1st Annual US-NZ Blue Green Tech Conference and the
8th International Conference on Recent Trends in Computer Science and Electronics (RTCSE)
Dec 29, 2022- January 7, 2023, University of Hawaii, Manoa

Proceedings
of

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

1st Annual International US-New Zealand Blue-Green Tech Conference for Pacific Islands

Dec 29, 2022 - Jan 7, 2023

University of Hawaii, Manoa

Honolulu, Hawaii, USA

Proceeding Editors:

Bishwajeet Pandey and Jason Levy

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Message from the Chairs

We would like to welcome you to the 8th International Conference on Recent Trends in Computer Science and Electronics (RTCSE) and the 1st Annual US-NZ Blue Green Tech (UNBGT) conference. These conferences were offered in two formats: both online and in person from December 29, 2022-January 7, 2023. The response to the conferences was heartwarming and we welcomed a large number of high quality contributions from around the world. We have partnered with a variety of New Zealand and US organizations to make this event a success. We are also coordinating with SCOPUS or WOS-ESCI Index Journals to further promote the results of these conferences.

On behalf of the organizing committee, we are extremely happy to host you in Honolulu on the lovely island of Oahu, Hawaii, USA and we are working to provide you with the best possible academic environment and social setting. These conferences seek to attract innovative technical and scientific work in the fields of science, technology and engineering with a special focus on blue-green clean technology for Pacific islands. It is our hope that presenters and the conferences will provide thought-provoking and leading edge content.

Best wishes,

Bishwajeet Pandey and Jason Levy

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Schedule

Dec 29, 2022: Blue Green Tech Sessions

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Dec 29, 2022

9 am – 9:50 am

Indigenous Innovation and Knowledge for the Community-Based Clean Tech Ecosystem

M. Villareal[1] and Jason Levy[2]

[2] University of Hawaii at West Oahu

A green future of the state of Hawaii relies on innovation and entrepreneurship to promote the blue-green economy, enhance sustainability, and promote socio-ecological resilience. Incorporating diversity, equity, and inclusion into all dimensions of the Clean Tech Ecosystem can promote a more sustainable future for the state of Hawaii. This talk investigates how native Hawaiians employed innovative resource management strategies such as designing food systems capable of sustainably feeding over a million citizens in the island chain of Hawaii. It will be shown how the most creative and resourceful indigenous Hawaiian practices in the past and present can help to transform the Clean Tech field and promote practical solutions to current problems. Traditional ecological knowledge in Hawaiian culture date back more than a thousand years and supplements observations from the earliest Western naturalists. This indigenous knowledge is essential for disaster risk reduction and hazard mitigation. Hawaiian values and practices provide key lessons for Clean Tech subdisciplines from renewable energy to sustainable water resources. It will be shown how the indigenous Hawaiians were able to sustain and support a large population while maintaining ecological integrity and socio-economic resilience. Such revelations may provide a pathway to a more tenable future the Clean Tech ecosystem – and a more sustainable future for the planet —all thanks to a Hawaiian cultural renaissance that began in the 1970s and continues today.

10-10:45 am

Advances in decision analysis for the blue-green economy with 1000minds: Promoting a Clean Ocean Based Economy

New Zealand Software highlighted: 1,000 minds

Inventor: Paul Hansen, University of Otago, New Zealand

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J.K. Levy [1] L. Henobio[1] and P. Hansen[2]
[1]University of Hawaii at West Oahu
[2]University of Otago, Department of Economics

Summary: Decision Support Systems, Multiple Criteria Decision Analysis and Conjoint Analysis are valuable tools to support the Blue-Green Economy in USA and NZ. Of particular importance is the need to select pareto optimal alternatives for the Blue Green Economy.

https://www.1000minds.com/academic/research

10:45- 11 am break

11 am-11:50 am

Advances in Blue Green Tech at the Hawaii Ocean Science and Technology (HOST) Park powered by Natural Energy Laboratory Hawaii Authority (NELHA)

L. Scott[1]   and J.K. Levy[1]
[1]University of Hawaii at West Oahu

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Summary: The Hawaii Ocean Science and Technology (HOST) Park powered by Natural Energy Laboratory Hawaii Authority (NELHA) provides resources and facilities for energy and ocean-related research, education, and commercial activities in an environmentally sound and culturally sensitive manner. The 800+ acre park is located on Hawaii Island and provides a valuable resource for green innovation and future blue green cleantech solutions.The talk includes a summary of interviews with key decision makers at HOST and NELHA and the blue-green ecosystem in Hawaii including HOST Chief Executive Officer (CEO) Jan War and COO Keith Olson. The paper discusses innovations at the 800+ acre MOST facility that contains a deep sea water pipe to 3000 feet, ocean access, and a master plan designed for research and development. A comprehensive discussion is provided about blue-green businesses at NELHA including SEATREC, Blue Ocean Mariculture, Forever Oceans, HATCH and Cyanotech. These companies are working to advance ocean technology and renewable resources.

Lunch and campus tour noon – 2 pm

2-2:50 pm

SeaTrec and Blue-Green Tech for Promoting Indigeous Entrepeneurship in Seafloor mapping, Souncscape Monitoring and Hurricane Prediction
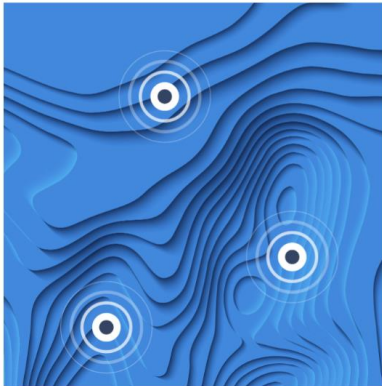
J.K. Levy [1] and Y. Chao[2]
[1]University of Hawaii at West Oahu
[2]SeaTrec

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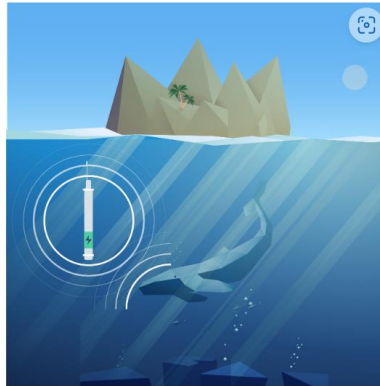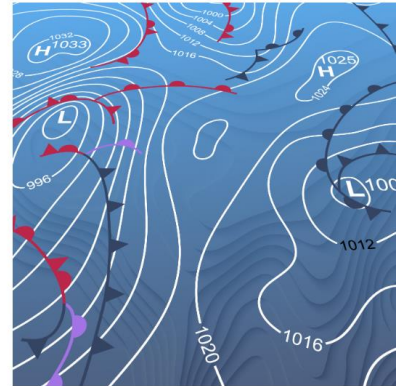
Seafloor Mapping

Measure shapes and depths of the ocean floor in poorly mapped areas globally in the most cost-effective and sustainable manner.

Soundscape Monitoring

Tune into ocean sounds to monitor marine mammal communications and quantify the impact of noise pollution.

Hurricane Prediction

Capture frequent 3-D ocean data during rapid hurricane intensification to improve decision making.

Summary: Seatrec was founded in 2016 by CEO, Dr. Yi Chao. The core technology originated at NASA Jet Propulsion Laboratory, California Institute of Technology, to provide clean power for remote off-grid locations. With funding from private investors, government grants, and industry contracts, Seatrec further developed this thermal energy technology and released its first commercial product in 2019. Seatrec builds a robust product line of power solutions and computational tools for offshore applications including seafloor mapping, meteorology, and marine animal conservation.

3-3:50 pm

SeaTrec's CleanTech Approach for Powering the Mapping of Pacific Islands: Ocean Thermal Energy Associated with Ocean Temperature Differences

J.K. Levy [1] and Y. Chao [2]
[1] University of Hawaii at West Oahu
[2] SeaTrec

4-4:50 pm

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Long-Range Velodyne Lidar Sensors for High Quality Perception and Environmental Monitoring to Promote the Blue-Green Economy

J. Barad[1] Zhuoyuan Song[2] and Jason Levy[3]

[1]Velodyne Lidar, Vice-President of Business Development

[2]University of Hawaii at Manoa, Department of Engineering and Blue Origin

[3]University of Hawaii at West Oahu, Department of Public Administration

Summary: State-of-the-Art Long-Range Velodyne Lidar Sensors are an ideal tool for the Blue Green economy as they provide high quality perception and optimal environmental monitoring under a wide range of light conditions. This presentation disusses ways to leverage the Velodyne Lidar sensors' autonomous mobility, advanced Sensor-to-sensor Interference Mitigation, power efficiency, and thermal performance to Promote the Blue-Green Economy. A particular focus of the talk is on the application of the Velodyne Lidar Alpha Prime to Promote the Blue-Green Economy in New Zealand and the US. Velodyne Lidar provides smart, powerful lidar solutions for autonomous vehicles, driver assistance, delivery solutions, robotics, industrial, infrastructure, navigation, mapping, and more. Headquartered in San Jose, California, Velodyne is known worldwide for its broad portfolio of breakthrough lidar sensor technologies. Velodyne's high-performance product line includes a broad range of sensing solutions, including the cost-effective Puck™, the versatile Ultra Puck™, the autonomy-advancing Alpha Prime™, the ADAS- and robotics-optimized Velarray™ and the groundbreaking lidar software Vella™. As a market leader, Velodyne has served more than 450 customers worldwide.

Velodyne and remote sensing technologies have a wide range of applications in many different areas of blue-green tech:

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- Coastal applications: Monitor shoreline changes, map coastal features and prevent erosion
- Ocean applications: Monitor ocean circulation and to better understand the oceans and how to best manage ocean resources.
- Disaster Risk reduction: Predict and analyze hurricanes, earthquakes, erosion, and flooding. Data can be used to not only track hazards but also assess the impacts of a natural disaster and create preparedness strategies to strengthen the blue-green economy and coastal communities.
- Environmental management and urban planning: Monitor natural resources, study land use, map wetlands, and chart wildlife habitats. Remote sensing can help to limit the damage that urban growth has on the environment and to restore and preserve natural resources.

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Dec 30, 2022: Blue Green Tech Sessions

9-9:50 am

Computable general equilibrium models for the blue green economy in Hawaii

P. Buckley[1] and J.K Levy[2]

[1] Western Washington University
[2] University of Hawaii at West Oahu

Our research involves building Computable General Equilibrium (CGE) models for Hawaii and across the USA that use actual economic data to estimate how these economies react to changes in environmental, economic and social policy, technology and other external factors to analyze the blue green economy. We also assess the outputs of CGE analyses after controlling for various modeling factors such as data, type of model, and modeling mechanisms. The purpose of this research project is to partner with academic scholars and practitioners interested in promoting the blue green economy to analyze and apply economic CGE models for Hawaii and New Zealand. CGE models are a class of economic models that use actual economic data to estimate how an economy might react to changes in socio-economic and enviornmental policy, risk reduction technology or other external factors. We will examine

whether increased sustainability and disaster resilience in the future blue green economy significantly reduces business disruptions from disasters and the extent to which results are sensitive to model assumptions and modeling structure. We hope to improve the validity of CGE modeling outcomes for the blue green economy by cautiously examining the impact of environmental policy on the economy and adopting appropriate data, models, and shock scenarios.

10-10:50 am.

Extended Reality (XR) Environments for Flood Risk Management and Blue Green Tech with 3D GIS and Graphics Cross-Platform Game Engines
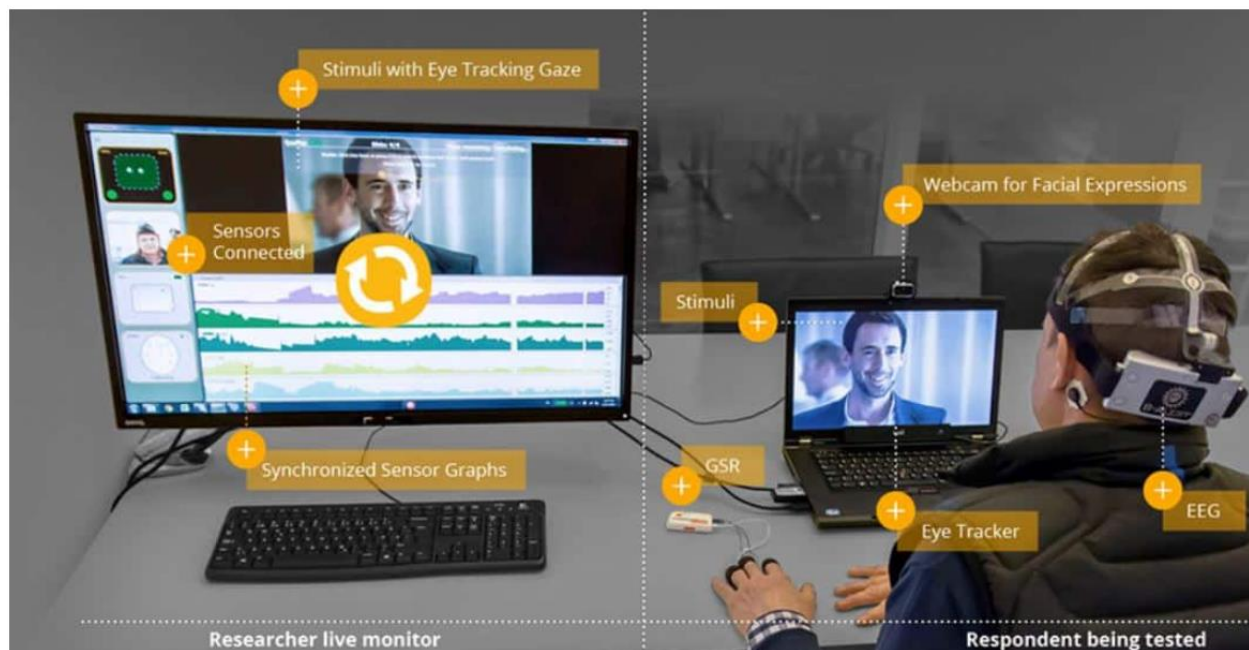
D. Liu[1] and Jason Levy[2]

[1] University of Hawaii at Manoa, Department of Urban and Regional Planning
[2] University of Hawaii at West Oahu

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Summary: Extended Reality (XR) constitutes a 3D immersive environment supplemented with multisensory information and feedback. In particular, immersive Virtual Reality (VR) experiences are transforming the blue green tech ecosystem and enhancing climate change management by providing a dramatic first-person experience of ocean hazards including Sea Level Rise (SLR). XR can provide key insights into how future sea level rise will physically manifest itself in local communities by providing a true-to-life, real-time and evocative first person experience, thereby helping the user to more vividly understand the repercussions of climate change and sea level rise: visually demonstrating SLR impacts plays an important role in supplementing the science of climate change. The use of 3D GIS and Virtual Reality (VR) together in four Sea Level Rise (SLR) GIS activities yields an average student class score of 87%. This constitutes a 70.6% improvement over the baseline case in which no 3D tools or immersive technologies are taught. The use of 3D GIS Modeling, Augmented Reality (AR), Mixed Reality (MR), Virtual Reality (VR) and alone constitute an improvement in student learning outcomes of 21.6%, 29.4%, 43.1% and 60.8% respectively.

11-11:50 am

Measuring human behavior in the blue-green tech community with imotions software

K. Wong[1], J. Wilson[1], M Hirschheimer[1] and J. Levy[2]

[1] iMotions

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[2] University of Hawaii at West Oahu

Summary: iMotions can the potential to improve the teaching and learning of cleantech and to improve understanding of the behavior and emotions of blue-tech students and professionals. iMotions is the world's premier provider of human insights software and can provide valuable insights for the Blue Tech community. Across its desktop, online, and mobile applications, iMotions allow users to collect and analyze human behavior data through eye tracking, galvanic skin response, facial expression analysis, EEG, EMG, and ECG on one convenient platform. Backed by science, this multi-modal software suite is the most comprehensive human insights tool currently available on the market.

12-2 pm lunch

2-2:50 pm

Esri Geospatial Technologies for the Cleantech Economy in USA and New Zealand

C. Kurnia[1] and Jason Levy[2]

[1]Esri

[2]University of Hawaii at West Oahu, Department of Public Administration

A GIS works with many different clean tech applications: examples for the blue green economy include land use planning, environmental management, eco-sociological analysis, and green marketing, and more. Any blue green tech endeavor that uses spatial data can benefit from a GIS. In this talk we explore the use of esri ArcGIS Pro for use in the blue green economy to improve mapping and decision making in USA and New Zealand. Keep current on the latest GIS technologies by taking advantage of the various self-learning lessons

Learn ArcGIS: Looking for more free training? Check out these guided lessons, based on real-world problems, to help you rev up your GIS skills.

Esri Training: Search our catalog for web and instructor-led courses as well as training seminars. Many of these options are free!

Esri MOOC: Massive open online course in various topics – 6 weeks (free)

Books

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GIS for Science – Technology Showcases (2019-2021)

Esri Press: Browse through the latest book titles that have been released by Esri Press as well as those that are coming soon.

Technical Resources

Storytelling with Esri Story Maps

ArcGIS Hub gallery

ArcGIS for Developers

Data

Living Atlas of the World

3-3:50 pm

"Blue-Green Surveying" in Pacific Islands with Real Time Ranging Technologies (RTR): Protecting and Enhancing Forests and Water Resources in USA and New Zealand

T.G. Pattison[1] and Jason Levy[2]
[1]Aerial Surveying
[2]University of Hawaii at West Oahu, Department of Public Administration

RTR Technologies. LLC new Patented Foliage Penetrating Radio Wave Technology

LinePro – RTR's standard survey-grade system
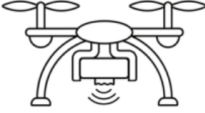
SkyRanger – RTR's drone mounted system

RTR ...the smarter greener way to map land!

Modern land surveying equipment requires a clear line of sight, either upward between GPS aka Global Positioning Systems and satellites orbiting the Earth or along the ground between Microwave Radar Systems aka Total Robotic Stations and Prisms. The need for a clear line of sight while using existing land surveying equipment forces surveyors to destroy plants, shrubs, and trees using bulldozers, chainsaws, and machetes in order to mark property lines or collect data points in the field for land mapping. This not only damages homeowner landscaping, but

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also decimates wooded areas, forests, and jungles. In addition to causing environmental damage, obtaining a clear line of sight requires additional labor, increasing time spent in the field and overall project costs. As a result the innovative RTR technology can improve ecological management for the blue green economy. The Real Time Ranging Technology [approved U.S. Patent No. 10101435 and No. 11035947] works via radio waves to penetrate foliage minimizing job costs and environmental damage. Using the basic LinePro Ground System, the range detector pole is walked between transponders set-up on the property corners. The radio wave based technology penetrates foliage, emitting a signal when the range detector pole in on the property or boundary line. RTR Technology finds data points along property lines in order to mark the property boundary as well as collecting data points for land mapping without destroying plants, shrubs, and trees. Real Time Ranging Technology also works in open areas, reducing the overall time spent in the field on every land surveying project. RTR Technology may also be mounted on a drone, our SkyRanger Aerial System, or on terrain bots, our GoRover Autonomous System, making Real Time Ranging Technology perfect for other professionals like civil engineers, environmental conservationists, architects, building contractors, landscape architects, fence builders, archeologists, and the military in addition to land surveyors.

SkyRanger - RTR Drone System	LinePro - RTR Ground System	GoRover - RTR Terrain Bot
Our RTR or Real Time Ranging Drone System is a quick green new way to map large areas.	LinePro is a smarter greener way to mark property lines in thick woods, forests, and jungles.	RTRs autonomous terrain robot is a great and green new way to map rough and rugged terrain.
Read more >	Read more >	Read more >

4-4:50 pm. Blue Green research and indigenous knowledge to protect Antarctica and the Southern Ocean

D. Vaughan[1] and J. Levy[2]

[1]British Antarctic Survey
[2]University of Hawaii at West Oahu, Department of Public Administration

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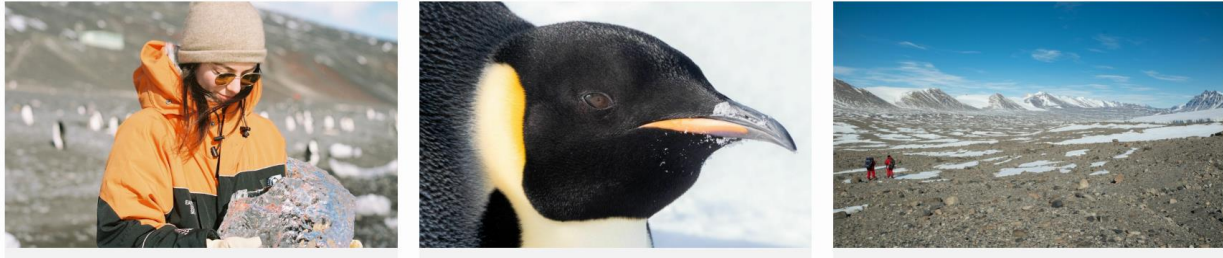
Summary: The goal of this blue green research is to enhance Antarctica and the Southern Ocean – to make it more valued, protected, and understood. The Southern Ocean, also called Antarctic Ocean, is a body of water covering approximately one-sixteenth of planet total ocean area. New Zealand is actively carrying out activities in the Southern Ocean and Antarctica, supporting world leading science and environmental protection. A key goal is to include indigenous and community-based knowledge in research.

Dec 31, 2022-Jan 4, 2023

Field trips and Discuss Groups

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January 5, 2023

10:00-12:00 (USA Time)
Online Satellite Session @ University of Hawaii, USA
Google Meet Link: meet.google.com/mcy-gccv-cub
Paper Id: 349, 3182, 3788, 3873, 4291, 4625, 4753, 7485, 7510, 8193, 8596
Chaired by **Dr D M Akbar Hussain, Aalborg University, Denmark**

January 6, 2023

10:00-11:00 AM (USA Time)
- **Inaugural Speech: General Chair Prof Dr. Jason Levy, University of Hawaii, USA**

11:00-12:30 (USA Time)
- **Session 1**: Chair: **Prof Dr. Arthur James Swart, Central University of Technology, South Africa**

Paper Id: 3490, 4408, 5767, 5954, 6746

12:30-14:00 (USA Time) **LUNCH**

14:00-16:00 PM (USA Time)
- **Session 2:** Chair: **Prof Dr. Bishwajeet Pandey, Jain University, India**

Paper Id: 6955, 7907, 8416, 8780, 8954, 9808

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RTCSE'2023 Abstracts

349	Hierarchy Of Various Types Of Social Media Actors: Perception And OptimizationOf Influence

Alexander A. Kharlamov[1] , Aleksei N. Raskhodchikov[2] , Maria Pilgun[3]

[1]Institute of Higher Nervous Activity and Neurophysiology, RAS HSE University Moscow State Linguistic University

[2]Fund "Moscow Centre of urban studies "City"

[3]Russian State Social University

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ABSTRACT

Objective of this paper presents an analysis of hierarchy of various types of social media actors and analysis of perception and optimization of influence. Methods: The study involved a cross-disciplinary approach using neural network technologies. To analyze the perception of actors and optimization of influence on social networks, it was developed and tested to the semantic model for the influence maximization analysis. The neural network technology TextAnalyst 2.3. was used as a toolkit to help form asemantic network common for the entire corpus of analyzed texts, from which the topic structure of the analyzed content was extracted; also, an associative search was performed. Findings: As a result of studying a specific urban planning conflict, it wasconcluded that the hierarchy of various types of actors in social media is dynamic and unstable. Optimization of the speech influence and perception by users is determined by a number of reasons: the accuracy of determining the specifics of the communicative situation, identifying relevant topics, generating messages on relevant topics using an imperative strategy that includes negative sentiment and aggression. An important role is played by the symbolic capital of the source of information dissemination for certain types of actors. One should also take into account the dynamism of communication processes taking place in the network environment and a sharp change in the situation in short time periods.Moreover, the choice of adequate

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communication means and successful solution of urgent communication tasks ensures active influence on the perception of network actors and translation of virtual intentions into real actions. Application: The results of the study can be used to identify social tension and prevent urban conflicts with residents.

Keywords: neural network approach, social media, perception, optimizationof influence

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Abstract of Paper Accepted in RTCSE'2023

3182

DIGITAL TRANSFORMATION MODEL TO STRENGTHEN TEACHING PERFORMANCE IN PUBLIC UNIVERSITIES OF LIMA

Alex Pacheco, Yrene Uribe-Hernández, Diana Mogrovejo, Renato Yupanqui, Joel Garay

Universidad Nacional de Cañete, Lima, Perú

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ABSTRACT

Digital transformation requires the application of changes in development and learning processes, in that sense, universities must integrate technology into their teaching processes to provide quality education, for this they need to have trained teachers who are at the forefront of advances technological. Therefore, a digital transformation model is proposed to strengthen teaching performance in public universities. The research used a mixed approach of the applied type with a descriptive and explanatory design, the technique of the survey directed to 100 people among teachers and students of public universities in Lima was used, with respect to the variables digital transformation and teaching performance with the dimensions technology, innovation, educational transformation, teaching skills and an environment conducive to learning respectively; resulting in a Cronbach's alpha coefficient of 0.896. The results show that 44% consider that technology in educational institutions is regular, 45% consider that innovation in universities is bad and 59% consider that educational transformation in universities is regular. These results reflect that the digital transformation must be implemented that allows the strengthening of teaching performance to build technological skills that take advantage of current digital resources, which develops flexibility, availability and efficiency.

 Keywords: Digital transformation, teaching performance, technology, educational transformation.

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Abstract of Paper Accepted in RTCSE'2023

3490	**Disaster and Urgency Detection from Social Media Messages using Natural Language Processing**

Pooja Krishan, Faranak Abri

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ABSTRACT

The widespread use of social media can be exploited to disseminate timely information and updates to disaster response agencies by the people who are on the field when a crisis strikes. Micro-blogging platforms such as Twitter and Facebook serve as apt datasets to derive insights about the situation and target response and recovery. In this paper, we use approximately 10,000 tweets from Twitter that have been hand-labeled to indicate whether or not they are an emergency. The dataset is then run through machine learning and natural language processing models to see how well they perform tweet classification. These models can then be used to identify calls for help and allow search and rescue team to manage their resources better, targeting specific areas to aid first. Pretrained models such as Bert, DistilBert, and Ernie and also conventional models such as Logistic Regression, k-Nearest Neighbors, and Random Forest are run on seven extracted features. It is seen that pre-trained deep NLP models give the best F1 score among other classifiers, which is better than current state of-the-art models.

Keywords: Urgency Detection, Disaster Management, Machine Learning, Natural Language Processing

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3788	A REVIEW OF THE EFFECTIVENESS OF MANAGEMENT INFORMATION SYSTEM IN DECISION MAKING

[1]Yousef A.Baker El-Ebiary, [2]Amer Hatamleh, [3]Yazeed Al Moaiad, [4]Khalid Thaher Amayreh, [5]Rajina R. Mohamed, [6]Wafa Abdulkarem Al-Haithami, [7]Syarilla Iryani Ahmad Saany

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[2,4]Irbid National University, Irbid, Jordan
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[3]Asst. Prof. Dr., Faculty of Computer and Information Technology, MEDIU, Malaysia
yazeed.alsayed@mediu.edu.my
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ABSTRACT

Management Information System (MIS) is the use of information technology, people, and business processes to record, store and process data to produce data-driven information that helps managers to derive decisions for the organizations. The decision is consciously taken from a variety of alternatives and the consent of many is based on the goal of achieving the desired outcome. MIS can be defined as a collection of systems, hardware, procedures, and people that all work together to process, store, and produce information that is useful to the organization. It is an important system for every organization that needs to have to ensure they remain competitive in the market. However, not all MIS fulfil the requirements from stakeholders. Some have failed to do so due to several factors such as poor requirement design or improper training to the users. Therefore, in this study, the paper focus to identify the key criteria that contribute to effectiveness in developing the "fit" MIS based on previous studies. The criteria discussed in detail by hoping this find out will become major guidelines to create a good MIS.

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Keywords: Management Information System, Effectiveness, Decision Making

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Abstract of Paper Accepted in RTCSE'2023

3873	## A Comparative Study of The E-Commerce Platforms of Amazon and eBay

[1]Omar (Mohammed Ali) Abdullah Al-Qudah, [2]Yazeed Al Moaiad, [3]Rajina R. Mohamed, [*4]Yousef A.Baker El-Ebiary, [5]Syarilla Iryani Ahmad Saany, [6]Pushpanjali Pandey

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ABSTRACT

Within the final few decades, the web has created a wide worldwide advertisement put for exchange in products and administrations. Doing trade online has gotten to be simpler and quicker due to the advancement of the web. Online shopping is as of now well known, particularly since individuals feel comfortable and simple to shop anytime and anyplace. Unused innovation moreover changes the way we communicate. Within the world of showcasing, particularly through internet media or commonly alluded to as e-commerce, don't disregard the part of online stores as a medium of communication, where promoting through e-commerce is as of now exceptionally beneficial. This research aims to study and compare e-commerce platforms between e-Bay and Amazon. While Amazon.com gained more promotions and underlying exposure to web-based businesses, eBay has secretly built inventories that are truly Internet-friendly. The research used an analytical method to find the difference between these two platforms. Initially, Amazon was only trying to reproduce a list of action plans on the web. The innovation may be inventive, but the design of the action is certainly not. Once again, eBay has a great idea of the Internet network and has empowered supply and demand on the web

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with incredible outcome. The sales position is the winner. In addition, eBay clearly shows that the benefits do not need to be in the idea of development - a dispute that Bezos never made. Amazon initially centered around BN.com as a competitor.

Keywords: Service Quality, Customer Service, Electronic Commerce, eBay, Amazon, Comparative Study, E-Commerce Platforms

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4291	## The Factors Affecting the Adoption of E-Government Among Jordanian Citizens

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ABSTRACT

Government around the world, especially in non-industrial nations look to upgrade the reception of their e-administrations by vanquishing the difficulties blocking the reception cycle. Notwithstanding, in spite of the development of e-government and its advantages, the residents' e-administrations reception is still low and flawed especially in agricultural nations because of many variables. An enormous number of studies have examined those elements in emerging nations; be that as it may, not many examinations tended to them in the Middle Easterner world. This paper presents a survey of the investigations that tended to the variables impacting e-government resident reception in Arabic nations, particularly Jordan. Like other non-industrial nations, Jordan is seeing low resident reception of e-administrations in spite of the fact that it accomplished an impressive development in e-government improvement. Perceiving the huge variables influencing e-government resident's reception is significant to upgrading the dynamic interaction for carrying out viable e-government, better comprehension of residents' requirements, guaranteeing a

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	fruitful conveyance of top-notch internet-based benefits, and expanding resident's reception and utilization of e-services. *Keywords:* E-government, Citizen adoption, Arab countries, Jordan.

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4408

Design Of A Bimodal Learning In Higher Education "CaseOf The Higher School Of Education And Training In Berrechid

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ABSTRACT

The extension of the educational offer to higher education requires more premises, human resources and material resources. Something that is not covered by the existing infrastructure in a lot of educational structures in Morocco. Thus, our article proposes a reflection on a learning model that tries to overcome the deficit due to the increase in the number of students at the Higher School of Education and Training in Berrechid (ESEFB) inthe academic year (2022-2023). It is about bimodal learning and the conditions that allow it to be implemented. The architecture of this model revolves around three systems: pedagogical, technological and organizational. These are available in collaborative classes, organized synchronously face-to-face and remotely. Ultimately, this contribution opens up avenues for the development of a process approach in the operationalization of bimodal education. Thus, it triggers a research project that will begin with the design of the model, its experimentation and its adoption to lead to its generalization.

Keywords: bimodal learning, collaborative class, distance education, pedagogical scenario.

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4625	Solar Energy Utilization Awareness For Saudi Housing: Makkah Case Study

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ABSTRACT

Utilizing solar technology allows us to employ and use the energy from the sun; its generation is attracting worldwide attention because it is environmentally efficient. Saudi Arabia is endowed with enormous availability of solar energy. This should be the driving resource for optimal solar energy production. However, photovoltaic (PV) installation is not as widespread as expected. This paper investigates public awareness and acceptance of rooftop solar power in Makkah, Saudi Arabia. Survey forms were provided to a sample of the population in the District of AL Awali in Makkah to assess people's attitudes toward rooftop solar utilization, their readiness to do so, and their level of apprehension. The outcome demonstrates a variation in acceptance, positive attitude, and willingness. The biggest challenges are the comparatively reduced cost of fossil fuel-dependent power and the shortage of explicit government motivations. Long-term solar electricity has increased in popularity among homeowners. The case study research for the Makkah area of AL Awali produced encouraging results and suggested that a PV system could accomplish a payback in less than six years, which could be promising.

Keywords: Photovoltaic, Public Awareness, Solar Technology, Payback, Long-term Electricity.

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4753	## A Comparison Between the Existing UniSZA's Mobile Learning and The Proposed Design According to A New Conceptual Framework

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ABSTRACT

Malaysia has recently noted a steady increase in the use of enhanced learning for web-related innovation and assertion. The current conditions of mobile learning in Malaysia have been analyzed to provide an important method for the imminent improvement of college e-learning in Malaysia. The powers of the information carried are logical and current location including issues of disobedience from the perspective of spoken mental learning. In this exploration, highlights will be examined and identified that recognize the new computed form that was absent in the main application and highlight the element that takes care of case declaration. The problem of exploration is the lack of examination on students' disappointment with mobile training on the issue of application interface used in mobile phones and the way most fashion designers are more familiar with the printed drafting plan and website pages than with the user interface plan; Specifically, optimizing versatile hotspots is something new and, as such, no prior engagement in this area. The examination applied the quantifiable methodology in the initial stage, and the public opinion polls will top and fall within the scope of the review. To determine the example size, we used Steven K. Thompson's condition to determine the example size. The review audience consisted of (9272) students of Governor Sultan Zain Al-Abidin University (UniSZA), who was

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determined to sort out the primary perspectives from their point of view on versatile learning and consider assumptions, ideas, and level of alternative student agreement with portable learning among students. From UniSZA, the revision test consisted of (369) students. In this review, the specialist will rely on the use of the Statistical Package Software (SPSS).

Keywords: Enhancing Education Methods, Student's Satisfaction, Mobile Learning, Conceptual Model, UniSZA, Malaysia.

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5767	Design and control of hybrid dual nozzle gas turbine power generating plant using model predictive control

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ABSTRACT

Gas turbine (GT) fuel flexibility is gaining more attention from researchers whereby suitable solutions that will enhance the control and operational flexibility are being sought. Such flexibility is achievable through the application of dual nozzles GT's which are becoming the preferred choice of Equipment Manufactures and Operations (EMO)'s in the industry as the fuel prices are not stable in the energy market. This trend is expanding to the smallest diesel engines used by individual homes across the energy production industry. Integration of a dual nozzle into the GT system increases its fuel complexity and operational challenges associated with controller design within the desired setpoint and managing operational constraints. Moreso, during the fuel transition switching process, it causes instability of the controller in the various loop such as temperature, compressor pressure, fuel pressure, acceleration, governor opening and closing, etc; and thus require the resilience controller design parameters to maintain these processes. This paper, therefore, addresses the above challenges associated with GT fuel flexibility operation through the design and development of a dual fuel nozzle control system. The approach involves modification of the popular Rowen model of GT operation and control system via a protected PID-MPC controller. The paper breakdown includes areas of GT optimization, fuel flexibility, dual nozzle design principles, PID controller design for the various control loops mentioned above, and uses the MPC to protect the controller parameters against fuel dynamic constraints.

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5954	# The Anti-Terrorism Role of city Karachi – An Unreal Based Role-Playing Game

Sallar Khan, Mannan Saleem, Fayyaz Ali, Muaawiz Ali, Syed Asifee Ahmed, Mohammad Nihal

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ABSTRACT

It has never been so easy to create a game for the implementation and analysis of machine learning (ML) algorithms thanks to the availability of new advanced game engines. Game engines are useful for academic research as they create the ideal conditions for rapid simulation and can provide guidelines for the use of artificial intelligence (AI) on non-player characters (NPCs). Unreal Engine 4 (UE4) is a good alternative for ML simulation as it contains many useful features. The aim of the game is to present a game while making it more interactive and audience oriented. It is based on true historical events that happened in Karachi, Pakistan. Together, the various characters in the game will tell a story about their respective roles and experiences. The simulation also provides insight into Pakistan's defense plan in the event of an unforeseen disaster. The game is played from the player's perspective. The game will succeed in the gaming industry and prove that the patriotism of the players has increased. Fighting for defense is a key element of the game, so playing it around with people trying to damage's roots as an occupying power will prove to be a nice way to support patriotism.

Keywords:

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6746

Implementation of High-Performance AES Crypto processor for Green Communication

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ABSTRACT

The world is deeply concerned about two fundamental issues in the Information and Communication Technology (ICT) era: secure data transfer and energy efficiency. This piece emphasises both difficulties. In this study, we have developed an (Field Programmable Gate Array) FPGA-based architecture for the Advanced Encryption Standard (AES) algorithm that is power-efficient. The AES is implemented on VIVADO, and the results are seen on a Kintex-7 FPGA Low voltage complementary metal oxide semiconductor (LVCMOS) Input Output (IO) is employed at various clock speeds to improve the power consumption of the AES on the FPGA device. According to the power analysis, the AES design consumes little power at high clock rates since the Total Power Consumption (TPC) declines as clock rates increase.

Keywords: Advanced Encryption Standard (AES), Field Programmable Gate Array (FPGA), Information and Communication Technology (ICT), Stub Series Terminated Logic (SSTL), and Total Power Consumption (TPC)

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6955

Dynamic analysis and design of a dual nozzle control system for gas turbine power plant efficient operation using parallel PID Controller

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ABSTRACT

Gas turbine power plants are known to be very efficient and reliable equipment in the power production industry. Their high energy requirement demands efficiency and low emissions. Gas turbine power plants have demonstrated their remarkable application potential in the generation of electrical power. Originally, they come with the manufacturer predetermining the type of operational fuel to run them and normally liquid fuel is the choice. This is so because the design is traditionally meant for only single fuel usage and once manufacturing is completed, the user has no choice of changing the fuel supply type. These limitations economically impact the operational cost leading to higher energy production costs and subsequently affecting consumers of electrical power supply from gas turbines. However, modern research and innovation have potentially advanced the design and manufacturing of these gas turbines to operate on a different type of fuel, yet the choice is in the hands of the manufacturer to predetermine its kind and type. This paper combines the different types of fuel systems available for gas turbines into one gas turbine system in terms of fuel flexibility operation for gas turbine power generation. The fuel flexibility allows a single gas turbine power plant to be designed such that it will operate on different types of fuels depending on the availability and cost per litre by the pump. The paper dynamically designs the dual nozzle system and simulates with fuel flexibility operation such that transition from one fuel supply to another does not affect turbine speed and output power in the process. The design is implemented with a PID controller in MATLAB/Simulink to dynamically analyze the flow operations of the dual

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	nozzle system. The result from the simulation clearly shows that continuous combustion was achieved during fuel switching operation indicating a smooth transition between fuel sources. **Key Words:** Gas Turbine, Dual Nozzle, Switching, PID, fuel flexibility, operational cost, economic, efficiency, low emission

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7485	Flood switching control applied to a water pumping system
	Ngancha Bonja Patrick, Kusakana Kanzumba, Elisha Didam Central University of Technology, Free State, South Africa npatrick@cut.ac.za, kkusakana@cut.ac.za, emarkus@cut.ac.za **ABSTRACT** In this paper, energy saving operating strategies, such as a Flood control switching system, applied to a fixed speed water pump. And, An optimal control switching model, applied to a fixed speed water pump and further enhancement by incorporating a variable frequency drive (VFD) control system, driving a variable speed pump. Have been developed, and their respective techno economic performances have been assessed through simulation. The impact of exogenous variables, such as precipitation, evaporation, seepage and storage are included, to actualize the models. These findings also revealed that, when the proposed optimal control models are combined with a VFD control motor pump in a water pumping system, the grid's energy demands are significantly reduced. Resulting in a daily energy savings of 2408 ZAR when compared to the baseline flood control. As a result, the initial cost of acquiring energy is reduced. In the end, this may assist in lowering the initial cost of water sold to consumers. **Keywords:** Flood switching control, Optimal pumping, VFD control motor pump, water reservoir, evaporation effects, rainfall effects, seepage effects.

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7510	# Smart Cities in Term of Services Provided and Their Relations

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ABSTRACT

The era of technology and development, and the concept of traditional cities is receding, so in this paper we will address what is the concept of a smart city and its effects on humanity and production, and whether it will lead in the future to a decline in the participation of man and human energy in the development and continuity of cities and sufficiency only with smart methods such as relying on artificial intelligence in all fields Life and its impact on humans in particular, on societies and cities, and then the world as a whole. Then we will touch upon the positives of smart cities and the difference between them and traditional cities and their direct impact on production and other vital sectors in society such as education, health, etc. with mentioning some examples of smart cities, then we will touch upon the negatives of smart cities and the disadvantages of the technology used because we are in the age of technology and inevitably must be used in societies for development.

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	Keywords: Smart Cities, Technology Applying, Artificial Intelligence, Normal Cities

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7907	# Fundamental Study for Recovery of Valuable Metal from Waste LiB Battery

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ABSTRACT

In this study, a thermodynamic investigation was conducted to select a slag system capable of dry reduction treatment of Cu through analysis of waste LFP batteries, and through this, the possibility of Cu recovery was reviewed. To remove C in the waste LFP battery, C was removed from the waste LFP battery in an O_2 atmosphere at 800 ° C for 2 hr. As a result of analyzing components, 42.25% of Cu and 39.52% of Fe were detected. First, Cu was separated and recovered in a matte form, and after that a thermodynamics review of the dry refining process was conducted to turn Fe in the slag into FeO for the low-carbon Fe reduction process. Therefore, FeO-SiO_2-Al_2O_3 was selected as the slag system, and through this, the possibility of manufacturing Cu in the waste LFP battery as matte using Factsage8.2.

Keywords: LFP battery, dry melting reduction, slag system, Cu recovery, factsage, thermodynamics review

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8193

Inter-Relation Patterns in The Holy Qur'an: Special Reference to Surah Al-Isra' And Surah Al-Kahf

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ABSTRACT

This study focuses on the knowledge of inter-relations between surah al-isra' and surah al-kahfi and aims to derive patterns of thematic relation between them and discloses its hypothesis by responding to two main questions: the first, whether they have limited and strong relationship. The second, what are types of relationship between the two surahs in terms of the topics, contents, and meanings. As for the method followed for this study is descriptive and resolving the issues by referring to the main references. The outcome of the study appears in two main points. Relationship between the two surahs very strong in terms of the objectives and aims, strong connection between beginning and ending of the both surahs, as well as between the ending of the al-isra' and the beginning of the surat al-kahf. It appears that thematic harmonization in both surah, particularly regarding the issues; of the faith, prophethood, truthfulness of the message and the high ranking of the status of the Prophet.

Keywords: The Holy Quran – Surah al-isra' – Surah al-kahf – Inter-relation

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8416

Using Machine Learning techniques to improve the automated diagnosis of pigmented skin lesions

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ABSTRACT

The scientific community's interest in predicting skin cancers through computer-aided diagnosis has grown in recent years, especially regarding melanomas. This phenomenon is mainly due to the continuous and progressive improvement of computer vision technologies and algorithms that can be used more effectively to recognize skin features and pigmented lesions that may indicate potential cancer risk. Despite this, the pre-triage instrumentation and services on the market today appear to be excessively expensive, both because of the cost of the equipment itself and because of the necessary employment of teams of specialist dermatologists to analyze the images of skin lesions and pigmented lesions. On the other hand, applications based on deep learning techniques follow a black-box approach, thus making it impossible to identify which specific lesion or pigmented lesion feature might suggest a potential cancer risk. This paper presents the development of a melanoma classifier based on verifying diagnostic criteria and a specific medically approved seven-point checklist using a logistic regression classifier. The results, also obtained from comparing clinical and dermoscopic images, show great potential and room for improvement.

Keywords: skin cancer, melanoma, machine learning, multiclass classifier, logistic regression

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8596	# A Different Vision of Automated Door System Based on Smartphone Apps and Voice-Controlled

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ABSTRACT

The mobile phones Operating System like android and IOS finds wide use in smartphones and tablets and is thus suitable for home controllers. This project presents a smart home controller that uses WIFI in smartphone devices to control the operation of an automated security door system. The system idea is to use an Android or IOS app that sends commands to Electronic Relay-connected to home WIFI or internet- to control the opening of the door connected to an electric intercom. The Relay module is installed on the Intercom phone and the intercom phone connected to an electric lock which is installed on the door, the Relay Module receives the commands from the smartphone through WIFI, and passes these commands to the microcontroller that controls the opening of the door. The system can be used in various situations where access to an enclosure, doors, or any other thing needs to be open electronically. With the help of smartphone apps that will illustrate later, we can use smartphones to open the door using a smartphone voice assistant.

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	Keywords—IOT, WIFI, Arduino, android, IOS, SIRI, google assistant.

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8780

Strategies of university virtual teaching for the effectiveness of learning

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ABSTRACT

The objective of the research was to determine how the strategies of virtual university teaching are effective for the learning of students in Peruvian Universities. The type of research was carried out under the quantitative approach, non-experimental cross-sectional design with a hypothetical-deductive method, a measurement instrument validated by expert judgment was used, the data collection technique was the survey, which was applied to students with closed questions and the instrument was the questionnaire. A non-probabilistic sampling was carried out and a pilot sample was used. The findings of the following investigation were that teachers were concerned about making use of a series of strategies, activating knowledge through previous experiences with a series of questions according to the theme. The students felt motivated in the face of innovative practices, motivating research in indexed journals, similarly the teacher was a great facilitator in the construction of knowledge, moving the student to carry out an analysis of their reality with the theme worked on. The teacher kept the group's attention through the development of different strategies. The students recognized that the teacher values the effort made by them. Students consider the good practice of using rubrics to evaluate them, it also promotes critical judgment in them by collecting their opinions. Students recognize that the teacher validates the learning achieved by them, in turn values student learning for continuous improvement. Teachers make use of a series of strategies before, during and after the virtual learning teaching process through: activating their knowledge with previous experiences, interrelating the contents, maintaining attention, developing criticism and then valuing the class material. In this way, the

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	achievement of the effectiveness of learning is verified. *Keywords:* strategies, virtual teaching, learning effectiveness.

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Exact Dark Solitary Wave Solutions for the Time Fractional Dispersive Density-Flow Equation by Using Tanh-Riccati Transformation Method

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ABSTRACT

In the present paper, we apply the Tanh-Riccati transformation method to obtain the exact dark solitary wave solutions of the nonlinear time fractional dispersive density-flow equation in the sense of the Caputo and GFD fractional operators. Under the traveling wave transformation, fractional density-flow equation can be reduced to ordinary differential equations. Traffic simulation of the fractal dynamical model is provided to investigate the effect of fractional order on the traffic flow. Moreover, comparisons in many profiles are framed to explain the evolution of a density profile by means of classical and fractional model with memory and non-Markovian time evolution of the system. The dark solitons obtained by the proposed scheme indicate that this approach is easy to implement and effectively applied on vehicular macroscopic traffic flow model.

Keywords: Fractional dispersion, Solitary Solutions, Tanh-Riccati Method.

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atmoSim – An atmosphere simulation package in the Tool command language (Tcl)

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ABSTRACT

DLR's SpaceLiner orbiter concept flight simulator gets a change from its commercial flight simulation software "X-Plane" dedicated solution to a distributed system of systems high level architecture (HLA) based approach. For that purpose, a Tcl atmosphere simulation package has been developed. Its configurable parametrization including the coverage of altitudes up to 10^9 meters is described. Package usage test results in a standalone application show an execution time performance below 300 microseconds. Future options of different human-in-the-loop real-time system of systems integration capabilities are presented and discussed.

Keywords: aerospace, Tcl/Tk, distributed simulation

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