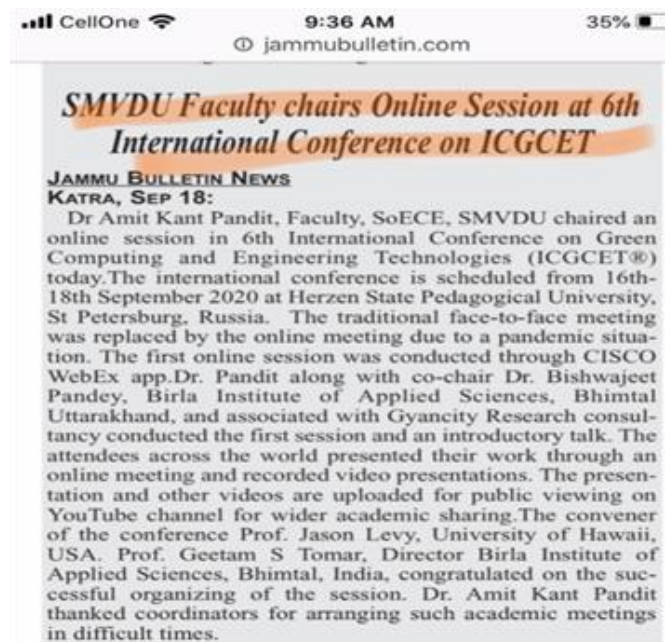
The international conference is scheduled from 16th-18th September 2020 at Herzen State Pedagogical University, St Petersburg, Russia. The traditional face-to-face meeting was replaced by the online meeting due to a pandemic situation. The first online session was conducted through CISCO WebEx app.

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.

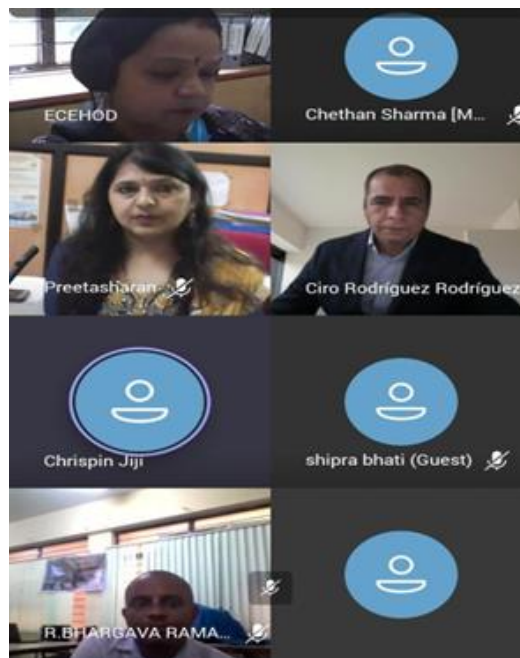
The attendees across the world presented their work through an online meeting and recorded video presentations. The presentation and other videos are uploaded for public viewing on YouTube channel for wider academic sharing.

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.

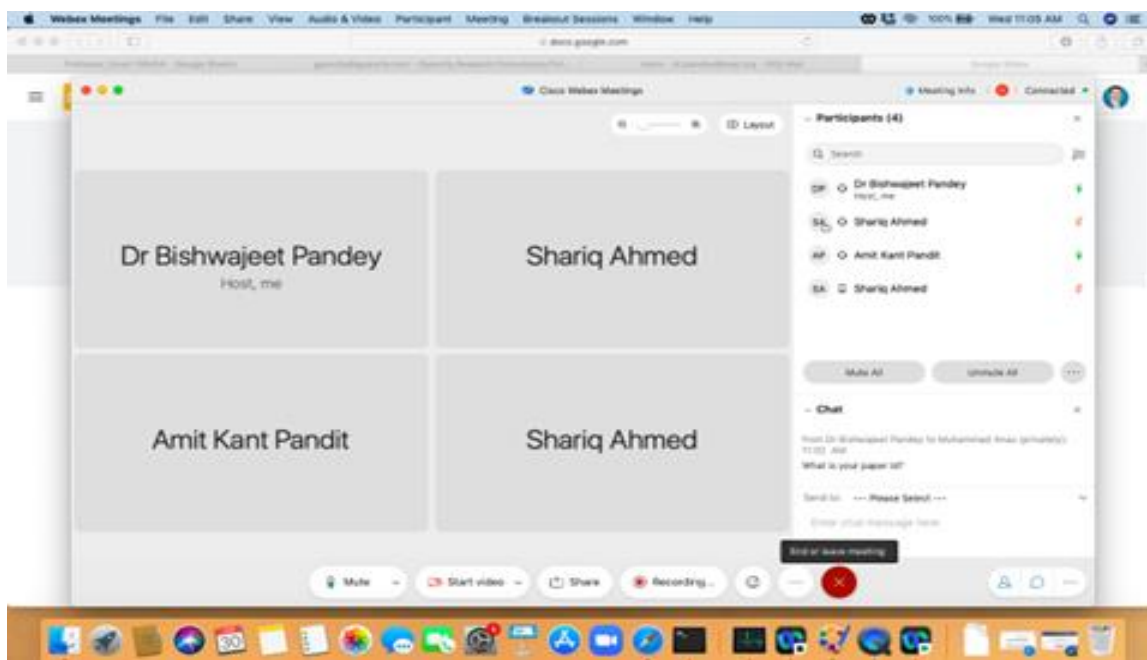
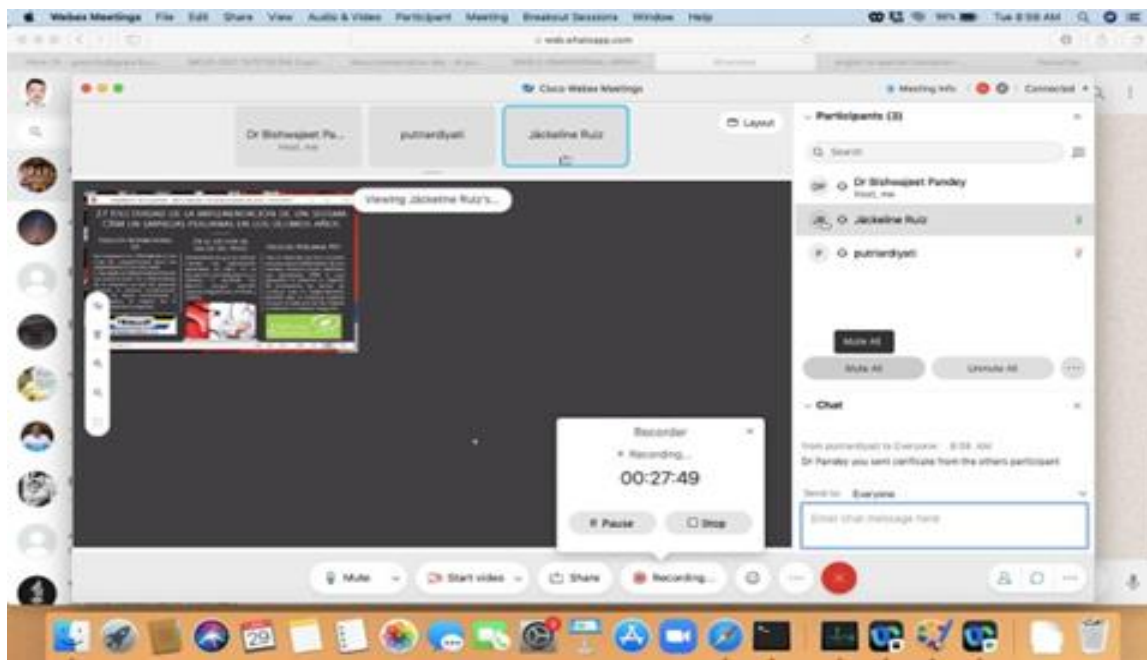


RTCSE'2021: 15th International Conference of Gyancity at University of Hawaii, USA



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



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 7^a Conferencia Internacional sobre Tecnologías de Ingeniería y Computación Ecológicas 2021 (ICGCET-2021) y la 13^a 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 Villarreal

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



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



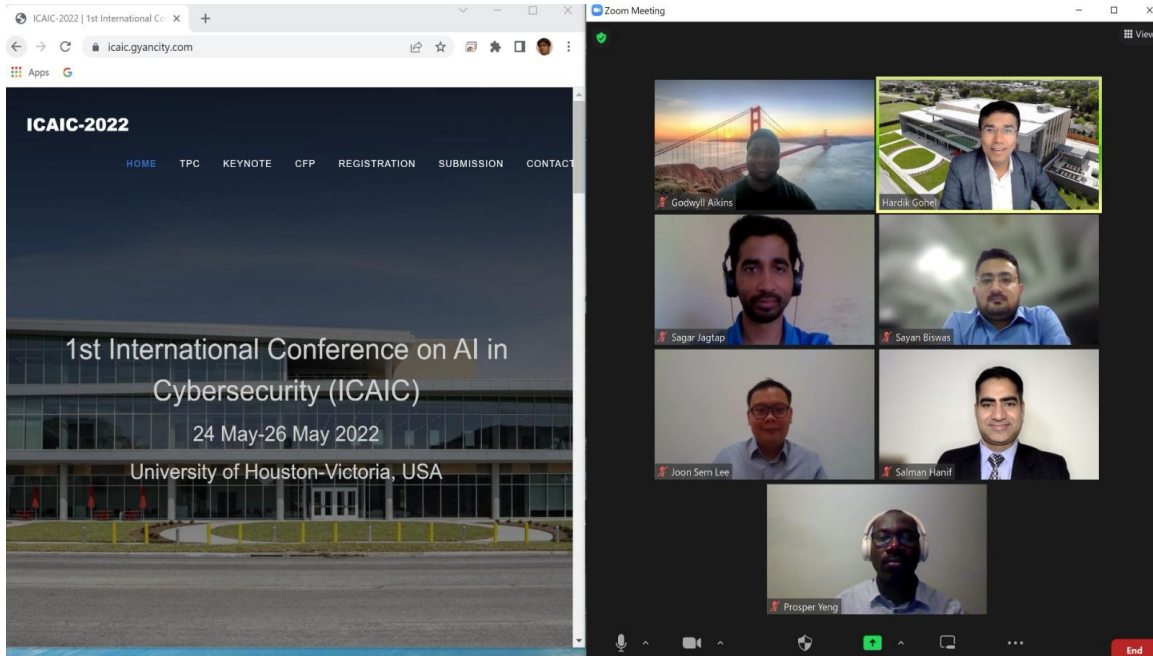
RTCSE'2022: 19th International Conference of Gyancity at University of Hawaii USA



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



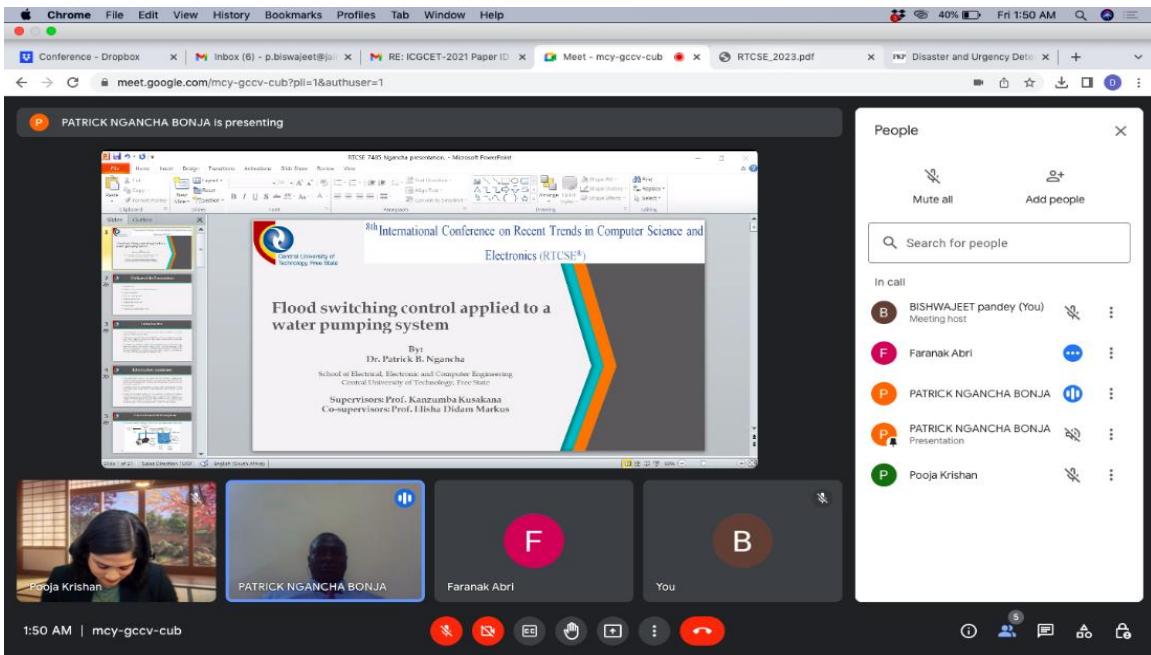
IMCES'2022: 22nd International Conference by Gyancity at Aalborg University, Esbjerg, Denmark



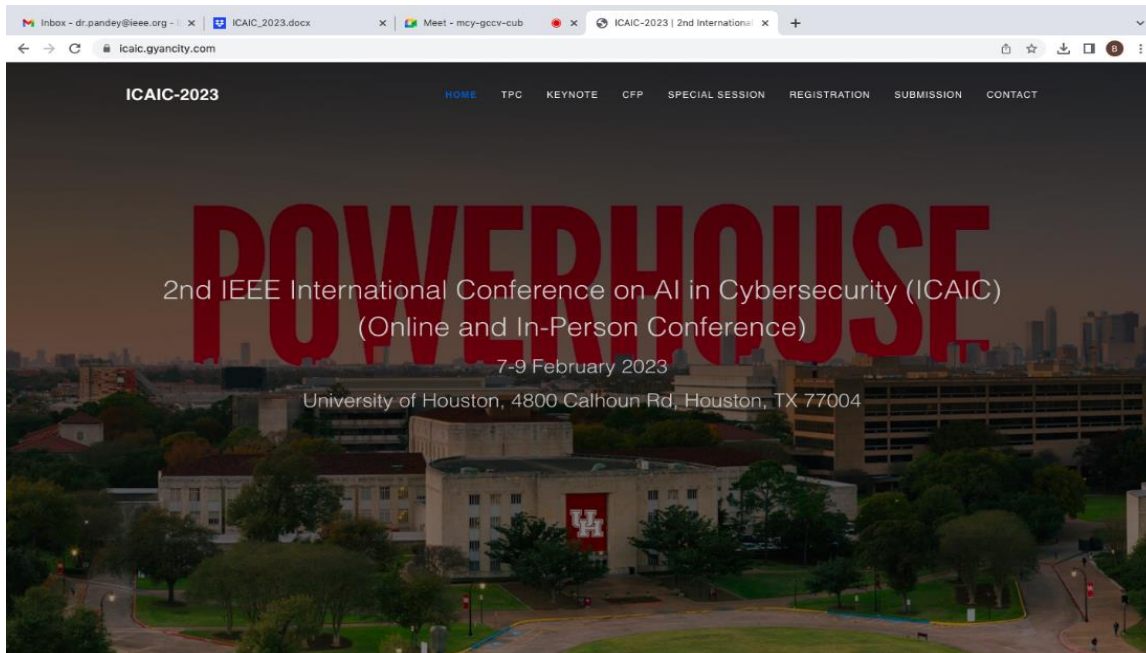
ICGCET'2022 GROUP PHOTO: 23rd International Conference of Gyancity at Mauritius



RTCSE'2023 GROUP PHOTO: 24th International Conference of Gyancity at University of Hawaii USA



ICAIC'2023 GROUP PHOTO: 25th International Conference of Gyancity at University of Houston-Victoria, USA



BMESS'2023 GROUP PHOTO: 26th International Conference of Gyancity at Bath Spa University, UAE



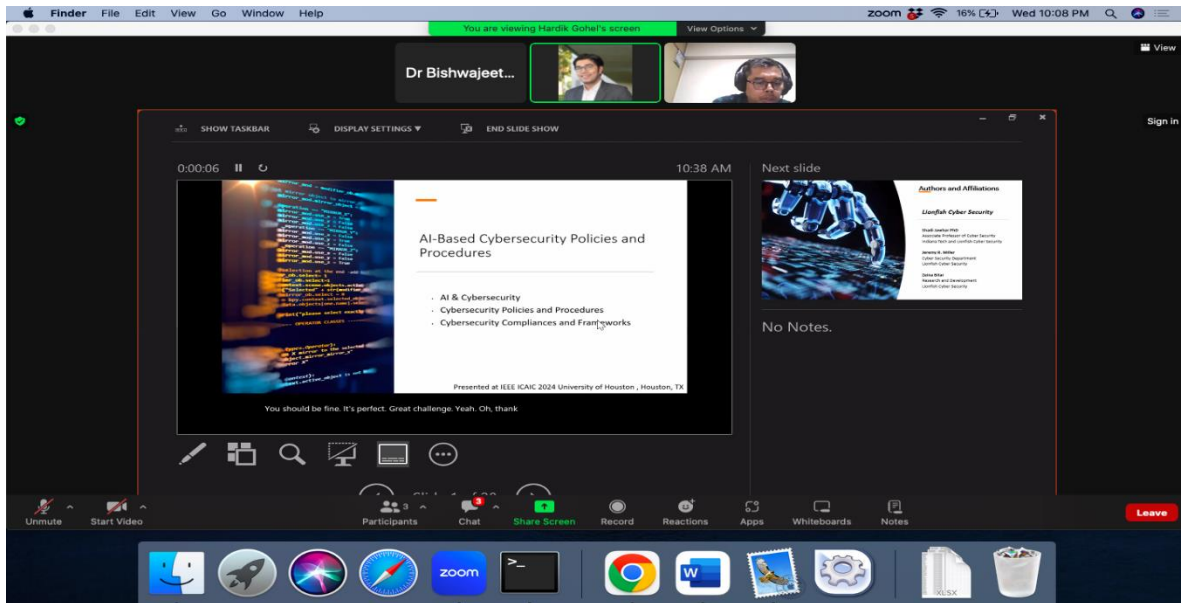
IMCES'2023: 27th International Conference by Gyancity at Yarsi University, Jakarta, Indonesia



ICGCET'2023: 28th International Conference by Gyancity at Cape Town South Africa



ICAIC'2024: 29th International Conference by Gyancity at University of Houston, USA



IMCES'2024 and BMESS'2024: 30th and 31st International Conference by Gyancity at Bath Spa University UAE



Abstract of Paper Accepted in ICGCET'2024

492	<h3>Explain the Contextualization of the Curriculum for RBE Learning</h3> <p>Sheila Marly Gálvez Rojas, Luis Alberto Achcaray Auris, Ronceros Felix Elva Enriqueta Universidad Cesar Vallejo-Lima -Perú sgalvezro27@ucvvirtual.edu.pe</p> <p>ABSTRACT</p> <p>Contextualization are the actions that adapt or transform curricular programming, which is why this research aims to explain the contextualization of the curriculum in EBR learning. The methodology used for this study is the bibliographic review in the database of Scopus, Scielo, Dialmet, among others. Likewise, a total of 43 articles have been reviewed, of which 5 are in English and 38 in Spanish, 2 repositories and 3 doctoral theses. The years of publication are from 2005 to 2022 and the countries are diverse such as Peru, Ecuador, Mexico, Puerto Rico, Cuba, USA, Canada, Philippines, Chile. Regarding the search strategies, word tricks, keywords and bibliographic tracking were used. The study concludes that the contextualization of EBR is generated by the diverse needs of the student and the characteristics of the school context.</p> <p>Keywords: Contextualization, adaptation, curricular flexibility</p>
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Abstract of Paper Accepted in ICGCET'2024

801

Efficient Text Extraction Methodologies for Sentiment Analysis: Utilizing University of South Africa Students' Email Communications as a Case Study

Malusi Sibiyi

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ABSTRACT

After the advent of transformers, highlighted in the paper 'All You Need is Attention' by Vaswani et al. [1], Large Language Models (LLMs) gained significant traction, notably for tasks like sentiment analysis due to their improved accuracy. Our study focuses on devising a systematic approach to extract textual data from student emails addressed to (University of South Africa) UNISA staff members via the Viva Engage platform. UNISA has customized Yammer, a Microsoft-owned platform typically used for enterprise collaboration and communication, into Viva Engage. Within this platform, students utilize it to express their concerns and opinions on various issues. Given that Viva Engage is intricately linked with UNISA staff emails, every staff member is promptly notified of incoming student messages. Our primary objective is to mine this data for sentiment analysis, aiming to discern the prevalent concerns among students. Specifically, our study delineates the methodologies employed for data extraction and preprocessing tailored for sentiment analysis utilizing LLMs. It is worth noting that this paper exclusively addresses the data extraction phase from Viva Engage emails. The subsequent sentiment analysis, utilizing a BERT LLM, is elaborated upon in a separate research endeavor.

Keywords: Large Language Models, Viva Engage, BERT, Email

Abstract of Paper Accepted in ICGCET'2024

1738

Systematic Literature Review on Data Preprocessing for Improved Water Potability Prediction: A Study of Data Cleaning, Feature Engineering, and Dimensionality Reduction Techniques

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ABSTRACT

Access to safe drinking water is essential for human health, necessitating effective assessment and prediction of water potability. This study addresses the challenges of implementing machine learning models for water potability prediction in resourceconstrained environments, focusing on advanced data preprocessing techniques to optimize datasets and enhance model accuracy. The research highlights the importance of data cleaning, feature engineering, and dimensionality reduction in improving predictive modelling efficiency on personal computers with limited computational power. The methodology follows PRISMA 2020 guidelines, involving rigorous screening and selection of research papers from credible databases. Data cleaning processes address common data potability issues, ensuring reliability by removing inconsistencies, outliers, and missing values. Feature engineering techniques extract relevant features to improve model discriminative power, while dimensionality reduction methods, such as PCA and autoencoders, manage high-dimensional data, enhancing model efficiency and interpretability. The literature review underscores the critical role of these preprocessing techniques in various domains, particularly water potability prediction. The results demonstrate that meticulous data cleaning, strategic feature engineering, and advanced dimensionality reduction consistently correlate with higher model accuracy. Studies achieving high accuracy emphasize robust preprocessing, real-time data handling, and deep learning models that automatically perform feature extraction. In conclusion, optimizing data preprocessing is crucial for accurate and efficient water potability prediction, especially in settings with limited computational resources. This research contributes to making predictive modelling more accessible and applicable in diverse contexts, ensuring reliable and precise outcomes for water potability assessment.

Keywords: Water Potability; Machine Learning; Data Preprocessing; Data Cleaning; Feature Engineering; Dimensionality Reduction.

Abstract of Paper Accepted in ICGCET'2024

2194

Design of Seven Malware in Windows Sandbox and Kali MSFVENOM At LATITUDE:51.1876 and LONGITUDE:71.4491

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ABSTRACT

In this work, we are creating seven malware using Windows Notepad, NJRAT, and MSFvenom. A couple of BAT viruses are developed using Windows Notepad to create a Matrix and Bombing of Apps. Three Spywares are sending information from their host like Android, MAC, and Windows machines to the Kali Machine. The seventh spyware is built by NJRAT danger edition that has options to choose varieties of payload like opening File Explorer and deleting specific Folder with an ultimate goal of controlling the victim computer. The whole research and development exercise is done at LATITUDE:51.1876 and LONGITUDE:71.4491. The geoinformatics coordinates are taken by the IP location tracker with the help of the IP Address of our Kali Machine.

Keywords: Virus, Spyware, Notepad, Msfvenom, Windows, Kali

Abstract of Paper Accepted in ICGCET'2024

3371	<p data-bbox="431 275 1409 436">Machine Learning as a Tool to Forecast the Power Quality of Wind Energy Power Plants: A Systemic Literature Review</p> <p data-bbox="586 443 1255 474">Mbuyiselwa Cindi, Malusi Sibiya, Elisha Markus</p> <p data-bbox="591 478 1250 510"><i>CUT, Free State, South Africa, cindiml@gmail.com</i></p> <p data-bbox="472 514 1369 546">University of South Africa, Florida South Africa sibiyam@unisa.ac.za</p> <p data-bbox="596 550 1250 581"><i>CUT, Free State, South Africa, emarkus@cut.ac.za</i></p> <p data-bbox="849 611 1019 642">ABSTRACT</p> <p data-bbox="423 653 1419 1528">The growing inclusion of renewable energy utilities into the national energy system grid presents an ever-increasing need for a high level of quality in output power injected into the grid. The need for grid expansion to include wind energy renewables requires accurate forecasts of the power quality. The country's grid operator needs real-time accuracy to stabilize and monitor the grid capacity and load demands continuously. The industry currently uses tools to predict the wind energy production power curve. computational intelligence techniques are needed to evaluate the availability of this energy beforehand, due to the variable and unpredictable nature of the wind behaviour. The purpose of this work is to highlight the current research conducted and associated gaps in the field of renewable wind power production forecasting techniques using Machine Learning as a tool to predict the power quality on the national grid. The Preferred Reporting Items for Systemic Review and Meta-Analysis (PRISMA 2020) protocol guides the study. The study drew from several literature sources, most of which focused on forecasting wind power output. The keywords below and Boolean operators were used in our search criteria in Google Scholar, Web of Science, and IEEE Explore. Section II details the exclusion and inclusion criteria employed in this work. There is more research and study that needs to be conducted around machine learning and deep learning algorithms in the wind industry-particularly around forecasting techniques that aim to predict the quality of power generated by wind power plants. The results also show that there are available public datasets. The restriction of this study is the English language papers, forecasting, variable power generation, wind energy, and renewables power quality applications.</p> <p data-bbox="423 1570 1419 1665">Keywords: Grid, Wind Energy, Forecasting, Variable Generation, Renewable Energy, Machine Learning (ML), Deep Learning (DL), Algorithms, Power Quality.</p>
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Abstract of Paper Accepted in ICGCET'2024

3614

Effectively connecting batteries to energy systems for the DIY enthusiast

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ABSTRACT

The proliferation of non-expensive commercially available renewable energy systems along with the regular interruption of electrical energy from local power producers has resulted in more DIY (do-it-yourself) enthusiasts. Many of these enthusiasts are from the lower to middle income classes, and thus seek to empower themselves to purchase and install a basic off-grid renewable energy system. This does not negate the importance of obtaining a wiring certificate for the electrical installation, as national standards, quality management and the lives of humans are at stake. However, several components need to be connected in the most efficient and effective way, thereby promoting safety and efficiency. The purpose of this study is to evaluate different electrical connections between two of the main components, being the battery (storage device) and the solar charger (or an inverter) to enable an informed decision regarding the optimal type of connection. An experimental setup is used to gather empirical data for seven different electrical connections. The worst type of connection is a solid 1,5 mm cable with battery clamps (or clips) that results in a higher voltage drop of 0,42 V when compared to the ideal type of connection that is a solid 2,5 mm cable with unsoldered crimped lugs. It is recommended that every DIY enthusiast working with electrical connections purchase a non-expensive crimping tool to effectively connect lugs to the correct wire diameter required for their application.

Keywords: off-grid, optimal, crimping-tool,

Abstract of Paper Accepted in ICGCET'2024

6368

Comparative Analysis of ChatGPT-Generated Code and Kaggle Champion Performance in Water Potability Prediction: A Few-Shot Learning prompts Approach

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ABSTRACT

This research compares the predictive performance of machine learning models generated by ChatGPT, an AI language model, with those developed by Kaggle champions in predicting water potability. Utilizing few-shot learning prompts, ChatGPT constructs predictive models with minimal dataset information, including total columns, missing values, and total entries. Incorporating state-of-the-art regularization techniques, ChatGPT-generated models aim to enhance predictive accuracy. Performance metrics such as accuracy, precision, recall, F1 score, and area under the ROC curve are evaluated to assess model effectiveness. The findings indicate the potential of AI language models like ChatGPT in rapidly constructing predictive models with limited information, providing insights into their comparative performance against human-developed models in real-world predictive tasks

Keywords: ChatGPT, Few-shot learning, Machine Learning, Natural Language Processing, Water potability.

Abstract of Paper Accepted in ICGCET'2024

6475

Evaluation of road conditions for walkability on main roads in the Miraflores district, Lima, 2023

Tania Cama, Oswaldo Facho, Liliana Delgado, Alonso Rincón, Génesis Del Castillo
National University Federico Villarreal, Faculty of Architecture and Urbanism, Lima, Peru

ABSTRACT

The research "Assessment of Road Conditions for Walkability on Main Roads in the District of Miraflores, Lima, 2023" analyzes the conditions of three key avenues in Miraflores during 2023, focusing on comfort, visual quality, and pedestrian safety. The mixed methodology employed, combining field research and statistical analysis, proved effective. A significant alignment was found between researchers' findings and user perceptions. Main deficiencies center around comfort and road safety, highlighting the importance of improving pedestrian comfort with more seating, shade, and wider sidewalks. Visual quality is satisfactory due to urban maintenance. Practical recommendations, such as tree implementation and furniture stripes, are proposed. In summary, the study provides valuable insights to enhance pedestrian safety and comfort in Miraflores.

Keywords: Road conditions, walkability, comfort, visual quality, safety

Abstract of Paper Accepted in ICGCET'2024

6901

Growing Entrepreneurship in high technology segment through Bibliotherapy in Zimbabwe

Marry Murambi, Chipo Mutongi, Billy Rigava, Lawrence Poperwi,
Augustine Mataba and Watyoka Noreen
Midlands State University, Zimbabwe

ABSTRACT

Globally there are so many strategies that have been employed in countries to drive innovation among the population but most of them are found to be having no positive effect. DVUCADD (Dynamic, volatile, Uncertainty, Complexity, Ambiguity, Diversity and Disruptive) environment requires high entrepreneurship. Bibliotherapy is one key engineer to such high technological segments that leads to growth in entrepreneurship. Research have found that bibliotherapy is a tool that uses words and literature in helping find people's way in a confusing world. Traditionally bibliotherapy was used to complement psychotherapy to make clients understand the process that they will be undertaking. People are not embracing bibliotherapy to engineer entrepreneurship. This study seeks to unveil how bibliotherapy can lead people to innovation and entrepreneurship through learning from entrepreneurial and innovative stories of other business entrepreneurs. In methodology the study investigates existing literature. Stories, videos and audios of other successful entrepreneurs like Strive Masiyiwa of Econet Wireless, Sir Richard Branson of the Virgin Group and many others are outstanding entrepreneurs that are key to bibliotherapies for entrepreneurship growth in high technological segments. Using these key entrepreneurs' stories is essential in driving entrepreneurship in high technology segments.

Keywords: Entrepreneurship, High Tech, Trends

Abstract of Paper Accepted in ICGCET'2024

8560

Solving Mysteries with AI: The Future of NPC Interactions in Murder Mystery Games

Sallar Khan

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ABSTRACT

Lies of the Forest, an advanced murder mystery game using artificial intelligence to produce dynamic, real-time communications between players and non-playable characters (NPCs) is the focus of this paper. With the help of the Unity 3D engine and the InWorld.ai API, we were able to create non-player characters (NPCs) with expressions and behaviours that are more realistic than those seen in real-world relations and that go beyond the typical hard-coded dialogue. The game's narrative evolves based on player actions thanks to this dynamic storytelling mechanism, providing a one-of-a-kind, user-driven experience each time the game is played. Pre-built assets are combined into our development process to improve the game environment and promise a rich and immersive gaming experience. This paper describes our progress to date, focusing on the technical implementation, difficulties encountered, and proposed solutions. The implications of our study for game development in the future point to the potential of AI-driven real-time communication in interactive storytelling.

Keywords: NPC, API, AI

Abstract of Paper Accepted in ICGCET'2024

	<p style="text-align: center;">ABSTRACT</p> <p>Keywords:</p>
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Next Conference

4th IEEE International Conference on
AI in Cybersecurity (ICAIC)
(Online and In-Person Conference)

<https://icaic.gyancity.com/>

5-7 February 2025

**University of Houston, 4800 Calhoun Rd,
Houston, TX 77004**

10th International Conference on
Green Computing and Engineering
Technologies (ICGCET) & 9th
International Conference on Recent
Trends in Computer Science and
Engineering (RTCSE)

<https://icgct.org> <https://rtcse.org>

25-26 June 2025

YARSI University, Jakarta, Indonesia