

# Proceedings of **6th International Conference on Recent Trends in Computer Science and Electronics**

**January 5-7, 2021**

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

Proceeding Editors:

Ciro Rodriguez, Doris Esenarro, Yousef A. El-Ebiary,  
Bishwajeet Pandey, Jason Levy

## About RTCSE'2021

**6th International Conference on Recent Trends in Computer Science and Electronics (RTCSE<sup>®</sup>)**  
**January 5-7, 2021**

**Room 105, University of Hawaii, Manoa 2520 Correa Road, IT Center Honolulu, HI 96822**  
**Satellite Session : The Oxford College of Engineering, Bangalore, India**  
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ABOUT  
US

The 6th Annual International Conference on Recent Trends in Computer Science and Electronics (RTCSE<sup>®</sup> 2021) will be held from January 5th (Tuesday) to January 7th (Thursday) at the University of Hawaii (Manoa campus) in Honolulu, Hawaii on the island of Oahu ("the gathering place"), home to about two-thirds of the population of the U.S. state of Hawaii.

The 2021 International Conference on Recent Trends in Computer Science and Electronics (RTCSE<sup>®</sup> 2021) will once again serve as a key gathering place for academicians and professionals from Computer Science, Engineering, Mathematics and related fields to come together and learn from each other. An additional goal of the conference is to provide a place for academicians and professionals from around the world with cross-disciplinary interests related to these topics to meet and interact with members inside and outside their own particular disciplines.

The 2016, 2017, 2018, 2019 and 2020 conference was a great success! It was attended by more than 200 participants representing more than 20 countries !

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**ALL ACCEPTED PAPERS WILL BE PUBLISHED IN ONE OF THE FOLLOWING INDEX JOURNALS**

- 3C TECNOLOGIA : ISSN: 2254-4143, E-ISSN: 2254-4143
- JOURNAL OF MECHANICS OF CONTINUA AND MATHEMATICAL SCIENCES, ISSN: 2454-7190, E-ISSN: 0973-8975
- INTERNATIONAL JOURNAL OF FUTURE GENERATION COMMUNICATION AND NETWORKING, ISSN: 2233-7857
- INTERNATIONAL JOURNAL OF GRID AND DISTRIBUTED COMPUTING, ISSN: 2005-4262
- INTERNATIONAL JOURNAL OF DISASTER RECOVERY AND BUSINESS CONTINUITY, ISSN: 2005-4289
- JOURNAL OF GREEN ENGINEERING (JGE), ISSN: 1904-4720, E-ISSN: 2245-4586
- SOLID STATE TECHNOLOGY, ISSN: 0038-111X
- WORLD JOURNAL OF ENGINEERING, ISSN: 1708-5284
- GYANCITY JOURNAL OF ENGINEERING AND TECHNOLOGY (GJET): E-ISSN : 2456-0065
- GYANCITY JOURNAL OF ELECTRONICS AND COMPUTER SCIENCE (GJECS): E-ISSN : 2446-2918

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## Chair Message

As a chair, we have the honor to welcome you with great respect and enthusiasm to the 6<sup>th</sup> International Conference on Recent Trends in Computer Science and Electronics Engineering (RTCSE'2021) to be held at the University of Hawaii, USA on 05-07 January 2021 (ONLINE due to COVID-19). RTCSE'2021 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 an online participant you will share the same sentiment. All accepted papers will be submitted to Scopus/Thomson Reuters/Web of Science/Crossref Index Journals (see list on conference website) and hopefully these papers will be available online by middle of 2021.

As a chair and on behalf of the organizing committee, we are extremely sorry that RTCSE'2021 will unable to host you at Hawaii. And as a participant, you are unable to visit Hawaii from different parts of the world to share and contribute in the areas of their expertise. We hope to provide a good virtual platform to the participants of RTCSE'2021 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.

It is the 14<sup>th</sup> conference hosted by Gyancity Research Lab, there are two more in 2021:

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

29-30 June 2021

Faculty of Information Technology, Universitas YARSI, Jakarta, Indonesia

<https://imces.tech/>

7th International Conference on Green Computing and Engineering Technologies (ICGCET®)

22 Sep - 23 Sep 2021

Universidad Nacional Federico Villarreal, Lima, Peru

<https://icgcet.org/>

Best wishes.

**Prof Jason Levy**, University of Hawaii, USA

**Dr Bishwajeet Pandey**, Gyancity Research Consultancy, India

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## RTCSE'2021 Schedule

### 5<sup>th</sup> January 2021

#### **Video Presentation:**

Available 24x7 on YouTube Channel of Gyancity Research Lab:

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

Paper Id: 56, 70, 63, 67, 71, 72, 74, 87, 88, 97, 116, 117, 124, 135, 136, 138, 139, 140, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 164, 165, 166, 167, 168, 169, 170, 186, 188, 189, 190, 191, 192, 193, 201, 206, 214, 219

#### **10:00-13:00 (Indian Time)**

CISCO WebEX Sessions @ Birla Institute of Applied Science, India

Paper Id: 45, 48, 49, 50, 51, 52, 53, 54, 55, 58, 164, 165

Chaired by Prof Geetam S Tomar, Director, Birla Institute of Applied Science, India

### 6<sup>th</sup> January 2021

#### **10:00-11:00 AM (Hawaii Time)**

**Inaugural Speech:** Chair Prof Jason Levy, University of Hawaii, USA

#### **12:00-14:00 (Hawaii Time)**

##### **Session 1:**

Chair: Dr Bishwajeet Pandey, Gyancity Research Consultancy, India

Paper Id: 68, 69, 93, 94, 95

#### **15:00-17:00 PM (Hawaii Time)**

##### **Session 2:**

Chair: Prof Akbar Hussain, Aalborg University, Denmark

Paper Id: 102, 112, 114, 115, 118, 119, 121, 122

#### **18:00-20:00 PM (Hawaii Time) (Indian Time: 9.30 AM 7 January 2021)**

##### **Session 3:**

Chair: Prof Preeta Sharan, The Oxford College of Engineering, India

Paper Id: 88, 120, 123, 125, 126, 149, 162, 163, 171, 201



## RTCSE'16 Group Photo



## RTCSE'17 Group Photo





## RTCSE'18 Group Photo

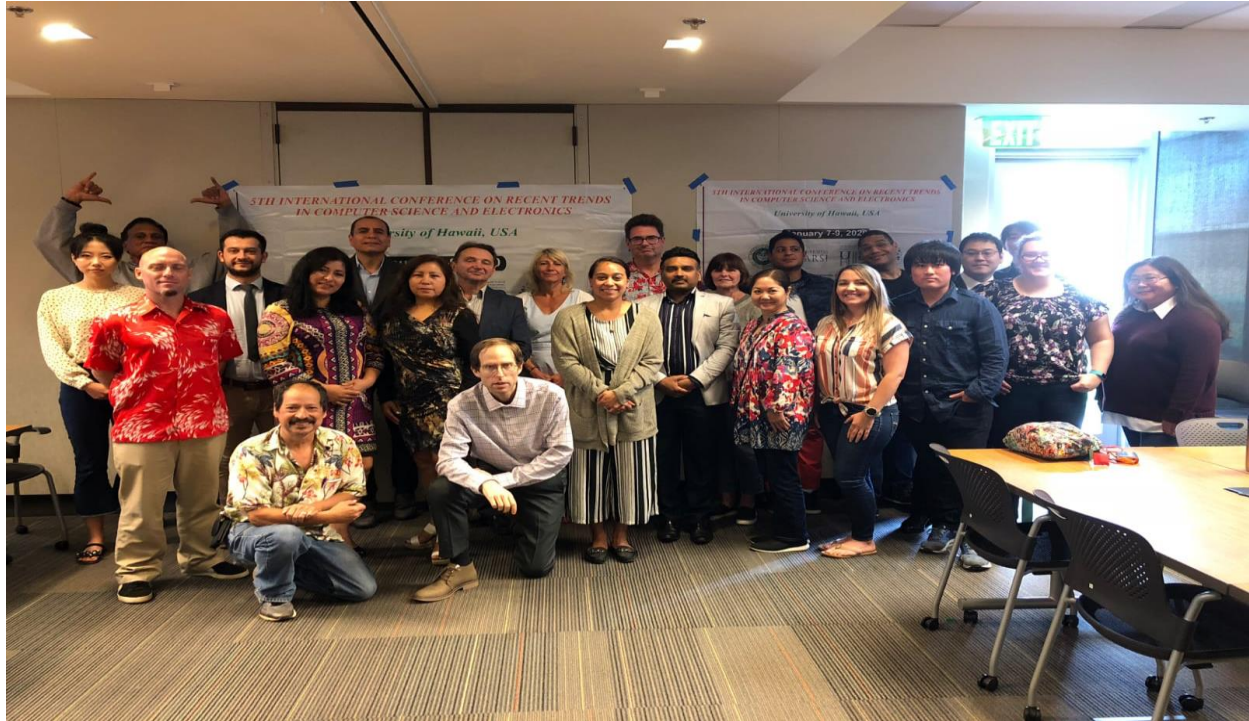


## RTCSE'19 Group Photo





## RTCSE'20 Group Photo



## Abstract of Paper Accepted in RTCSE'2021

3

### FSM BASED GREEN MEMORY DESIGN AND ITS IMPLEMENTATION ON ULTRASCALE PLUS FPGA

<sup>1</sup>Bishwajeet Pandey, <sup>2</sup>Rajina R Mohamed, <sup>3</sup>Geetam S Tomar, <sup>4</sup>D M Akbar Hussain, <sup>5</sup>Yousef A Baker El- Biary

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<sup>2</sup>Universiti Tenaga Nasional, Selangor, Malaysia

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#### ABSTRACT

In this work, we are going to design a memory using Verilog programming in Vivado 2018.3 Integrated Development Environment and implement it on Kintex UltraScale+ FPGA. In order to make it green, we are reducing power dissipation of our design using power supply settings of UltraScale FPGA that support a dual-voltage operation of the primary core fabric. Operating Voltage (VCCINT) of 7 Series (28nm) VNOM, UltraScale (20nm) VNOM, UltraScale+ (16nm) VNOM, and UltraScale+ (16nm) VLOW are 1V, 0.95V, 0.85V, and 0.72V respectively. In our work, we are 0.873 V operating voltage and compare its power dissipation with power dissipation by 0.9V and 0.928 V operating voltage. There is 2.87-6.42 % reduction in power dissipation when we scale down supply voltage from 0.928 V to 0.873 V.

**Keywords:** Ultrascale+ FPGA, Green Design, Memory, FSM, EDA Implementation, Verilog

## Abstract of Paper Accepted in RTCSE'2021

45

### Acceptability in the optimal formulation of chrysin with partial replacement of pituca flour

Pervis Paredes, Doris Esenarro, Jannina J. Bernabe, Wilber Quispe

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#### Abstract

The aim of this research is to determine the acceptability of chrysin with the partial replacement of pituca flour by protein intake. The methodology applied was based on a quasi-experimental design and the ingredients used for the research were foods with a high nutritional percentage that are pituca flour (16.36%) and wheat flour (47.27%), margarine (5.45%), white sugar (5.45%), water (25%) and yeast (0.09%). The results obtained through the descriptive test in which the results of 20 panelists were collected, the data were evaluated through the MINITAB and SPSS programs. The number of formulations and at the same time the prognosis of ingredient behaviour was determined by a Taguchi chart. The acceptability of chrysin was determined by microbiological studies and physicochemical analyses obtained, which resulted in no differences from the product, but if they are within the parameters required by the standard, the percentage of proteins was also checked.

**Keywords:** chrysin, pituca, quinoa, descriptive test, yeast, optimal, variation, texture, range.



## Abstract of Paper Accepted in RTCSE'2021

48

### THE BSC AS A SUPPORT TO THE CMMI-DEV CONSTELLATION SCAMPI FOR THE RECOGNITION OF THE MATURITY OF THE SOFTWARE PROCESS

Oswaldo Alfaro, Doris Esenarro, Ciro Rodriguez, Maria Rene Alfaro

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#### **Abstract**

*This research tries to establish the degree of influence exerted by the design and use of a Balanced Scorecard (BSC), as a support to the Standard CMMI Appraisal Method for Process Improvement SCAMPI of the CMMI-DEV constellation, in recognition of the level of maturity of the software process, due to the efficiency and effectiveness provided by its application in practical life. In addition, it uses the Systemic Approach to conceive the problem comprehensively, under a holistic perspective, covering the relationships of each element within the system and its relationships with external agents; the applied methodology consists in the collection, tabulation, and analysis of the antecedents that have been obtained for its direct validation during development, that is, the management of cause-effect variables, where the independent or experimental variable is of interest to the researcher because the variable that is hypothesized (X), is one of the causes that produce the supposed effect. As a result of the effectiveness of the SCAMPI evaluation process, going from 72.7% to 92.7%; This is equivalent to a 26.4% improvement in performance, increasing from 10.9 correct evaluations to 13.9 for conducting such evaluations.*

## Abstract of Paper Accepted in RTCSE'2021

49

### Firma digital basado en criptografía asimétrica para generación del historial clínico

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Frank Escobedo Bailón

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#### **Resumen**

El objetivo principal de este proyecto es el desarrollo de un sistema para la reducción del tiempo y ahorro de recursos en lo que abarca la redacción y posterior gestión de las historias médicas, la cual los doctores redactan diariamente al término de una consulta médica, lo que implica en una optimización en la gestión de los historiales médicos. Este sistema permitirá la aplicación del mecanismo de la firma digital en base al método de la criptografía asimétrica o también llamada criptografía de clave pública, la cual se propone aplicarse al hospital público Daniel Alcides Carrión.

**Palabras Claves:** Firma digital, historial médico, criptografía asimétrica

## Abstract of Paper Accepted in RTCSE'2021

50	<p data-bbox="331 422 1403 537"><b>Marketing de proximidad mediante aplicación móvil con dispositivos Beacon</b></p> <p data-bbox="310 564 1424 688">Gustavo Martínez Lizares, Hugo Vega Huerta, Ciro Rodriguez Rodriguez, Yudi Guzmán Monteza <i>National University Mayor de San Marcos</i></p> <p data-bbox="415 720 1321 804"><u><a href="mailto:12200103@unmsm.edu.pe">12200103@unmsm.edu.pe</a></u>, <u><a href="mailto:hvegah@unmsm.edu.pe">hvegah@unmsm.edu.pe</a></u> , <u><a href="mailto:crodriguezro@unmsm.edu.pe">crodriguezro@unmsm.edu.pe</a></u> , <u><a href="mailto:yudi.guzman@unmsm.edu.pe">yudi.guzman@unmsm.edu.pe</a></u></p> <p data-bbox="805 842 932 873"><b>Resumen</b></p> <p data-bbox="300 905 1435 1226">El presente trabajo de investigación se enfoca en la implementación de un aplicativo móvil que provee de información publicitaria relevante para una persona de acuerdo con su cercanía a un establecimiento comercial. Para ubicar a los clientes se utilizarán Beacons, los cuales envían paquetes de datos reconocibles, mediante señales Bluetooth. Aunque no son conocidos en Perú, los Beacons son más efectivos y versátiles que otras tecnologías para potenciar la comunicación entre el establecimiento y el cliente donde ambos saldrán beneficiados, los establecimientos obtendrán información valiosa para mejorar la experiencia del cliente y este obtendrá información publicitaria que no sea invasiva.</p> <p data-bbox="334 1232 1435 1264"><b>Palabras Claves:</b> Marketing de proximidad, Beacon, Bluetooth, Aplicaciones móviles.</p>
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## Abstract of Paper Accepted in RTCSE'2021

51

### MULTIPLE FAULTS DETECTION AND IDENTIFICATION OF THREE PHASE INDUCTION MOTOR USING ADVANCED SIGNAL PROCESSING TECHNIQUES

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#### ABSTRACT

In this paper, we have presented the multiple fault detection and identification system for three-phase induction motor. Fast Fourier Transform is the most commonly used signal processing technique that offers good frequency information but failing in providing time information and handling multiple faults identification with their occurrence time. FFT also fails to detect non-stationary condition of the signal and unable to convey sudden changes, start and end of the events, drifts and trends. To obtain simultaneous time frequency information and to deal with non-stationary signals Short Time Fourier Transform (STFT) is considered optimal technique that can clearly provide time and frequency information both. In this research work, the multiple fault detection and identification system is presented by employing Short Time Fourier Transform (STFT) signal processing technique. The proposed model is designed using current signature analysis method (CSAM) for three major faults including three phase supply imbalance, single phasing condition and breakage of rotor bars. The system is simulated in MATLAB/SIMULINK and simulation is performed on the basis of healthy and unhealthy conditions of the motor and compared between results of FFT and STFT. Simulation results show promising improvement comparatively and this approach allows embarking with industrial automation.

**Keywords:** Induction Motor multiple faults, STFT, Matlab/Simulink, Current Signature Analyses, Power Supply Imbalance, Single Phasing, Broken Rotor Bar

## Abstract of Paper Accepted in RTCSE'2021

52

### "MICROENCAPSULATIONS OF ALISO (*Alnus jorullensis*), CHILCA (*Baccharis latifolia*), WALNUT (*Juglans neotrópica*) AND TAYA (*Baccharis peruviana*) DRIED BY ATOMIZATION"

Alcira Irene CORDOVA MIRANDA, Doris ESENARRO VARGAS,  
Tarcila ALCARRAZ ALFARO, Gloria Inés BARBOZA PALOMINO,  
Anna Elinor ZEGARRA VILA,

Federico Villarreal National University, Lima, Peru

#### **Abstract**

The research aims at obtaining by solid-liquid extraction, microencapsulation carried out with maltodextrin in different concentrations and dried by atomization. The natural colorants of vegetal origin in powder form obtained by atomization deteriorate when exposed to the environment because they absorb humidity, and present low performance in the drying by atomization because they adhere to the walls of the atomizer. As a result, microencapsulated alder (*Alnus jorullensis*), chilca (*Baccharis latifolia*), walnut (*Juglans neotrópica*) and taya (*Baccharis peruviana*) with maltodextrin were obtained, improving the performance during spray drying and avoiding the deterioration by absorption of humidity, prolonging the conservation time. The stability of the microencapsulated dyes was evaluated by humidity and white light exposure tests. The adequate concentrations of microencapsulant were: alder 30%, chilca and walnut 40% and taya 10%. The maltodextrin (microencapsulant) improves the performance in the drying by atomization and reduces the percentage of humidity.

## Abstract of Paper Accepted in RTCSE'2021

53

### Use of grass bio-waste as a substrate for the cultivation of the edible mushroom *Pleurotus akin ostreatus*

*Carlos Tome TOMES RAMOS, Doris ESENARRO VARGAS, Alcira Irene CORDOVA MIRANDA,*

Federico Villarreal National University, Lima, Peru

#### **Abstract**

The present research has as objective the use of the biowaste lawn coming from the gardens as a substrate, which is not properly used, , adapting it according to the balance of the C/N ratio, for the cultivation of *Pleurotus akin ostreatus*; For this purpose, it was proceeded to the proliferation of the fungus, elaboration of the seed in barley grains, inoculum at 5% over 1 kg of four different substrates in polypropylene bag with five replicas of each one, measurement of the production and nutritional analysis of the fruitful bodies coming from the substrate of higher productivity. As a result of the production; with the substrate of C/N equal to 20.37 there was a biological efficiency (EB) of 32.832%, with the substrate of C/N equal to 30 an EB of 43.441%, with the substrate of C/N equal to 40.13 an EB of 37.441% and, with the substrate of C/N equal to 94.12 an EB of 8.315%. In conclusion; with 95% confidence, the substrate composed of 61% grass mixed with 39% C/N sawdust equal to 30, the best EB of 43.441% is obtained and, with a protein content of 32.940% in the fruiting bodies of the fungus.



## Abstract of Paper Accepted in RTCSE'2021

54	<div data-bbox="311 596 1401 714" data-label="Section-Header"> <h3>EVOLUTION AND ADVANCE USAGE OF INTERNET IN PERU</h3> </div> <div data-bbox="591 737 1117 781" data-label="Text"> <p><b>Freddy Kaseng<sup>1</sup>, Pedro Lezama<sup>1</sup></b></p> </div> <div data-bbox="459 779 1250 823" data-label="Text"> <p><sup>1</sup>National University Federico Villarreal, Lima, Peru</p> </div> <div data-bbox="711 823 1000 865" data-label="Text"> <p><b>Ricardo Inquilla<sup>2</sup></b></p> </div> <div data-bbox="511 863 1196 907" data-label="Text"> <p><sup>2</sup>National University de Cañete, Cañete, Peru</p> </div> <div data-bbox="721 907 990 949" data-label="Text"> <p><b>Ciro Rodriguez<sup>3</sup></b></p> </div> <div data-bbox="435 949 1278 993" data-label="Text"> <p><sup>3</sup>National University Mayor de San Marcos, Lima, Peru</p> </div> <div data-bbox="425 991 1289 1054" data-label="Text"> <p><a href="mailto:fkaseng@unfv.edu.pe">fkaseng@unfv.edu.pe</a>, <a href="mailto:plezama@unfv.edu.pe">plezama@unfv.edu.pe</a>, <a href="mailto:rinquilla00000000@undc.edu.pe">rinquilla00000000@undc.edu.pe</a>, <a href="mailto:crodriguezro@unmsm.edu.pe">crodriguezro@unmsm.edu.pe</a></p> </div> <div data-bbox="781 1054 928 1092" data-label="Section-Header"> <h4><b>Abstract</b></h4> </div> <div data-bbox="292 1094 1430 1606" data-label="Text"> <p>Information and communication technologies produce changes in society as they facilitate access to information. The research seeks to publicize the increase in the use of the Internet in Peruvian homes, covering the percentage of the population with access to the Internet, the frequency of use, and the activities carried out. Making use of the technical report "Statistics of Information and Communication Technologies in homes", and through a documentary review of various sources, including the one prepared by the National Institute of Statistics and Informatics INEI, with emphasis on the use of the Internet since It is essential to have access to the Internet. A comparative analysis of the evolution of its use was also carried out, considering a range of 5 years, taking as reference the first quarter of 2015 and the first quarter of 2020. The applied research method is descriptive. As a result, it was found that compared to 2015, where for every 100 households, 91 had at least one ICT; In 2020, the number of families that have at least one ICT has increased to 95. The population has considerably increased the daily use of the Internet, obtaining a variation of 26.8.</p> </div> <div data-bbox="292 1608 1271 1648" data-label="Text"> <p><b>Keywords:</b> ICT, Internet, Usage, Information, Comparative analysis, Evolution</p> </div>
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## Abstract of Paper Accepted in RTCSE'2021

55

### Recommendation system for finding coworking area based on intelligent information technologies

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#### Abstract

Based on the analysis of the requirements for coworking areas as a developing trend of organizing work activities in a big city, the article presents the implementation of a recommended web service that allows one to formalize the search for a suitable coworking according to individual preferences as a decision-making task, as well as find a coworking area in an optimized setting for both the individual employee and those who carry out collective professional activities. In the implemented system of each place category in coworking areas, a search will be carried out according to formalized parameters and with an individual approach. In order to find the set of the required services of the coworking zone, the target functions of maximizing the priority of the place and minimizing the cost are determined, between which the user can set the ratio. As a constraint, the general fund of financial expenses for the time to reach the zone from different locations is used. The results of problem formalization are presented in the form of a mathematical model. The use of a problem-oriented solution can significantly reduce the laboriousness of finding a suitable workspace. Furthermore, development of coworking zone practices contributes to the development of a professional infrastructure of the city and minimize the cost of equipping each enterprise with additional tools, as well as manage labor resources and track trends of both professional and novice workers' needs.

**Keywords:** Coworking areas, intelligent technologies, recommendation systems in the search for workspaces.

## Abstract of Paper Accepted in RTCSE'2021

56	<p style="text-align: center;"><b>Investigating Thermal supplementation of an Aquaponics System under Severe climate Conditions</b></p> <p style="text-align: center;">CA van Beukering, PE Hertzog, AJ Swart              Faculty of Engineering, Built Environment and Information Technology              Central University of Technology, Free State  <a href="mailto:chris.vanbeukering@gmail.com">chris.vanbeukering@gmail.com</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>In recent years, public awareness of climate change, with dwindling water resources and strain on existing food production infrastructure, has grown. It is becoming imperative to establish a sound scientific basis for the establishment, operation and maintenance of sustainable alternative food production methodologies. The inherently sustainable 'closed system' nature of aquaponics promises high yield versus small footprint. In an aquaponics system where a local climate (such as in Bloemfontein, South Africa) includes temperatures below freezing it is necessary to have a real-time monitoring and control system, in order to mitigate thermal losses and to ensure the sustainability of the fish stock and micro-organisms in the bio-filters. The thermal energy of such an aquaponics system needs to be supplemented, especially during wintertime, with a sustainable source. The problem of monitoring and controlling the thermal energy in a medium sized aquaponics system, so as to ensure its biological sustainability, thus needs to be addressed. Collating the local real time data to cloud storage, via short range wireless communication, enables incorporation of this implementation strategy into the concept of 'Sustainable Smart Cities'. The results indicate that thermal supplementation enabled a 1.3°C rise for a 42 000 litre reservoir over a period of three days, mitigating severe temperature losses during a cold front event. It is recommended that implementation of such solar thermal supplementation to similar aquaponics systems be adopted to mitigate the effects of a passing cold front.</p> <p><b>Keywords:</b> Cloud Data, Wi-Fi, Bluetooth, LoRa, Solar energy</p>
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## Abstract of Paper Accepted in RTCSE'2021

58

### THE UNIFIED ENTERPRISE ARCHITECTURE (AEU) AS A STRATEGIC TOOL ORGANIZATIONAL MODELING FOR THE FUNTIONAL COMPETITIVENESS OF UNIVERSITIES

Oswaldo Alfaro, Doris Esenarro, Ciro Rodriguez, Maria Rene Alfaro  
*National University Federico Villarreal*

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#### Abstract

This research work proposes the design and application of an organizational model based on two very important and well-known precedents: On the one hand, the so-called Enterprise Architecture (EA), as a powerful methodology of business modeling based on Zachaman's Framework and, on the other hand, the Unified Process of Rational (UPR), so that together they achieve a synergistic merger, giving rise to the so-called Unified Enterprise Architecture (UEA), in order to articulate all the perspectives and aspects that are part of the original EA with a third dimension formed by the phases and iterative dynamics of the UPR. In this way, the systemic organizational modeling of universities is very useful; however, its application is valid for all types of organizations. The design of the experimental research of the pre-test and post-test type with a control group is defined, a computer application is developed as a prototype and the empirical test is carried out through direct observation for the control group and simulation for the experimental group; results are evaluated based on the management indicators Efficiency, effectiveness and productivity.

**Keywords:** Information technologies, Enterprise Architecture, Unified Enterprise Architecture, unified process of Rational, simulation

## Abstract of Paper Accepted in RTCSE'2021

63	<p style="text-align: center;"><b>Real-time Autonomous Robot for Object Tracking using Vision System</b></p> <p style="text-align: center;">Qazwan Abdullah<sup>1</sup>, Nor Shahida M. Shah<sup>2</sup>, Mahathir Mohamad<sup>3</sup>, Muaammar Hadi Kuzman Ali<sup>1</sup>, Nabil Farah<sup>4</sup>, Adeb Salh<sup>1</sup>, Maged Aboali<sup>4</sup>, Mahmod Abd Hakim Mohamad<sup>5</sup>, Abdu Saif<sup>6</sup></p> <p><sup>1</sup>Faculty of Electrical and Electronic Engineering, Universiti Tun Hussein Onn</p> <p><sup>2</sup>Faculty of Engineering Technology, Universiti Tun Hussein Onn Malaysia, Pagoh, Muar, Johor, Malaysia.</p> <p><sup>3</sup>Faculty of Applied Science and Technology, Universiti Tun Hussein Onn Malaysia, Pagoh Education Hub, Pagoh, Muar, Johor</p> <p><sup>4</sup>Faculty of Electrical and Electronic Engineering Technology, Universiti Teknikal Malaysia Melaka</p> <p><sup>5</sup>Sustainable Product Development Research Group (SusPenD), Centre for Diploma Studies, Universiti Tun Hussein Onn Malaysia, Pagoh, Muar, Johor</p> <p><sup>6</sup>Faculty of Engineering, Universiti Malaya, Kuala Lumpur Malaysia <a href="mailto:gazwan20062015@gmail.com">gazwan20062015@gmail.com</a>, <a href="mailto:mahathir@uthm.edu.m">mahathir@uthm.edu.m</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>Researchers and robotic development groups have recently started paying special attention to autonomous mobile robot navigation in indoor environments using vision sensors. The required data is provided for robot navigation and object detection using a camera as a sensor. The aim of the project is to construct a mobile robot that has integrated vision system capability used by a webcam to locate, track and follow a moving object. To achieve this task, multiple image processing algorithms are implemented and processed in real-time. A mini-laptop was used for collecting the necessary data to be sent to a PIC microcontroller that turns the processes of data obtained to provide the robot's proper orientation. A vision system can be utilized in object recognition for robot control applications. The results demonstrate that the proposed mobile robot can be successfully operated through a webcam that detects the object and distinguishes a tennis ball based on its color and shape.</p> <p><b>Keywords:</b> Autonomous mobile robot, image processing, object tracking, mobile robot, vision-based navigation.</p>
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## Abstract of Paper Accepted in RTCSE'2021

67

### VULNERABILITY OF THE SOILS OF METROPOLITAN LIMA AND THEIR RELATIONSHIP WITH URBAN SUSTAINABILITY

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#### Abstract

This research work has a great influence on the physical security of the urban infrastructure and the citizens of our capital city, that is why it is necessary to apply prevention strategies since our city is located in a very vulnerable area to seismic events, mainly huaycos, floods and landslides, settlements, landslides and other superficial mass movements, so it is necessary to have knowledge of the causes and effects of these phenomena, the different types and carrying capacity of soils in the districts of Metropolitan Lima, in order to contribute to the knowledge of the degree of vulnerability in which urban areas, marginal urban areas, human settlements are exposed. In conclusion, surveys of public servants allowed us to determine that only 55% of them know the meaning of risk and vulnerability, so 45% are totally unaware of these terms. Likewise, surveys of the general public on the lack of a prevention culture, 83% indicated that they did, hence the need to apply a course or training on disaster risk management issues at all educational levels.

**Keywords:** Metropolitan Lima, urban sustainability, bearing capacity, soil vulnerability.

## Abstract of Paper Accepted in RTCSE'2021

68	<p style="text-align: center;"><b>YIELD OF TOCOSH FLOUR IN TWO POTATO VARIETIES (SOLANUM TUBEROSUM) AND THEIR CHARACTERISTICS</b></p> <p style="text-align: center;">Jorge Jave Nakayo<sup>1</sup>, Verónica Espinel Pino<sup>2</sup>, Jorge Luis López Bulnes<sup>1</sup>, Violeta Vega Ventosilla<sup>3</sup></p> <p style="text-align: center;"><sup>1</sup> Universidad Nacional Mayor de San Marcos - UNMSM, Lima, Perú <sup>2</sup> Universidad Técnica de Manabí, Manabí. Ecuador <sup>1</sup> Universidad Nacional Mayor de San Marcos - UNMSM, Lima, Perú <sup>3</sup> Universidad Nacional Federico Villarreal – UNFV, Lima, Perú <a href="mailto:jorge.jave@unmsm.edu.pe">jorge.jave@unmsm.edu.pe</a>, <a href="mailto:vespinel@utm.edu.ec">vespinel@utm.edu.ec</a>, <a href="mailto:jlopezb@unmsm.edu.pe">jlopezb@unmsm.edu.pe</a>, <a href="mailto:vvega@unfv.edu.pe">vvega@unfv.edu.pe</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>In the present investigation it allows to demonstrate the yield of the flour of tocosh of two varieties of potato (solanum tuberosum) canchán and native variety of "calamarca The raw material was acquired in the district of Paucartambo province of Pasco department of Pasco, to 2880 msnm, for the experimental study the two varieties of potatoes were placed using as technique a pool with a water current with varied times, where the microorganisms act and increase their activity related to the acidity. The evaluation was made using the tukey trial to compare the two varieties, obtaining results for the native variety "calamarca" which had a fermentation time of 45 days to have all the conditions to be tocosh with a flour yield of 59.6% compared to the variety of canchán whose fermentation time was 31 days with a yield of 45%.</p> <p style="text-align: center;"><b>Keywords:</b> Tocosha, Yield, Solanum tuberosum, Potato, Calamarca, Flour</p>
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## Abstract of Paper Accepted in RTCSE'2021

69

### MICROBIAL BIODEGRADATION OF POLYETHYLENE OF LOW DENSITY, UNDER CONTROLLED THERMAL CONDITIONS IN AIR LIFT BIO-REACTOR, FILE

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#### Abstract

The present investigation seeks to identify new mechanisms that serve as tools for the mitigation of plastic contamination through the biodegradation of low density polyethylene using microorganisms of the species *Pseudomona aeruginosa* (bacteria) and *Aspergillus brasilensis* (fungus) under controlled thermal conditions in an airlift bioreactor. The methods used were 2 samples of LDPE with concentrations of 50 mg/L and 2 samples of 100 mg/L deposited in an airlift bioreactor under controlled thermal conditions with a duration of 7 days. As a result it was obtained that the species *Pseudomona aeruginosa* (bacteria) reduced the LDPE sample by 2% with a concentration of 49 mg/L at a temperature of 21.8°C with a pH of 6.5 and OD of 6.8 mg/L, likewise the species *Aspergillus brasilensis* (fungus) reduced the LDPE sample by 7% reaching a concentration of 93 mg/L at 22.1°C of temperature, 7.14 of pH and 7.45 of OD.

**Keywords:** air lift bioreactor, biodegradation, thermal conditions, low density polyethylene (LDPE)

70	<h2 style="text-align: center;">Development of a Drive Unit for a Cost-effective Follow-focus Control System</h2> <p style="text-align: center;"><b>JJ Myburgh, AJ Swart, L van Heerden</b>  <i>Central University of Technology, Free State</i>  <a href="mailto:myburghj@cut.ac.za">myburghj@cut.ac.za</a>, <a href="mailto:aswart@cut.ac.za">aswart@cut.ac.za</a>, <a href="mailto:lvheerden@cut.ac.za">lvheerden@cut.ac.za</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives</b> - This study compares the most affordable stepper motors currently available for suitability as the main component of the drive unit for the development of a cost-effective Follow-focus Control System for deployment in Higher Education in photography.</p> <p><b>Methodology</b> - Applying a quantitative approach through a prototype design methodology the required criteria of speed, torque and accuracy were defined and the candidate stepper motors' performance compared to a theoretical ideal to define their suitability.</p> <p><b>Findings</b> - A testing process that artificially simulated general, real-world, use-cases revealed that both candidates, the 28BYJ-48 stepper motor and the 17HS2408 Nema 17 stepper motor, met the required torque and speed metric of facilitating high-speed focus shifts in one second without introducing unwanted camera movement, skipping steps or introducing vibration while maintaining focus accuracy within the defined accuracy metric as determined by focus charts. Both candidates also completed low-speed focus shifts over a set period of 10 seconds to assess smoothness of the resultant focus shifts without introducing unwanted camera movement or vibration while maintaining focus accuracy within the defined accuracy metric. These results illustrated both of the candidate stepper motors met the required testing metric needed to serve as the main component of a Follow-focus control system drive unit. These finding now offer a clear and concrete departure point in discrete component for the development of a drive unit for a follow focus control system.</p> <p><b>Application</b> - It is recommended that the 28BYJ-48 stepper motor be deployed for the development of a cost-effective Follow-focus control system drive unit due to its lower price combined with torque and accuracy metrics that fall within the defined range of acceptable performance for industry application.</p> <p><b>Keywords:</b> Follow-focus Control System, Photography, Time-lapse, Motion Control, Cinematography.</p>
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## Abstract of Paper Accepted in RTCSE'2021

71

### DIGITAL TRANSFORMATION MODEL FOR THE DEVELOPMENT OF TOURISM COMPANIES

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#### Abstract

The way of consuming information and the way we communicate is evolving thanks to advances in technology, the digital transformation breaks new ground in the tourism sector when communicating its services, offers and messages to customers. One of the challenges facing tourism professionals is understanding technological trends to innovate and reinvent their services towards clients. For which we propose a model to adopt the digital transformation in the development of tourist companies. A questionnaire was carried out with 20 managers from the sector with 95% reliability related to customer management, competition and innovation strategy regarding digital transformation; organizational culture and change management regarding business development. The results show that 45% indicate that they rarely keep a record with updated customer data. 35% indicate that they sometimes evaluate business models to anticipate their competition. 35% rarely use any methodology to develop a business model. This reflects that companies must manage data for later use, invest resources in innovating the business model, and have technological professionals who reinvent business processes.

**Keywords:** Digital Transformation, Tourism Companies, Canete, Development

## Abstract of Paper Accepted in RTCSE'2021

72

### STRATEGIC MANAGEMENT MODEL TO PROMOTE COMPETITIVENESS IN TOURISM COMPANIES IN CAÑETE

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#### Abstract

Today's tourism environment is increasingly competitive, so strategic management is a fundamental process that every company must implement to evaluate the business, define goals, develop strategies and identify resources for their realization. Due to the pandemic, the tourism sector is facing new challenges to stay in the market. Therefore, we propose a strategic management model to improve the competitiveness of tourism companies. We used the survey technique to collect information regarding the variables strategic management and competitiveness with its dimensions change management, staff training, service quality, differentiation and technology management, which was addressed to 20 managers in the sector resulting in a Cronbach's alpha coefficient of 0.823. The results show that 60% of managers indicate that the change management capacity of their companies is regular. The results show that 60% of managers indicate that the change management capacity of their companies is regular. 55% indicate that the training of tourism personnel is regular, 60% express that the differentiation strategy of their company is bad. These results reflect that Cañete tourism companies must implement strategic management for the development of productive capacities for their organizations, improving competitiveness through new products, services and processes.

**Keywords:** Strategic Management, Competitiveness, Tourism companies, model



## Abstract of Paper Accepted in RTCSE'2021

74	<p style="text-align: center;"><b>DIRECTIVE MANAGEMENT AND PEDAGOGICAL INNOVATION MODEL FOR PUBLIC UNIVERSITIES OF CAÑETE</b></p> <p style="text-align: center;"><b><sup>1</sup>Miriam Viviana Ñañez Silva, <sup>2</sup>Rosario Blanca Pariona Luque, <sup>3</sup>Julio Cesar Quispe Calderón, <sup>4</sup>Hernan Diaz Rengifo</b></p> <p style="text-align: center;"><sup>1</sup>Universidad Nacional de Cañete - UNDC, Lima (Perú)  <sup>2</sup>Universidad Nacional Autónoma de Huanta - UNAH, Ayacucho (Perú)  <sup>3</sup>Universidad Nacional de Cañete - UNDC, Lima (Perú)  <sup>4</sup>Universidad Nacional San Luis Gonzaga - UNICA, Ica (Perú)</p> <p style="text-align: center;">mnanez@undc.edu.pe, rpariona@unah.edu.pe, jquispe@undc.edu.pe, hernan.diaz@unica.edu.pe</p> <p style="text-align: center;"><b>Abstract</b></p> <p>To achieve success and achieve quality learning, the integral functioning of the processes of educational institutions must be developed, organized and evaluated, but there is a significant gap where the directive management is out of focus with the fulfillment of objectives and lack of pedagogical innovation in their Teaching and learning processes. Therefore, this research presents a model of directive management and pedagogical innovation for public universities in the Province of Cañete. The research approach is quantitative with a non-experimental, correlational and cross-sectional design, the technique used was the survey which was applied to 20 university professors with respect to the managerial management variable with its indicators promoting pedagogical changes, decision making, teacher communication and the dependent variable pedagogical innovation with its indicators teacher training and technological perspective, with a Cronbach's alpha coefficient of 0.909. The results indicate that 40% of teachers show regular pedagogical changes, 45% indicate that the use of technology is low in their learning session to achieve competencies and 60% express that the benefit of their decisions for their students is regular. students. These results reflect that the public universities of Cañete must implement a managerial management model and technological innovation to improve educational quality based on institutional development, the fulfillment of objectives, be at the forefront of social progress and favor teaching and learning processes.</p> <p><b>Keywords:</b> Directive Management, Pedagogical Innovation, Model, Public Universities, Canete</p>
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## Abstract of Paper Accepted in RTCSE'2021

87

### The limits of the Mataf and Mas'a A jurisprudential study of contemporary events, and use of technology

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#### Abstract

The problem of this study lies in finding legitimate solutions to the limited Mataf (area of circumambulation around the Holy Kabba) and mas'a, and raising their capacity in light of the large number of pilgrims and visitors, taking into account the difficulty of horizontal expansion of the Mataf and Mas'a, both of which have a legally binding limit, and collect the new legitimate issues related to these expansions. This study included an introduction, a preface, two demands and a conclusion as follows: The introduction included the objectives, problematic and methodology of the study and the definition of the terms of the study. The boot deals with search terms: " Limit", "Mataf", "Mas'a", "Contemporary events" and "Technology". The first topic dealt with the expansion of the Mataf and the Mas'a, in two demands: the limits of the end and its elements and historical expansion and the rule of this expansion, and the second requirement: the limits of the Mas'a in length and breadth, and the rule of the expansion of the offer of Mas'a and the new expansion and the position of scientists on it. The second topic dealt with the jurisprudential provisions on the expansion of the end and the Mas'a, in three demands, the first: the jurisprudential issues related to the expansion of the Mataf, and the second: use technology in Tawaaf and Sa'i, And the third: the jurisprudential provisions on the expansion of the Mas'a. Then the conclusion, main results of the research, recommendations and suggestions.

**Keywords-** *Mataf; Mas'a; Contemporary events; Technology*

## Abstract of Paper Accepted in RTCSE'2021

88

### The Harms of Armed Conflicts Between Jurisprudence and International Law and The Role of Volunteer Work and The Technology in Reducing Them and Addressing Their Risks

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#### Abstract

The struggle and armed conflicts (such as wars, revolutions and the like) that sweep some parts of the world represent great problems for all segments of society, as they leave bad effects in various aspects, due to the exposure of many of the residents of these areas to killing and displacement, the demolition of homes, and the spread of diseases, as vulnerable women are exposed. Children are subjected to torture, persecution, and physical and moral abuse. The facilities themselves, of all kinds, are subject to demolition, burning and damage. The texts of Sharia have forbidden and criminalized these attacks, and Sharia has clear positions on this, which are reflected in some texts of the Qur'an and Sunnah, general rules of jurisprudence, and pages of Islamic history rich in them. Contemporary international law texts and major political agreements criminalize these practices and classify them as war crimes and other major crimes. And between Islamic law (Islamic Sharia) and international law, the role of peoples towards these groups of people appears, where popular volunteer work (collective and individual) represents a major pillar in their protection, and providing them with aspects of aid, which is what this research seeks to present and root, as it sheds light on the most prominent of these damages, the position of jurisprudence and international law towards it, the role of business and volunteerism in it, how can contemporary technologies and technology reduce and denounce them, and providing assistance to those affected by it. The research deals with this through five demands, taking into account the legal basis of the research from books of Islamic jurisprudence, legal policy, some texts of international law, and the decisions of international organizations.

**Keywords-** Damage; Armed Conflict; Jurisprudence; International Law; Volunteer Work; Contemporary Technology

## Abstract of Paper Accepted in RTCSE'2021

93	<p data-bbox="332 646 1399 835">Loosely coupled system of systems concept for the SpaceLiner real-time Human-in-the-Loop Space Flight Simulator</p> <p data-bbox="607 863 1110 978">Frank Morlang <i>German Aerospace Center (DLR)</i> <a href="mailto:frank.morlang@dlr.de">frank.morlang@dlr.de</a></p> <p data-bbox="797 984 919 1014"><b>Abstract</b></p> <p data-bbox="300 1020 1419 1381">DLR's advanced concept for a suborbital, hypersonic, winged passenger transport vehicle called SpaceLiner, revolutionizing ultra-long-distance travel, has been chosen as a use case for the testing and evaluation of procedures and functionalities for an improved handling of space vehicle operation. To adapt the real-time Human-in-the-Loop Space Flight Simulator to this use case, a SpaceLiner simulation model has been developed by geometry modeled flight dynamics for the commercial flight simulation software "X-Plane". Establishing it as a needed, centralized core will generate specific constraints and limit flexibility, especially if large distributed simulation scenarios in the future are concerned. The paper presents a system of systems concept to replace the current X-Plane focused approach by a very loose coupling alternative.</p> <p data-bbox="300 1388 1253 1417"><b>Keywords:</b> microservices, High Level Architecture, distributed simulation</p>
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## Abstract of Paper Accepted in RTCSE'2021

94

### TEACHING ENGLISH IN PERU: ITS CHALLENGES AND POSSIBILITIES IN A MEGA DIVERSE COUNTRY

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#### Abstract

This article makes a reflective analysis on the teaching of the English language in Peru from a social, cultural and inclusive perspective as part of the achievement of a quality education. Thus, historical, social and political aspects were identified that are not necessarily didactic, however, they are key elements for the so-called inclusive and global education within the framework of an education for all. Evidenced in this way, that the category addressed requires a reflective treatment and immediate actions with serious long-term policies and aligned with the policies regulated by international management, quality and educational accreditation frameworks. Through this documentary and hermeneutical study, it is intended to contribute and guide the improvement of bilingual education and promote the culture and interculturality of the complex and diverse Peruvian reality; that the authorities and institutions internalize the importance of the English language in the development of Peru on its way to global integration to achieve its own citizens of the world.

Keywords: Teaching English, mega diverse country, interculturality

## Abstract of Paper Accepted in RTCSE'2021

95

### Improving the System Thermal Reliability Using Thermal-Gradient-Based Placed Heaters

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#### Abstract

Design reliability requirements are growing rapidly to cope with design complexity and process challenges. Common design specifications are qualified against process corners, known as PVT (process, voltage, and temperature), are getting more complex. Bias, bandgap, circuit is one of the critical building blocks which compensates for both supply fluctuations and temperature variations. In these bias circuits, the incorporated temperature compensation techniques are usually based on first or second order approximations which reduce the temperature validity range. Beyond this validity range, the biasing reference voltage gets dominated by nonlinearities and becomes temperature dependent. The impact of these nonlinearities is amplified by the effect of thermal gradient across the chip which causes both soft and hard silicon failures. This work proposes an on-chip temperature sensing and holding mechanism that extends the bias temperature compensation validity range by keeping the chip in thermal equilibrium and avoiding thermal gradient and skewness. This work leverages a geometrical-based thermal symmetry and gradient verification approach that allows even placement and distribution of thermal heaters in low voltage (LV) areas to compensate for hot regions across the chip. The flow has been implemented on a voltage regulator test chip and demonstrated reliability improvements.

**Keywords:** thermal equilibrium, biasing validity range, thermal gradient, heaters.

## Abstract of Paper Accepted in RTCSE'2021

97

### Unmanned Aerial Vehicle and Optimal Relay for Extending Coverage in Post-Disaster

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#### Abstract

The malfunction and interruption of wireless coverage services has been shown to increase the mortality rate during natural disasters. The public safety network integrates current wireless technologies for reliable connectivity and in turn secures people's lives by enabling communication with user devices under the disaster zone. Wireless coverage on an unmanned aerial vehicle used provides coverage service to ground user devices in disaster events. Moreover, the relay hops received the wireless coverage and able to be forwarded it to user devices in out of coverage for extending UAV coverage and reliable connectivity with large-scale user devices. This work evaluates the optimal relay hops' efficient performance to improve the wireless coverage services and establish connectivity in post-disaster scenarios. The results demonstrate the UAV line of sight's understanding to select an optimal relay for improving wireless coverage services. Therefore, the path loss, loss probability, and system capacity are all affected by the user device's distance and relay densities. The optimal relay hop distance and the UAV position's static are also investigated to improve the coverage likelihood, which could be especially useful for the UAV deployment design. It is found that the dense relays node in UAV systems improves the capacity, coverage area, and energy efficiency by decentralized connectivity through multi-hop D2D wireless network.

**Keywords:** Post-disaster, UAV, optimal relay, extending coverage area, 5G.

## Abstract of Paper Accepted in RTCSE'2021

102

### Environmental Problems of Urban Projects: Digital Content

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#### Abstract

The goal of the study is analysis of residents' perception of environmental problems caused by urban development projects. Data: the material for the study was the data of social media, blogs, messengers, forums, reviews, videos about construction of South-East highway in Moscow. Methods: the study involved a cross-disciplinary approach using neural network technologies. Findings: data analysis made it possible to identify and study environmental problems that arose at 5 stages of construction, to analyze the perception of residents based on digital content data. Application: the proposed methodology can be used in predictive analytics.

**Keywords:** Environmental conflicts, neural network approach, social media, perception

## Abstract of Paper Accepted in RTCSE'2021

112

### Deep Learning Model for the Automatic Analysis of Cough in the Early Diagnosis of COVID-19

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#### Abstract

The purpose of this paper is to identify people infected with COVID-19 through a diagnostic model based on Deep Learning, which will be implemented in a multiplatform application that will serve as a support to the available clinical methods that require specialized and exhaustive supervision also to protect the doctors. The methodology considers re-training the Deep Learning model trained with the SickSounds dataset with cough sounds of sick and not sick people with COVID-19, a fine-tuning to the ResNet50 architecture model trained for the diagnostic module will be used. The accuracy, sensitivity, and specificity results are 81.06%, 85.4%, and 74.96%, respectively, using 10-fold cross-validation.

**Keywords:** Deep learning, spectrograms, Mel spectrogram, Continuous Wavelet Transform, COVID-19, ResNet50, ImageNet, fine tuning.



## Abstract of Paper Accepted in RTCSE'2021

114

### Determination of the Optimal Harvest Time for Hemp Plantations in Controlled Greenhouse Conditions

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#### Abstract

The purpose of the research is to evaluate the optimal concentration curve of Hemp plantations (*Cannabis* spp); the study considers the six main Cannabinoids found in the plant under controlled greenhouse conditions. The methods applied in the present work are experimental research types with the analytical method with statistical evaluation. The experiment was carried out in Jacksonville, Montevideo, Uruguay, during the agricultural year 2019-2020. Were evaluated 47 plants of the cultivar Romalex in each of its three parts (high, medium, and low), corresponding to five (05) mothers that were sampled for six consecutive weeks; having carried out a total of 846 analyzes, the plants were sown at a density of 1.3 plants per m<sup>2</sup>, for the measurement the High Performance Liquid Chromatography (HPLC) method was used. The data were subjected to analysis of variance (ANOVA), and the measurements were compared using the Friedman test with a probability of error of 5%. It was found that the middle part of the plant has a mean value of 8.19% of total Cannabidiol CBD with a standard deviation of  $\pm 1.49$ . The lower part of the plant has a mean of 7.56% of total CBD, with a standard deviation of  $\pm 1.55$ . The upper part of the plant has an average of 8.91% of total CBD with a standard deviation of  $\pm 1.05$  and concentrates its highest percentage of total CBD at the third week, the middle part in the fourth week, and the lower part between the fifth and fourth week with statistical differences for each of the parts of the plant.

**Keywords:** Hemp, Cannabinoids, Greenhouse, High Performance Liquid Chromatography, HPLC, Harvest.

## Abstract of Paper Accepted in RTCSE'2021

115

### GENDER CLASSIFICATION THROUGH DYNAMIC KEYSTROKE BASED ON MOBILE PHONE USING DATA MINING TECHNIQUES

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#### ABSTRACT

Cybercrime is a computer-oriented crime that depicts the action of stealing, modifying and damaging data for a particular purpose, which is threatening the security of the cyber world. Most of the time it would be difficult to be detected due to the challenging situation of obtaining the evidence of this particular crime to help pinpoint the suspected individuals. However, there are several methods that can be used to help identify the suspected criminal up until the detail of the gender. For example, using the method of Keystroke dynamics as an alternative approach to identifying gender. Keystroke dynamics is known as behavioural biometric that refers to the rhythm of typing on a keyboard. Keystroke dynamics captures the individual's unique behavioural characteristic of typing rhythm and it will automatically generate dataset of gender by recording types of pattern from a group of mobile users. Gender are then classified based on the criteria or features of keyboard typing. In this project the artificial neural network algorithm will be applied as a method for gender classification. Artificial neural network will form a signature or a pattern from the individual's behaviour and classify the data into different classes of gender, which is male or female. It is anticipated that this will bring a great contribution to the investigation of cybercrime as the suspected individuals could be narrowed down to its gender.

**Keywords:** Data Modelling, gender classification, keystroke dynamics, Data Mining, Biometrics

## Abstract of Paper Accepted in RTCSE'2021

116

### Influence of environmental ethics on the environmental concerns of chemical engineering students

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#### Abstract

This research describes the relationship between environmental ethics and chemical engineering students' environmental concerns in Peruvian universities. The data analysis provides results that confirm that the application of an Environmental Ethics program positively influences chemical engineering students' environmental concerns. The results obtained through self-application instruments in the control and experimental groups, under the application of an intervention program, were subjected to hypothesis tests of differences of means with the Mann-Whitney, Wilcoxon U statistics and applying the Games-Howell post hoc test or univariate generalized linear model post test, based on the information from the Games-Howell post hoc test, it can be stated with a significance level Sig. = 0.200 that there are no statistically significant differences in the medians of the GC pretest, the GC post test, and the G.E. preliminary test; which do differ significantly from the median results of the G.E. From these statistically significant results, it is concluded that the intervention with the environmental ethics program was effective in improving the levels of environmental concerns of Chemical Engineering students belonging to the Peruvian university system.

**Keywords:** ethics, environmental ethics, environmental concerns, chemical engineering.

## Abstract of Paper Accepted in RTCSE'2021

117

### Isolation, identification, cloning and phylogenetic analysis of the micro algae *Prorocentrum minimum* (Pavillard) J. Schiller 1933 Isolated from the Bay of Callao - Peru.

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#### Abstract

Harmful Algal Blooms (HAB) or Red Tides are water discolorations visible to the naked eye due to the proliferation of one or more planktonic microorganisms such as microalgae. These can reach high levels and produce adverse effects on human health, as well as cause damage to other marine organisms near the coast. For this reason, there was interest in isolating, identifying and making a phylogenetic study of the species *Prorocentrum minimum* found in the Bay of Callao, Peru. Several samples of seawater were taken for their subsequent morphological identification, and the technique of purification of the microalgae was carried out. At the same time, a standard of *Prorocentrum minimum* was acquired from the Provasoli- Guillard National Center for Culture of Marine Phytoplankton (CCMP), USA. It was carried out the growth curve for the concentration of microalgal density, later it was carried out the DNA extraction and the molecular phylogeny from the sequences of the ribosome LSU rRNA subunits of the species *Prorocentrum minimum*. *P. minimum* and *P. gracile* were identified, which were close epibenthic species because they were more recent evolutionarily. Likewise, to confirm the presence of some marine biotoxin absence in *Prorocentrum minimum* culture, it was established a quantitative analysis of the animal's dose response in the mouse bioassay. It was possible to obtain the purification of *Prorocentrum minimum* culture and to standardize the work protocol; it was confirmed the phylogeny of microalgae species. It was not possible to obtain DSP toxin from microalgae culture.

**Keywords:** *Prorocentrum minimum*, Molecular Phylogeny, Cloning, Callao Bay.

## Abstract of Paper Accepted in RTCSE'2021

118

### Heritability in Five Hemp Mother Plants on their Progeny from Clonal Tissue Under Controlled Greenhouse Conditions

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#### Abstract

The purpose of the research is to evaluate five cannabinoid plants' heritability in the progeny generated from said mothers. The experiment was carried out in Jacksonville, Montevideo, Uruguay, during the agricultural year 2019-2020; for the analysis, forty seven (47) clones were obtained from the five (05) plants of the cultivar Romalex were evaluated and which were sown at a density of 1.3 plants per m<sup>2</sup>. In the selection, the Clones INVPS00006215 and INVPS00007157 were taken for having the highest quantitatively higher Total percentage values of Cannabidiol CBD and for statistically differentiating from the remaining ten clones of mother 256. The methods applied in this research work are analytical and statistical, corresponding to the experimental type; in the measurement, the High-Pressure Liquid Chromatographer HPLC method was used. The statistical analyzes presented include analysis of variance, Pearson's correlation, and regression. They are taking the information on regression coefficients, and it was interpreted for each unit in which the total CBD is increased, and the Tetrahydrocannabinol THC is increased by 12.81, starting from a minimum CBD, was observed that the third week is the best results concerning the total percentage CBD.

**Keywords:** Heritability Clones, Cannabinoids, CBD, Hemp, High-Pressure, Liquid Chromatographer, HPLC, Tetrahydrocannabinol



## Abstract of Paper Accepted in RTCSE'2021

119

### Web Conferencing Software Selection with Interval-Valued Fuzzy Parameterized Intuitionistic Fuzzy Soft Sets

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#### **Abstract**

Since COVID-19 has become a pandemic, education has been interrupted in many countries, and training has been temporarily resumed on online platforms. But it is difficult to determine which of the many existing web (or video) conferencing software is more suitable for class education. The aim of this study is to sort these platforms according to the criteria determined by experts and select the best one among different alternatives by using interval valued fuzzy parameterized intuitionistic fuzzy soft sets.

**Keywords:** Fuzzy multi-criteria decision making, interval valued fuzzy sets, intuitionistic fuzzy soft sets, web conferencing software selection.

## Abstract of Paper Accepted in RTCSE'2021

120	<p style="text-align: center;"><b>Performance Analysis of Object Detection Algorithms on YouTube Video Object Dataset</b></p> <p style="text-align: center;">Chethan Sharma, Siddharth Singh, Poornalatha G*, Ajitha Shenoy KB</p> <p style="text-align: center;">Department of Information and Communication Technology, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal</p> <p style="text-align: center;"><b>Abstract</b></p> <p>Object Recognition is a terminology used to refer to a collection of computer vision tasks that are involved in object identification in digital images and videos. In this paper, different object detection algorithms were implemented on youtube object dataset. Each object detection algorithm has its own advantages and limitations which depend on the dataset used. It was observed that YOLO and SSD, being state-of-art algorithms, demonstrate better performance than other models on youtube video object dataset. SSD is better at detecting smaller objects. Centernet performs poorly on this dataset.</p> <p><b>Keywords:</b> Object Recognition, Average Precision, SSD, YOLO, DETR, CenterNet.</p>
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## Abstract of Paper Accepted in RTCSE'2021

121

### Comparative analysis of simulator tools for unmanned aerial vehicle communication networks

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#### Abstract

In the recent years the real world problems are going to be solved by researchers using simulation method for experiments in the field of networks and communication. However, the simulator tools are generally used to assess the theories, ideas and hypothesis by research society. The Unmanned Aerial Vehicle Communication Networks (UAVCN) is an emerging area, having many issues which could be explored. The development of a testbed to explore such issues is an expansive proposition. Hence simulation tools are required to study UAVCN. Therefore, it is more important task for researchers to select an appropriate simulator tool for specific research experiment. This paper presents the simulator tools like: Ns2, Ns3, JSim, MatLab, OMNeT++, OPNET, QualNet, GloMoSim and AVENS. These various simulator tools features and their pros and cons discussed. Comparative analysis of features of aforementioned tools is highlighted in tabular form, and selected simulator tools are compared by implementing a routing protocol. In addition, simulator tools performance is evaluated in terms of memory utilization and computation time with respect to increasing the density of network nodes. Consequently, it has perceived that ns3 is more efficient than ns2, OMNeT++ and GloMoSim. In addition; it has studied that through these tools supports researchers can explore and design the testbed scenarios and evaluate the performance of Unmanned Aerial Vehicle Communication Networks.

**Keywords:** UAV's, UAVCN, Ns2, Ns3, JSim, MatLab, OMNeT++, OPNET, QualNet, GloMoSim and AVENS

## Abstract of Paper Accepted in RTCSE'2021

122

### Spherical Fuzzy SWARA-MARCOS Approach for Green Supplier Selection

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#### Abstract

In a supply chain, supplier selection is an important step in determining the structure of the model. Multi-criteria decision-making methods are appropriate tools to deal with in the selection of suitable suppliers. Also, fuzzy multi-criteria decision-making approaches are helpful to include different and uncertain views of decision makers. In this study, a new combined fuzzy methodology is proposed to handle green supplier selection problem. The proposed model consists of spherical fuzzy-SWARA method, which is used to calculate the criteria weights and MARCOS method, which is performed to rank the alternatives. In the application, green supplier selection problem of a textile company located in Turkey is discussed. Six alternative suppliers are evaluated against twelve green criteria, and alternatives are ranked. Finally, a sensitivity analysis is performed to compare the results with different scenarios.

**Keywords:** Green supplier selection, MARCOS, MCDM, Spherical Fuzzy Sets, Supply chain, Spherical Fuzzy - SWARA.

## Abstract of Paper Accepted in RTCSE'2021

123

### Plant Disease Detection for High Dimensional Imbalanced Dataset using an Enhanced Decision Tree Approach

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#### Abstract

The purpose of the research is to find a robust and efficient model for plant disease detection. Therefore, the current study proposes an enhanced-DTC (Decision Tree Classifier) approach for high dimensional imbalanced dataset in plant disease diagnosis. In this approach, instead of just using traditional decision tree algorithm, its capabilities are enhanced with Random Over (RO) sampling method for class balancing and three well-known feature selection techniques, i.e., Consistency (Cons), Correlation-based Feature Selection (CFS), and Random Forest Importance (RFI) filter for dimensionality reduction. The proposed methodology aims to enhance the performance of the five most commonly used decision tree algorithms, namely, C4.5, Classification and Regression Tree (CART), Bagging CART (Bag-CART), Partial Decision Tree (PART-DT), and Boosted C5.0 (B-C5.0). Results specify that the enhanced-DTC approach performs superior to the existing decision tree algorithms for the multiclass Soybean Large (SBL) dataset. It has been observed that the enhanced-DTC approach with both RFI and C4.5 method performed the best with an Accuracy (ACC) of 98.10% and Area Under Curve (AUC) of 97.79%. A real-time application of the proposed model can be used by the agricultural experts to take preventive measures in the most sensitive areas that are prone to a particular disease. Hence, timely intervention would help in reducing the loss in productivity of plants which will further benefit the global economy, agricultural production, and the food industry.

**Keywords:** Plant Disease, High Dimensional, Imbalanced Dataset, Enhanced Decision Tree Approach, Feature Selection, Random Over Sampling

## Abstract of Paper Accepted in RTCSE'2021

124	<p style="text-align: center;"><b>Electronic Strategies and Their Importance in Teaching and Learning Arabic Language for Non-Native Speakers and The Sciences of Qur'an</b></p> <p><b><sup>1</sup>Elsayed Makki Elbishr Ali Hassan, <sup>2</sup>Ibrahim Babikir Elhag, <sup>3</sup>Li Ting Lin, <sup>4</sup>Hassan Suleiman, <sup>*5</sup>Yousef A. Baker El-Ebiary</b></p> <p><sup>1,3</sup>Dr., Faculty of Languages and Communication, Sultan Idris Education University, Malaysia, <a href="mailto:elsayed@fbk.upsi.edu.my">elsayed@fbk.upsi.edu.my</a>, <a href="mailto:sulaimanli@fbk.upsi.edu.my">sulaimanli@fbk.upsi.edu.my</a></p> <p><sup>2</sup>Dr., Faculty of Arabic Language Sultan Abdul Halim Mu'adzam Shah International Islamic University, Malaysia <a href="mailto:ibrahemalhag@gmail.com">ibrahemalhag@gmail.com</a></p> <p><sup>4</sup>Asst Prof Dr., FIRKHS, International Islamic University, Malaysia. <a href="mailto:abuxzubair@iium.edu.my">abuxzubair@iium.edu.my</a></p> <p><sup>*5</sup>Assoc. Prof. Ts. Dr., Faculty of Informatics and Computing, UniSZA University, Malaysia, <a href="mailto:yousefelebiary@unisza.edu.my">yousefelebiary@unisza.edu.my</a></p> <p style="text-align: center;"><b>ABSTRACT</b></p> <p>Reaching successful language education requires correct scientific steps based on clear methodological foundations that a person adopts to achieve his aspirations in this field. For this reason, there are differing views among researchers and scientists as they search for the most scientific necessities to reach an effective curriculum in second language education. The theories of modern researchers in this field varied, since the theories of e-learning emerged into the scientific arena, and the divergence between them increased even more since the emergence of applied linguistics, especially educational linguistics, as it is a branch of applied linguistics, and it intersects with the education sciences in the interest in educational problems that have a linguistic basis. It is a science that studies the teaching of languages and its techniques, and the forms of organizing the learning situations to which the learner is subject and taking into account their reflection on the individual and society in terms of developing mental abilities, enhancing conscience and directing social ties. With the theories of learning that differ among themselves in explaining the best way for how human learning takes place and the best ways in that. That is why this research focused on showing language levels, objectives of linguistic communication, stages of language acquisition and linking it to the communication process, as well as clarifying some e-learning strategies.</p> <p><b>Keywords:</b> <i>E-Learning, Teaching Strategy, Language Levels, Multi-Media.</i></p>
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## Abstract of Paper Accepted in RTCSE'2021

125

### Performance Enhancement by using Fuzzy with sliding mode controller for navigational systems

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#### Abstract

The dependency of any embedded navigation in enhanced vehicular system rely on accurate and error free data on navigational information stored as well as refined to provides secured path. On evaluating the subsisting method, paramount trade-off is investigated among the present state of controller design and the subsisting navigational system on different case studies and applications. The controller system used in the subsisting design for navigation utilizing fault-prone INS/GPS information does not accentuate on sliding mode controller. Albeit, there has been effective research works in sliding mode controller, it is fewer endeavored for optimizing the performance in navigation of a conveyance. Consequently, this paper presents designing a new optimized sliding mode controller which may be deployed efficiently on advanced navigation system. The result of study was determined to provide optimal control signal, greater celerity and reduced error occurrences to manifest that proposed system provides optimized and reliable navigational accommodations in contrary to subsisting system.

**Keywords**-Navigation, Inertial Navigation System, Global Positioning System, Sliding Mode Controller (SMC), Fuzzy sliding mode controller (FSMC)

126

## Ethical Decision-Making for Sustainable Urban Transportation

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### Abstract

The paper deals with ethical decision-making for sustainable urban transportation. Sustainable urban transportation has become one of the most demanding problems in several metropolises over the world. Managers are often faced with the question how to solve a problem correctly. Problem solving depends on the level of competencies of managers. Furthermore, it is important to ask how ethical the decision is. This is also crucial for local councils, as they interact with both city residents, and the government and business. Therefore, there is a problem in achieving balance in the interaction of all stakeholders. The author points out that in order to form ethical decisions in public transportation it is necessary to understand the problems that arise before decision-making. Ethical decision-making related with ethical issues in public transportation such as satisfaction needs of the citizens, business ethics, public-private partnership, ecological issues and safety issues. The information about situation in public transportation in Ostroh and Estonian towns is presented.

**Keywords:** Ethical Decision-Making, Sustainable Urban Transportation, Public Transportation, Information Technology.

## Abstract of Paper Accepted in RTCSE'2021

135	<p style="text-align: center;"><b>The fabricated hadiths raised by Ibn Al-Jawzi: A critical rhetorical study of their impact through social networks</b></p> <p style="text-align: center;"><b>Nasser Radhi Al-Zahri Ibrahim</b></p> <p style="text-align: center;">Sattam bin Abdul Aziz University, Al-Kharj, Saudi Arabia <a href="mailto:n.ibrahim@psau.edu.sa">n.ibrahim@psau.edu.sa</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>This research focused on the book Al-Mawdoot from the Hadiths raised by Ibn al-Jawzi / by Ibn al-Jawzi in 1966 CE from two approaches. The first approach was to criticize the meanings, rulings, and legislations of the hadiths included, and to compare them with the authentic hadith of the Prophet. It became clear through this approach that the rulings contained in the texts were placed in a way that confirmed that they were not attributed to the Prophet - may God bless him and grant him peace. It also indicated the danger of spreading these hadiths on Social Communication Networks that facilitated the transmission of undocumented information to a great extent. The second approach was to critique expressions and styles of fabricated hadiths and comparing them with the methods of authentic hadiths. It was found that they contradicted the methods and expressions of the Prophet, which could be added to the status signs by which the hadith was known, and which had been explained by the people of hadith. Research methodology: The study adopted several methods as the analytical method, the descriptive method, and the historical method, as needed. Main results: The research concluded several results, such as the weakness of the rhetorical methods in the hadiths included in this book, the multiplicity of their sources, their inadequacy for the era of prophethood, and the shallowness of their meanings and rulings. This confirmed the invalidity of their attribution to the Prophet - may God bless him and grant him peace - and the research warned of the danger of their spread on the Internet due to the speed of their transmission, lack of documentation, and scrutiny by users.</p> <p><b>Keywords:</b> fabrications, Ibn al-Jawzi, criticism, rhetoric, communication platforms, social networks.</p>
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## Abstract of Paper Accepted in RTCSE'2021

136	<p style="text-align: center;"><b>Alou and its rules in the Arabs' language: An applied grammatical study in an Electronic Encyclopedia of Modern Poetry</b></p> <p style="text-align: center;"><b>Mohamed Taha Abd Alkhalek Alajiri,</b> Prof. Dr. Morphology and Syntax, Department of Arabic Language &amp; Literature, Faculty of Arts and Sciences, Prince Sattam bin Abdulaziz University, Saudi Arabia <i>e-mail: <a href="mailto:m.alajiri@psau.edu.sa">m.alajiri@psau.edu.sa</a></i></p> <p style="text-align: center;"><b>Abstract</b></p> <p>The study aims at clarifying Alou's rules in Arabic; collecting the ideas of linguistics, grammarians, and others about alou; and revealing the forms of alou found in an Electronic Encyclopedia of modern poetry, especially in Ahmed Moharam's and Gobran Khalil Gobran's poetry. The methodology adopted in this study is the analytical descriptive approach. The most important results of the study are: occurrence of Alou in an electronic encyclopedia of modern poetry in Ahmed Moharam's and Gobran Khalil Gobran's poetry, in forms not mentioned by linguists, grammarians and others: such as min olouin, min olouwin, and min oulan; the addition of the preposition ela to alou in Moharam's and Gobran's poetry; and the separation, in Moharam's poetry, of one of alou's forms aalin and the preposition that precedes it by a noun that means all: koul. The study recommends that researchers should be encouraged to conduct further research and scientific studies on the verbal nouns.</p> <p><b>Keywords:</b> Alou's rule; Arabs' language; Modern Poetry; Electronic Encyclopedia</p>
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## Abstract of Paper Accepted in RTCSE'2021

138

### Egyptian Colloquialism a semantic study of the electronic novel (Zicula Land) as a model

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#### **Abstract**

The subject of Egyptian Colloquialism relates to the semantic study of the electronic novel (The Land of Zecula) as a model, by enumerating the Colloquialism contained in the electronic novel, classifying those words and placing them in their correct semantic fields, then explaining the origin of those words and the semantic relationships between them. Therefore, the research was divided into three sections, namely: the first topic - Colloquialism in language and idiomatically, then came the second topic entitled: Colloquialism, a study in light of the semantic field theory, and finally the third topic entitled: Colloquialism in the novel and its connotations, and the semantic relations between them. The research revealed: Colloquialism in the novel, and the multiplicity of semantic fields in it, and also showed that most of the Egyptian terms Colloquialism, which we thought were related to formal language (al-Fusha); It is, in fact, of eloquent origin in our Arabic language. He also explained the diversity of semantic relationships between the Egyptian terms Colloquialism (Synonymy, and Contradiction).

**Keywords-:** Electronic Novel; Egyptian Colloquialism; Semantic Fields; Semantic Relations; Novel of Zicula Land.

## Abstract of Paper Accepted in RTCSE'2021

139	<p style="text-align: center;"><b>Rules and structural patterns of “shattana”</b>  <b>An analytical grammatical study</b>  <b>in the Electronic Poetry Encyclopedia</b></p> <p style="text-align: center;"><b>Abdoul Hai Muhammed Abdoul Hai Mahmoud</b>  Assoc. Prof. in Linguistics, Department of Arabic Language  Faculty of Arts and Sciences in Wadi Al-Dawasir,  Prince Sattam Bin Abdulaziz University (KSA)  <a href="mailto:abdalhi2020@yahoo.com">abdalhi2020@yahoo.com</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>“<i>Shattana</i>” (asunder or what a difference!) is a unique polysemic Arabic lexeme of multiple linguistic usages and structures. The present study aims to cull grammatical and linguistic rules sporadically scattered in linguistics and syntax books handling this unique term. Standard poetic citations; used as authority, in the <i>Electronic Poetic Encyclopedia</i> issued by the Department of Culture and Tourism, Abu Dhabi, are tracked. Rulings are investigated and citation patterns of such variable structures are analyzed, following the descriptive analytical approach. The study is divided into an introduction, a preface, two subjects, and a conclusion containing the most important findings and recommendations.</p> <p><b>Keywords-</b> Shattana; rulings of grammar; syntactic patterns; Electronic Poetic Encyclopedia.</p>
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## Abstract of Paper Accepted in RTCSE'2021

140	<p style="text-align: center;"><b>Digital literature and linguistics communicate relationships and characteristics (Digital travel literature as a model)</b></p> <p style="text-align: center;"><b>Soaad Tharwat Mohamed Nasef</b> Asst. Prof. Dr. Department of Arabic language, College of Science and Arts, Qassim University, Al-Rass, Kingdom of Saudi Arabia E-mail: <a href="mailto:Ssmn1986@yahoo.com">Ssmn1986@yahoo.com</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>We live in an era that uses technology as the means of communication to communicate and express in all aspects of life in a way that makes electronic technology a backbone of life; Hence the digital literature, representing his era, is best represented by his modern developments, and then this study came to try to shed light on that modern literature through the contemporary linguistic lesson, its relationships, and its characteristics, through application to one of the digital literary races (digital travel literature) Ibn Battuta's journey to Dubai guarded by the author Mohammed Sanajlah, so the study came under the title: (Digital Literature and Linguistics of Relationships and Characteristics, Digital Literature as a Model), following the descriptive, analytical, and deductive method . The study came in the introduction and three topics that dealt with the first topic, including: the concept of digital literature and the problematic of the term, and the second topic dealt with: digital literature and parallel text relationships, while the third topic dealt with the characteristics of digital narration and its techniques in the light of the linguistics of communication in electronic flight literature.</p> <p><b>Key words:</b> digital literature, communication linguistics, interconnected text, digital novel</p>
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## Abstract of Paper Accepted in RTCSE'2021

149

### Challenges and opportunities of Big Data and Cloud Computing in achieving KSA's Sustainable Development Goals <sup>^</sup>

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#### Abstract

The Big Data and Cloud Computing is considered as one of the researching areas and leveraging technologies provided in the United Nation's Sustainable Development Goals (SDGs) and 2030 agenda for global sustainable development. The Kingdom of Saudi Arabia (KSA) is set to fulfill regulatory obligations towards sustainability via 2030 Vision together with the National Transformation Program 2020 objectives. In this paper, the prospects with regards to studying and applying Big Data and Cloud computing in developing countries like KSA is presented. The research is focused on challenges and opportunities of data science, large volumes of data storage on clouds and its computing issues in KSA as well as the need to analyze profitable projects for achieving sustainable development goals by 2030 in developing countries is presented. Furthermore, important factors considered as technical challenges to the socio-economic development and environmental differences of KSA are also reviewed.

**Keywords**— Big Data, Cloud Computing, Sustainable Development Goals, KSA

## Abstract of Paper Accepted in RTCSE'2021

150

### Electronic Payment for Bills: Controls and Provision: An Empirical Study

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#### Abstract

Trade exchange between banks, financial cards, credit cards, credit cards, credit cards, cards, cards, cards, financial cards, financial cards, and mobile companies, in addition to the online portal and its application, or through outlets, branches and service points Using electronic money. And in return for the company's commission, the client is obligated to pay it, whether it is an individual or an institution. This research aims to understand the concept of electronic payment, its types, fields, and jurisprudential rulings, in addition to setting controls for electronic payment from the forbidden Sharia, to be electronic starting points for electronic and Sharia instructions. This research was organized in an introduction and consistency of discussions and a conclusion that included the most important findings and recommendations, including: The electronic payment systems for bills can be adapted and downloaded to types of contracts in Islamic jurisprudence, such as Churning out, transfer and leasing. They represent a good alternative to old payment methods, and are characterized by ease and convenience, saving effort and money, and speed of completion. The basic principle is that dealing with electronic payment systems is legally permissible, and each card or system has its own legal controls. Failure to comply with the provisions of Islamic law is one of the most important causes of economic crises and fluctuations. Islamic financial institutions must search for alternatives to uncovered electronic payment cards, and adhere to their issuance and terms of Sharia controls. Urging the competent authorities to issue regulations and regulations that enable the use of modern technology, keep abreast of progress, provide security and confidence in dealing, and solve problems in the field of e-commerce. Benefiting from competencies and successful experiences by exchanging experiences between electronic financial institutions. Spreading awareness about the jurisprudence of electronic financial transactions to know the rights and duties and avoid falling into problems and discounts.

**Keywords:** Electronic Payment, Invoices, Controls and Provisions

## Abstract of Paper Accepted in RTCSE'2021

151

### The Formation of Imagery in Al-Hamshari Poems in The Electronic Encyclopedia of Modern Poetry

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#### **Abstract**

This research aims at revealing the methods of forming the poetic image in Hamshari's poetry. Whether in the formation of the traditional image in which the relationship between its elements is clear and close to addressing, or to the modern image that depends on suggestive words, and the formation of new relationships. The method used in the research is the descriptive and analytical approach and the most important findings of the research is the correlation of the formation of the image in Hamshari's poetry with the nature and the language of dreams. His image is sometimes enveloped by transparent ambiguity, especially images that depend on abstraction, because the edges of the image are far apart, and the poet brings them closer by discovering the relationships between them with his spirit and imagination, so that he brings them closer to the reader. The research suggests encouraging researchers to thoroughly study the poetic image of Hamshari.

**Keywords:** Imagery, Hamshari book of poems, Electronic Encyclopedia, Modern Poetry

## Abstract of Paper Accepted in RTCSE'2021

152

### E-learning problems in Arabic language and Islamic Courses During the Corona pandemic

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#### Abstract

This topic deals with the problems of e-learning in Arabic language and Islamic courses in educational institutions in Wadi Al-Dawasir and the problems faced by faculty and students in distance education. And how to overcome these problems and the role of government institutions, faculty members and students in overcoming these problems and responding to the Corona pandemic in a way that guarantees the safety of the educational process, and makes use of the electronic study experience in Wadi Al-Dawasir. Monitoring e-learning problems in Arabic and Islamic language courses and presenting the problems of Wadi Al-Dawasir during the pandemic, providing the solutions that the research sees during confronting the problem, and monitoring the positive solutions that have been made on the ground. Also providing support to faculty members in solving problems through what the research proposes of solutions it deems appropriate, and monitoring the positive aspects of distance education in this region and the time of the pandemic. The research consists of an introduction, three topics, and a conclusion that includes the most important results, the first topic deals with the advantages of distance education, and the second topic includes the general and specific negatives that faced students and faculty members in their decisions in Arabic language and Islamic studies, and the third topic : Problems of electronic tests in Arabic language and peace studies courses, then the conclusion, and dealt with the most important results and recommendations. The research adopts the descriptive approach, describing problems and their dimensions, and proposing solutions to them. One of the most important results of the research is monitoring e-learning problems during the Corona pandemic in Wadi Al-Dawasir with regard to Arabic language and Islamic courses and electronic testing problems and proposing appropriate solutions for it. The study recommended the necessity of motivating students to study remotely and continuing it after the end of the Corona pandemic, even partially with Traditional education.

**Key words:** E-Learning, Electronic education, Arabic language, Islamic

## Abstract of Paper Accepted in RTCSE'2021

153	<p><b>E-Learning of Foreign Language: A Solution to Neglecting of Arabic Language by Migrant Workers</b></p> <p><b><sup>1</sup>Muhammad Al Gammal, <sup>2</sup>Najeem Adewale Sharaf, <sup>3</sup>Adel Abdel Fadeel Eid bleek</b></p> <p>Associated Professor, College of Islamic studies, HBKU <a href="mailto:malgammal@hbku.edu.qa">malgammal@hbku.edu.qa</a></p> <p>Researcher, College of Islamic studies, HBKU, Contemporary Fiqh &amp; Usul al-Fiqh <a href="mailto:sharofuadewale@yahoo.com">sharofuadewale@yahoo.com</a></p> <p>Professor of Comparative Jurisprudence at Prince Sattam Bin bdulaziz University and Al-Azhar University <a href="mailto:a.bleek@psau.edu.sa">a.bleek@psau.edu.sa</a></p> <p><b>ABSTRACT</b></p> <p>There is no any developed or a developing country in the East or West of the world except it gives priority to its own tongue and work hard to promote it locally and internationally, most especially at the time that many studies conducted show that that the world loses averagely one language every six weeks. Countries in the east and west usually require a good command of their language and culture before granting a work permit or starting work in such countries, while Arab nations seem careless about promotion of their own tongue; they recruit foreign employees without obliging them to learn Arabic nor expose them to the Arab culture. This study aims to address the issue of neglecting of Arabic language by migrant workers it's the impact on language itself and Arab culture, and to look at whose responsibility is teaching Arabic language to migrant workers.</p> <p><b>Keywords:</b> E-Learning, Migrant Workers, Neglecting Arabic Language, Teaching Arabic Language, Integration</p>
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## Abstract of Paper Accepted in RTCSE'2021

154

### E-Learning of Foreign Language for the Employees and Majority of Countries Requirements

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#### Abstract

It is doubtless that migrant workers' diverse cultural and professional backgrounds and their presence in different sectors make such a group of people a cornerstone of building any country and maintaining its heritage and land intact. Therefore, the necessitous that one has to do in this kind of situation is to create an avenue, most especially e-learning, to teach them the language and culture of the host country. Almost all Eastern and Western countries usually require a good command of their own language and culture before granting a work permit or starting work, while the Arab nations seem less concern about its own tongue; foreign employees are recruited without obliging to learn Arabic. Thus, this study aims to shed light on the international requirements for learning the host-country's language and the need for e-learning to achieve it. The research comprises of introduction about importance of learning the business language, international requirements for learning the host country's language and the impact of achieving it on individual and society. The research concludes by proposing a viable solution to promoting learning business language among expatriates; such as providing the newcomers with e-courses that can help them learn the business language and expose them to Arab culture and heritage. This step will certainly add excellent value to culture, identity, and ideals at the domestic level and builds bridges for communication abroad. It could also open-up career prospects for professionals in the Arabic language and literature.

**Keywords:** Host-Country's Language, E-Learning, Arabic Language, Integration, Arab Culture.

## Abstract of Paper Accepted in RTCSE'2021

155	<p><b>The prophetic statement in correcting concepts through the electronic hadith encyclopedia</b></p> <p><b><sup>1</sup>Subhi Ibrahim Afifi Al-Meligy, <sup>2</sup>Adel Abdel Fadeel Eid Bleek</b></p> <p><sup>1</sup>Professor of Rhetoric and Criticism Associate in Prince Sattam Bin, Abdulaziz University And Al-Azhar University. <a href="mailto:s.elmelegy@psau.edu.sa">s.elmelegy@psau.edu.sa</a></p> <p><sup>2</sup>Professor of Comparative Jurisprudence at Prince Sattam Bin Abdulaziz University and Al-Azhar University <a href="mailto:a.bleek@psau.edu.sa">a.bleek@psau.edu.sa</a></p> <p><b>Abstract</b></p> <p>Praise is to Allah, Lord of the Worlds, and blessings and peace be upon the most honorable messengers, his family and companions. In the electronic encyclopedia of the Prophet's hadith, many hadiths highlight the Prophet (Muhammad)'s keenness to correct many of the concepts that were prevalent in Arab society and that affected the sayings and actions of Muslims after his mission and their Islam. The research that is in our hands is trying hard to identify the Prophet's method in correcting these concepts, by analyzing them rhetorically revealing the rhetorical and stylistic features of his statement in dealing with these concepts that were a problem. Many of them contradict the goals and principles of Islam. The study aims First - Identifying the rhetorical characteristics and stylistic features of the prophetic statement on this subject. Second - Knowing the main method and the methods supporting it in this statement. Third - Explaining the effect of expressing these methods on the hearts of the recipients and on their statement until the Day of Judgment. To achieve these goals, the study chose the descriptive and analytical approach.</p> <p><b>Keywords:</b> Electronic Hadith Encyclopedia, Prophetic Statement, Internet.</p>
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## Abstract of Paper Accepted in RTCSE'2021

156	<p style="text-align: center;"><b>Terms of the jurisprudence of worship in the Holy Quran Through the Electronic Searchlight Mobile Application</b></p> <p style="text-align: center;"><b><sup>1</sup>Adel Abdel Fadil Eid Bleek, <sup>2</sup>Subhi Ibrahim Afifi Al-Meligy</b></p> <p style="text-align: center;"><sup>1</sup>Professor of Comparative Jurisprudence at Prince Sattam Bin Abdulaziz University and Al-Azhar University <a href="mailto:a.bleek@psau.edu.sa">a.bleek@psau.edu.sa</a></p> <p style="text-align: center;"><sup>2</sup>Professor of Rhetoric and Criticism Associate in Prince Sattam Bin Abdulaziz University And Al-Azhar University. <a href="mailto:s.elmelegy@psau.edu.sa">s.elmelegy@psau.edu.sa</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>The legislative purpose in the Noble Qur'an is considered one of the most important objectives for which it was revealed, and it is something that the (Ummah=Islamic nation) agreed upon, so it took from the Holy Qur'an the first source of legislation, so it was the pole of the millstone upon which the rulings of Sharia revolved, the source of its sources, and the outlet from which its origins and branches were derived, and this meaning is confirmed by Many Quranic and hadith texts. This legislative aspect of the Noble Qur'an is what the scholars of tafsir are interested in in what is known as jurisprudential exegesis or exegesis of judgments, and accordingly the jurisprudential interpretation is the interpretation of what is related to the practical legal rulings in the Holy Qur'an, which is sometimes called verses of rulings, and sometimes the jurisprudence of the Qur'an. The process is related to what is issued by the taxpayer, and it includes two basic types: the rulings of ritual acts that are intended to regulate the relationship between a person and his Lord, and the provisions of transactions that are intended to regulate the relationships of people with each other, whether they are individuals or groups. The jurisprudential interpretation is among what can be called interpretations. Specialization, which is the transformation that the science of exegesis defined by moving from briefing and comprehension to specialization. Among the characteristics of the jurisprudential interpretation: The Noble Qur'an has been approached from a purely jurisprudential angle, just as other scholars have dealt with the Qur'an from the angle of their scientific specializations, within what has been called specialization interpretations.</p> <p><b>Key words:</b> Electronic Searchlight, Terms of the jurisprudence, worship, The Holy Quran, Mobile Application.</p>
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## Abstract of Paper Accepted in RTCSE'2021

157

### The Most Important Electronic Fatwas of Covid19 in Light of the Objectives of Sharia and Taking into Account the Circumstances

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#### Abstract

The Corona epidemic appeared recently and spread throughout the world, and contributed to changing the course of human life. There is hardly a single part of the earth without this epidemic, and with it the number of injuries and deaths increases. As a result, all countries sought to find solutions to stop the disease or at least reduce the numbers, and there was no solution for officials other than the decision to impose preventive precautions to reduce its spread. Among the precautionary decisions was blocking the borders of countries on arrivals and visitors, as well as mosques, shops and public places, and then restricting movements. Rather, the introduction of precautions has led to the suspension of the obligatory prayers and congregation in prayer halls and mosques in some places, and the separation between rows in others. At this time, a number of virtual conferences and seminars were held to discuss issues related to the Corona pandemic and the measures taken by officials from the jurisprudential perspective, and the cyberspace was filled with various types of fatwas about the permissibility of closing mosques, chapels, mosques and the spacing between rows. While it seems that most of these fatwas were in a hurry, most of them were in doubt about the extent of observance of the objectives of the Sharia and the consequences for them before they were issued. Therefore, this study sought to collect the most important jurisprudential fatwas (Covid19), to examine the extent of their observance of the objectives of the Sharia, and to consider the consequences.

**Keywords:** Electronic Fatwas - Covid19 - Objectives of Sharia - Observance of the conditions.

## Abstract of Paper Accepted in RTCSE'2021

158	<p style="text-align: center;"><b>Design of green infrastructure for ciclovias connectivity, Sinchi Roca Zonal Park – Naranjal Metropolitano – Comas Station</b></p> <p style="text-align: center;"><b><sup>1</sup>Maria Renee Alfaro Bardales, <sup>2</sup>Katta Rirera Quiroz, <sup>3</sup>Doris Esenarro, <sup>4</sup>Ciro Rodriguez, <sup>5</sup>Raul Mendez Gutierrez</b></p> <p style="text-align: center;"><sup>1,3</sup> Graduate School of the National University Federico Villarreal- EUPG, Lima, Perú Email: <a href="mailto:mralfaro@unfv.edu.pe">mralfaro@unfv.edu.pe</a>, <a href="mailto:esenarro@unfv.edu.pe">esenarro@unfv.edu.pe</a></p> <p style="text-align: center;"><sup>2,5</sup> Universidad Nacional Federico Villarreal UNFV , Lima, Perú Email: <a href="mailto:kattiarivera3@gmail.com">kattiarivera3@gmail.com</a>, <a href="mailto:rmendez@unfv.edu.pe">rmendez@unfv.edu.pe</a></p> <p style="text-align: center;"><sup>4</sup>Universidad Nacional Mayor de San Marcos, Lima, Perú, Email: <a href="mailto:crodriguezro@unmsm.edu.pe">crodriguezro@unmsm.edu.pe</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>This research proposes an adequate green infrastructure design for bicycle paths' connectivity allows mitigating environmental pollution, which arose from the current problem of vehicular congestion on Av. Universitaria and Av. The saturation of motorized vehicles causes Túpac Amaru on said road. Therefore, it is proposed to develop the method of evaporation of traffic by using bicycle lanes in the aforementioned avenue to improve users' quality of life, focusing on mobility and improving the level of service of the users. Said proposal is based on a sampling, which was carried out to the district's real working cycle population, which helped determine its mobilization behavior, and according to these results, the most optimal layout of the bike path network was determined. Other important aspects considered for the realization of the bicycle path network is the implementation of green infrastructure to improve the spatial quality of the user; however, the places of the maximum influx of the district were also taken into accounts, such as the Sinchi Roca Zonal Park and the Naranjal Station of the Metropolitan. The project's viability is based on the fact that bicycles are gaining momentum due to global climate change. It is an innovative and multifunctional project; a sustainable and light work to be carried out with ecological materials, thus offering resistance and portability, adding to minimizing the environmental impact in the Comas district.</p> <p><b>Keywords:</b> Bicycle path, viability, safety, quality, green infrastructure, routes, and users.</p>
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## Abstract of Paper Accepted in RTCSE'2021

159

### Green infrastructure design for connectivity in the villa wetlands wildlife refuge

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#### Abstract

The research aims to propose a green infrastructure design that allows us the connectivity in the Pantanos de Villa Wildlife Refuge located in the district of Chorrillos - Lima. This proposal aims to improve the connectivity of the ecological area through bike paths and eco-friendly spaces in order to have a greater interest of visitors and tourists, to also contribute to the conservation of this natural area by taking advantage of the appreciation of the landscape since it serves as rest of migratory birds, this area is a natural reserve that allows the nesting and transit of migratory and resident birds. With this proposal, we can improve the landscape of the area and increase the flow of visitors to the Pantanos de Villa Wildlife Refuge.

**Keywords:** Connectivity, Green design, wetland, bike line, eco friendly



## Abstract of Paper Accepted in RTCSE'2021

160

### Design of green infrastructure for sustainable urban transportation in Lomas del Paraíso in Villa Maria del Triunfo.

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#### Abstract

The research aims to propose a green infrastructure design that allows sustainable urban transport through ecological corridors and seeks to improve the quality of life of users and improve the landscape image of the Lomas del Paraíso. Through the topographic survey of the place, the route of the green corridor was traced through the regulatory backstops that allows to connect eco-friendly spaces that implies a cultural change in transport habits, also the climatic conditions of the place, the flora and fauna are fundamental the proposal of the green corridor to promote cycling which allows the improvement of the quality of life of the users, As a result, a bike lane was designed that has 1.7 km to travel, increasing the flow of visitors and spreading ecotourism attractions through of the tour.

**Keywords:** ecological corridors, sustainable urban, green infrastructure, landscape image

## Abstract of Paper Accepted in RTCSE'2021

162

### Modified Variable On-Time Control Scheme to Realize High Power Factor for AC/DC Integrated Buck-Boost Converter

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#### Abstract

In today's modern era low power factor (PF) is major issue in the field of power electronics which has made our life, simpler, easier and comfortable. The conventional boundary conduction mode (BCM) integrated buck-boost converter (IBBC) operating with constant on-time control scheme (COTCS) have low PF with high total harmonic distortion (THD) because of harmonic contained input current waveform. So in order to make the input current waveform as a sinusoidal by changing the on-time of only buck switch, a modified variable-on-time control scheme (VOTCS) for IBBC is proposed in this paper. The VOTCS can achieve high PF with low THD by utilizing the input and output voltage to modulate the on-time of only buck switch. The theoretical analysis is given and the simulation results confirm the advantages of the proposed control scheme.

**Keywords:** Integrated buck-boost converter (IBBC), constant on-time control scheme (COTCS), variable-on-time control scheme (VOTCS), power factor (PF)

## Abstract of Paper Accepted in RTCSE'2021

163

### On Blockchain enabled IoTs towards achieving the Sustainable Development Goals

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#### **Abstract**

The Blockchain enabled Internet of Things (IoT) has emerged as an impactful research domain in recent years because of its focused global interest owing to the United Nations' commitment to achieve 17 Sustainable Development Goals by the year 2030. The Blockchain enabled IoTs has also received considerable attention from industry and academia due to its vast ranged potential applications in many explored fields. The Blockchain enabled IoTs technology has crossed the boundaries of cryptocurrency infrastructure and has become an integrated and distributed Systems of Systems (SoS) networked technology. It is because of a paradigm shift from centralized to the devolved and from static to dynamic networks of networks that this technology has received a wide enthusiasm and attention from researchers. This research is focused on challenges and opportunities of Blockchain enabled IoTs on cloud infrastructure, 5G/6G wireless systems and its computing issues for achieving United Nations' sustainable development goals by 2030 worldwide. As a use case scenario, we highlight the latest advancements in blockchain enabled IoTs, its various potential applications, future research directions and its infrastructure available in the research readings. Investigation into the important factors considered as technical challenges to the socio-economic development with respect to achieving sustainable development goals are also reviewed. Numerous case studies on Blockchain enabled IoTs in various application areas of the interest falling in SDGs domain have been performed. The interpretive case study approach is selected to gather the data and its results, and a protocol is defined to design the structure.

**Keywords:** Block Chain, IoT, 5G, 6G Wireless Technology, Sustainable Development Goals.

## Abstract of Paper Accepted in RTCSE'2021

164

### Microblading Technique, A Jurisprudential Study of the Fatwas of the Internet

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#### Abstract

The research deals with the coming down from the juridical issues while it is going down (Microblading), which is a non-surgical cosmetic technique that aims to show the eyebrows more beautifully, by filling in the spaces, defining the shape of the eyebrows and intensifying their hairs, and adding a bend to them when needed, and the shape of the eyebrows can be completely changed With this technique, or rebuilding them for those who do not have hair, and this is done by cutting the skin of the eyebrows superficially and introducing the desired color under it, in the form of hairs, drawn in a 3D manner with a hand tool, to show a hair of hair, simulating the truth, so the eyebrows appear naturally, and it was The Internet has a prominent role in explaining the reality of this technology, through what cosmetic experts and doctors have mentioned, and its ruling also through fatwas and jurisprudential opinions, and these fatwas and opinions differed according to the evidence adopted by each of the two teams, so this research came to shed light on these views Jurisprudence, and the evidence they have inferred, then study it in jurisprudence to reach the legal ruling And among its results: First: The disagreement in the fatwas about the Microblading technique is caused by the disagreement in the origin to which the Microblading technique was referred to regarding whether it is tattooing, or not. Second: There are differences between tattooing and Microblading, but they do not affect judgment. Third: The microblogging technique is forbidden unless necessary.

**Keywords:** Technique, Microblading, Tattoo, The Internet.

## Abstract of Paper Accepted in RTCSE'2021

165	<p style="text-align: center;"><b>The Impact of Social Networking Sites On Arab Literary Genres</b></p> <p style="text-align: center;"><b><sup>1</sup>Sherine Khatib, <sup>2</sup>Sahar Mohamed Fathy, <sup>3</sup>Ghada Kamal Sweilem</b></p> <p style="text-align: center;"><sup>1</sup>Asst. Prof. Dr., College of Arts and Sciences, Prince Sattam bin Abdulaziz University <a href="mailto:sa.Elkhatab@psau.edu.sa">sa.Elkhatab@psau.edu.sa</a></p> <p style="text-align: center;"><sup>2</sup>Lecturer, Department of Arabic Language and Literature, Faculty of Arts, Cairo University, Egypt <a href="mailto:sahar.fathy@cu.edu.eg">sahar.fathy@cu.edu.eg</a></p> <p style="text-align: center;"><sup>3</sup>Doctor of Modern Arabic Literature <a href="mailto:ghkimo@yahoo.com">ghkimo@yahoo.com</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>Social media is one of the most important factors affecting various aspects of our life, and the problem is a large part of our awareness, tastes and visions in various fields. Literature has had a lot of change because of these sites. This research paper seeks to monitor, analyze, and understand its impact on reshaping the system of Arab literary genres.</p> <p><b>Keywords:</b> Social Media, Literary genres, Digital features, literary comics, Professional communication.</p>
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## Abstract of Paper Accepted in RTCSE'2021

166

### Prophetic Diplomacy Precedes Moral Counterpart in The Digital Age

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#### Abstract

The digital age is the world in which we live today, which is about all those advanced devices around us and all that technology that we live in. To delve more deeply into the term digital world, which includes digital products such as digital books, digital services, websites, electronic articles available on the Internet and their various services. It also indicates the control of modern digital means over others in the field of communication, processing and exchange of information, and this era is characterized by several features due to the advantages of digital means, which are speed, accuracy, proximity, and elimination of borders. Diplomacy is not nascent, as its history extends to pre-Islamic times, but it was not organized as it is now. One of the indications of the aging of the diplomatic system is that the Prophet of Islam Muhammad (may God bless him and grant him peace) established for him what fit his era of diplomatic policies and moral values that preceded their counterpart in the digital age. In this research, I deal with diplomatic posts because of his dealings, may God bless him and grant him peace, with the ambassadors who were sent to him, and what he took into consideration when his ambassadors.

**Keywords:** Digital Age, The Internet, Modern Technologies, Prophetic Diplomacy, Moral Values.



## Abstract of Paper Accepted in RTCSE'2021

167	<div data-bbox="399 268 1313 434" data-label="Section-Header"> <h3>Blockchain as A Secure and Decentralized Communication Tool for Future Sustainable Development</h3> </div> <div data-bbox="315 491 1406 1098" data-label="Text"> <p><sup>1</sup>Shahzool Hazimin Azizam, <sup>2</sup>Syarilla Iryani Ahmad Saany, <sup>3</sup>Eimir Azli Md Noh., <sup>4</sup>Nik Azman Nik Hashim, <sup>5</sup>Muhammad Waqas, <sup>6</sup>Yousef A. Baker El-Ebiary Senior Lecturer, Faculty of Languages and Communication, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Nerus, Terengganu, Malaysia. <a href="mailto:shahzool@unisza.edu.my">shahzool@unisza.edu.my</a> Assoc. Prof. Dr., Faculty of Informatics and Computing, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu, Malaysia. <a href="mailto:syarilla@unisza.edu.my">syarilla@unisza.edu.my</a> Chief Technical Officer, GFintech Sdn. Bhd, Level 28 GTower, Jalan Tun Razak, 50450 Kuala Lumpur. <a href="mailto:eimir@gfintech.io">eimir@gfintech.io</a> Chief Finance Officer, GFintech Sdn. Bhd., Level 28 GTower, Jalan Tun Razak, 50450 Kuala Lumpur. <a href="mailto:azmanhashim@gfintech.io">azmanhashim@gfintech.io</a> Founder, KryptoMind.Com., 53K iii, Modal Town Lahore, Punjab, Pakistan, <a href="mailto:waqas@kryptomind.com">waqas@kryptomind.com</a> Assoc. Prof. Ts. Dr. Faculty of Informatics and Computing, UniSZA, Terengganu, Malaysia <a href="mailto:yousefelebiary@unisza.edu.my">yousefelebiary@unisza.edu.my</a></p> </div> <div data-bbox="794 1127 920 1157" data-label="Section-Header"> <h4>Abstract</h4> </div> <div data-bbox="300 1182 1403 1654" data-label="Text"> <p>This article presents a distributed ledger (blockchain) technology in terms of future sustainable development. This study based on private, public and global communication in different industries. Growing demands of secure and decentralized transactions throughout the world show the need for Blockchain technology as a means of operations and communications. The blockchain system is entirely decentralized and allows users to exchange messages effectively and securely. The paper's highlight is the projected future use of blockchains as a communication tool in every business and digital economy for secure and sustainable development, showcasing its benefits and limitations that are confirmed based on the experts' different experiments. Furthermore, the article offers recommendations for using the blockchain to complicate its identification in future communications significantly. Paper also concludes that using the blockchain system can be beneficial and strengthen communication and digital technologies in the future.</p> </div> <div data-bbox="300 1682 1330 1751" data-label="Text"> <p><b>Keywords</b> Blockchain Technology, Future Development, Communication Tool, Digital Economy, Decentralized systems.</p> </div>
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## Abstract of Paper Accepted in RTCSE'2021

168	<p style="text-align: center;"><b>Controls of Contracts for Banking Transactions Between the Decisions of the Jurisprudential Councils and The Legal Standards an Applied Electronic Comparative Study</b></p> <p style="text-align: center;"><b><sup>1</sup>Saad Mohammed Abdul Aziz Al-Tamimi, <sup>2</sup>Adel Abdel Fadeel Eid Bleek</b> Assistant Professor of Comparative Jurisprudence at Prince Sattam bin Abdulaziz University <a href="mailto:sm.altamimi@psau.edu.sa">sm.altamimi@psau.edu.sa</a> Associate Professor of Comparative Jurisprudence at Prince Sattam bin Abdulaziz University And Al-Azhar University <a href="mailto:a.bleek@psau.edu.sa">a.bleek@psau.edu.sa</a></p> <p style="text-align: center;"><b>Abstract</b></p> <p>The Islamic world today is witnessing a wide intellectual movement that aims to devise the thought of Islam in the field of finance and economics, and to bring it to light into scientific existence. To take it's natural and avant-garde role in building and reviving the Islamic society. Islamic banks implement financial transactions contracts, and these contracts raise a set of Sharia questions about the extent to which Sharia controls are applied in Islamic banks and their commitment to this, and this requires collecting these controls from the decisions of the Fiqh Councils, and the Sharia standards for these contracts, issued by the Accounting and Auditing Organization for Islamic Financial Institutions. This research will deal with collecting the legal criteria for financial transactions contracts from the decisions of the Fiqh Councils, while comparing them with the Sharia standards. In this research we will limit ourselves to the well-known original contracts, which are: sales, shares and rentals.</p> <p><b>Keywords:</b> Applied Electronic, Banking Transactions, Jurisprudential Councils, The Legal Standards.</p>
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## Abstract of Paper Accepted in RTCSE'2021

169

### Phonology In Ibn Al-Sarraj's Electronic Book, And The Modern Phonological Lesson

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#### **Abstract**

The topic (Vocal qualities among Ibn Al-Sarraj (d. 316 AH) through his book Al-Usul fi Al-nahw A modern phoneme lesson ) , relates to the extent of approval, or the contradiction of what Ibn al-Sarraj said in phonemic attributes with what came in the modern phonemic lesson, and the nature of the research required that he discuss two basic axes And, they are: the characteristics of opposing voices, and the characteristics of non-opposing voices, relying in this on the descriptive and critical approach, and the study reached Ibn al-Sarraj as imitating Sibawayh in the phonemic lesson, and not again, and Ibn al-Sarraj differed from his predecessors in terms of grammar in terms of public speaking and whispering; Because he did not know the vocal strings, aswell as in the terms distress and looseness, which changed to (explosive, frictional) in the modern audio lesson, and we also found a difference in describing some of the sounds, namely (the scaffold, the pot, the hamza, the antagonist, the gym, the eyen),where its eyen), where its description changed when updated.

**Keywords:** Adjectives that have against, Traits that have no against, Vocal qualities.

## Abstract of Paper Accepted in RTCSE'2021

170

### Rhythmic Meters in Ali Mahmoud Taha's Poetry Book, Layali Almallah Altaih in The Electronic Network Study and Criticism

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#### **Abstract**

This research investigates the metric music in the poetry of Ali Mahmoud Taha between his commitment to the Arab meter heritage represented in the music of Khalil bin Ahmed, in rhythms and rhymes, and the innovation that he introduced to this heritage represented by his use in many poetic meters in his poems, images that were not approved by this heritage, as well as In much of his poetry he did not adhere to the unified rhyme, for he varied the rhyming letter within the one poem, and did not adhere to the letter of the rhyme did not adhere to a single one, in many of the poems of the book. In his poetry we are in front of two forms, one of them: A traditional musical tradition that adheres to the single rhythm, the unified rhyme, the sketches and the defects that were approved by Khalil bin Ahmed. The other: is the new form in which he renewed rhythms and rhymes and used images that were not approved by the metric heritage, and from here the idea of the research was born, as the research deals with poetic searches in the poetry of Ali Mahmoud Taha Indicating the poems that came in Al-Khalil metric heritage and the poems that did not adhere to this hereditary and were subject of renewal.

**Keywords:** *Electronic Network, Rhythmic Meter, Poetry, Ali Mahmoud Taha, Tradition.*

## Abstract of Paper Accepted in RTCSE'2021

171

### MACHINE LEARNING MODEL TO PREDICT THE DIVORCE OF A MARRIED COUPLE

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#### Abstract

Divorce usually impacts the closest family members, over the years the divorce rate has increased dramatically, especially in the last two decades and worsening with the pandemic, where there has been a significant increase in the divorce rate in many countries of the world. We draw on Yöntem's work where he poses 56 questions as predictors of divorce. In addition, we make use of 4 automatic learning models (perceptron, logistic regression, neural networks and randomized forest) and 3 hybrid models based on voting criteria. Each of these models was trained in 5 different scenarios, making a total of 35 experiments, the best performance obtained in terms of precision, sensitivity and specificity is 0.9853, 1.0 and 0.9667 respectively, corresponding to the perceptron model and a hybrid model; however, although the results show a high performance, the context, the amount of data and the country in which the data were collected must be considered.

**Keywords:** Machine Learning, Neural Networks, Divorce Predict.

## Abstract of Paper Accepted in RTCSE'2021

186	<p data-bbox="326 317 1395 537"><b>The Phenomenon of Retraction in The Poetry of the Poet Sultan Al-Sabhan- Diwan(Collection) Of (Other Details of Water) As A "Model" Published On Al-ShaerOnline Blog</b></p> <p data-bbox="574 604 1143 638"><b>Nawal Abdullah EbrahimAlzahrani</b></p> <p data-bbox="347 646 1373 772">Assistant professor, Dallah education college, Sattam Bin Abdulaziz university, Saudi Arabia <a href="mailto:na.alzahrani@psau.edu.sa">na.alzahrani@psau.edu.sa</a></p> <p data-bbox="802 814 915 848"><b>Abstract</b></p> <p data-bbox="302 852 1419 1579">The Blog is a website that collects a number of posts and is like a diary or a forum for giving personal opinions. The blog is an application of the Internet, in which blogs are written to convey news or express ideas, and it works through a content management system, which in its simplest form is a web page on the Internet on which notes (entries) are dated and arranged in ascending chronological order of which a number is published A specific one controlled by the blog's director or publisher, and the system includes a mechanism for archiving old entries, and each of them has a permanent path that does not change from the moment it is published that enables the reader to return to a specific post at a later time when it is no longer available on the first page of the blog, and also ensures the stability of the links And inhibits its decomposition. This paper stands with the aspects of retraction of the poet: Sultan Al-Sabhan, through his book "Other Details of Water", published on the poet's electronic blog, after introducing retraction language and idiom, and also introducing the poet: the author of the divan. This study is based on the stylistic approach that deals with looking at the phenomenon and its retraction. The research has been divided into an introduction, a topic and a conclusion. As for the introduction, it includes two axes, the first of which is concerned with the term retraction in the lexical and idiomatic lexicon, and the other concerned with the definition of the poet and his poetry, then the topic comes to stand on the structural retraction in the Diwan (collection) in three styles, in the methods of presentation, Objection, and deletion, and then the conclusion is a summary of the most important research results.</p> <p data-bbox="302 1608 1419 1680"><b>Keywords:</b> Online Blog, Retraction, Structural Retraction, Introduction Retraction, Separation Retraction, Deletion Retraction.</p>
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## Applying Modern Technology to Serve the Holy Book of Allah: Ayat Application and Dar Al Islam Websites as a Model

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### ABSTRACT

To improve the readership and understanding of the Holy Quran at a global level, it is vital to disseminate it to both Arab and non-Arab speakers with a wide range of facilities. Allah has bestowed some of his chosen believers, whom he favored disseminating the Holy Quran, to reach the horizons of readership of the Quran through websites. In the modern era, modern technology has been used and applied to serve the Holy Quran. This research aims at presenting a model of two websites that have contributed significantly to the service of disseminating the Quran and to the teaching to non-Arabic speakers. These efforts increase the benefit of the user and have accelerated more listening to the Holy Quran all over the world. It has also benefited the scientific and technical efforts to serve the Holy Quran everywhere in the world to bridge the gap between Arab and non-Arabic speakers for a better understanding of the Holy Book. The websites have helped the millions of non-Arabic speakers to read the Quran and encouraging more listening, worshipping, memorizing, learning, and studying the Quran by providing an accessible interpretation in different languages. The Islamic websites also conducted a set of courses to address the teaching of the Arabic language to non-native speakers as well. It also helps to improve the skill of searching on websites that ease the dissemination of the Holy Quran for non-Arabic speakers.

**Keywords:** Modern Technology, Non-Arab Speakers, Holy Quran, Arabic language, Islamic websites



## Orientalists on the Authenticity of Sunnah: A Descriptive and Digital Critical Study

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### Abstract

The research aims at exploring and criticizing orientalism's views concerning the authenticity of the Prophet's Sunnah by investigating the resources of orientalism. The views of orientalists on the authenticity of the Prophet's Sunnah are documented in this study. Then, these are analyzed, discussed, and criticized using authentic Islamic resources. The research has resolved the orientalism's views towards the authenticity of Sunnah with evidence. It ends up with the failure of the reporting (Al Athar) of orientalism in front of Islamic evidence and confirms the fading of their statements. It proves the authenticity of the Prophet's Sunnah among the old jurisprudence schools. These have been considered as a source of Islamic legislation from the time of the Prophet, peace be upon him, to until now. The research intimates the necessity to establish educational and research centers aiming at the study of orientalism. Moreover, it emphasizes the requirement of increasing awareness among Muslims regarding the importance of the Prophet's Sunnah and its legislative value through seminars and conferences.

**Keywords:** Orientalists, Authenticity of Sunnah, Descriptive Study, Digital Critical Study.

## The Contrast in The Components of the Structure: An Applied Grammatical Study in The Electronic Quran

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### Abstract

Research topic: The contrast in the components of the structure: An applied grammatical study in the ElectronicQuran - an applied grammatical study in the Electronic Quran, and the study aims at several objectives, including: limiting the positions of contrast in the components of the structure contained in the verses of Fire in the Electronic Quran, and showing the linguistic forms of these positions, with discussing the opinions of grammarians, linguists and others in the issues related to contrast in the components of the structure. The methodology adopted in this study is the analytical descriptive. The most important results of the study are: the diversity of the forms of variation in the components of the structure contained in the verses of Fire in the Electronic Quran between: particles such as the beginning Lam, amma, and Faa alfasiha; nouns such as the predicate, the adverb and the object; and sentences like the relative clause, the verbal sentence, andthe defamation sentence. The researcher recommends to conduct more scientific research about the contrast in the components of the structure in collections of poetry and prose texts.

**Keywords-**The contrast; the components of the structure;the Electronic Quran;grammatical study

## Informative Sentence Abrogative Between the Necessity of the Rank and Its Retraction an Applied Grammatical Study in The Global Electronic Encyclopedia of Arabic Poetry

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### Abstract

Rank is one of the grammatical laws that are relied upon in composing and organizing speech, and each of its parts takes its appropriate position in the sentence, according to the rules of the language and the requirements of meaning. Informative sentence Abrogative has many rulings on this, because sometimes it must be ranked late, sometimes it must be submitted to the abrogative verb, and sometimes it is permissible, and at other times it may be mediated between Abrogative and its noun, or between Abrogative and a previous tool. He (Kan and its sisters) is a model for the Informative of the copywriters in general. This research aimed to collect and study the rulings of this issue from the stomachs of books of language and authentic grammar, and collect its poetic evidence through the electronic global encyclopedia of Arabic poetry and analyze it, following the descriptive and analytical approach. This study came in an introduction, an introduction, three sections, and a conclusion that included the most important findings and recommendations of this study.

**Keywords:** Electronic Encyclopedia, Inceptive, Informative, Abrogative, Applied Grammatical.

## Verification of 235U by Using MCNP Code with Comparison MGAU Analysis Software for Depleted and Enrichment Uranium

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### Abstract

The current research was based on non-devastating measurements of gamma radiation. There are two samples under investigation which are depleted and enriched uranium. The obtained results that depended on MCNP-5 were in great understandings with the pronounced values inside the evaluated relative precision. The researchers can declare that, the Monte Carlo method fits the measurement conditions of the inspector. The relative accuracy obtained from MGAU were (0.447 and 0.187%) and (3.3 and 15.9%) for enriched uranium and depleted uranium, respectively.

**Keywords:** Non- Devastating; Enriched Uranium; Depleted Uranium; MCNP, Analysis Software.

## Ecosystem degradation due to change in vegetation cover and land productivity in the upper Huaura River basin. Lima - Peru

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### Abstract

This research aims to identify degraded areas due to changes in vegetation cover and land productivity in high Andean terrestrial ecosystems in a prioritized area of the upper watershed of the Huaura River, Department of Lima, which allows its categorization as a starting point to seek the appropriate recovery of these ecosystems. For this purpose, satellite information was used to recognize degraded areas in high Andean terrestrial ecosystems, which are reliable and applicable to our national territory. To identify degraded areas, pixels with a negative trend in the time series with a confidence value of 95% and a P-value lower than 0 were considered. 05, as results were 7 the ecosystems analyzed and a degradation was generated until the moment of 8,916.7 has that corresponds to the 5.01% of the area occupied by these spaces of life; in addition the studied degradation corresponded to the 3.19% of the territory of the high basin of river Huaura.

**Keywords;** degraded areas, vegetation cover, productivity, ecosystems

## Sunnah Care According to Technological Advances

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### Abstract

The Sunnah of the Prophet is the second source of Islamic legislation, and it has a great and high status in the hearts of Muslims, scholars have been concerned during the successive centuries, from the time of the Prophet, may God bless him and grant him peace, until now, so they compiled the hadiths of the Prophet and classified them in books of their own. They took care to write about the narrators of hadiths and explain their conditions, and distinguished between the different degrees of hadith. The prophetic Sunnah branched into various sciences, and libraries and manuscript cabinets were filled east and west with thousands of books related to the Sunnah. And in the current era, the means of technology have appeared. The people knew modern technologies such as computers and the international information network (the Internet) and the applications that these means contain. These technical means served the various sciences. As a result, some technical institutions and companies have issued programs and applications that serve the Prophet's Sunnah in different ways. Programs were found that include applications that collect the hadiths of the Prophet, and applications to hadiths Takhreej Al-Hadeth and indicate their degrees. And applications that introduce the narrators of hadiths and their scholars and indicate their degrees, characteristics, and other applications. And most of what appeared and spread these programs and applications in Arab and Islamic countries, the companies competed among themselves to provide the best service for the Prophet's Sunnah, and websites were established for them on the International Information Network (Internet) to reach the largest possible number of users. This research observes models and examples of these technical applications in order to identify them and explain their importance and role in serving the Sunnah. And their degrees, through three issues: The first issue: the definition of the Prophet's Sunnah, its importance, and the Muslims' care for it. The second: the most famous contemporary technical programs to serve the Prophet's Sunnah, and the third: some of the negatives of electronic programs and computer encyclopedias in general.

**Keywords:** The Sunnah of the Prophet, Hadith Programs, Electronic Encyclopedias

206

## The Leadership Factors That Influence the Purchases Over the Internet – Lazada as a study

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### **Abstract**

The purpose of this research was to study the influence of user's trust and the usefulness of the website, Lazada, to the users across the globe. The convenience of using this electronic commerce (e-commerce) website is crucial as it determines the usability issues when using the e-commerce platform. It's a descriptive study uses mainly data collection. The research was carried out to recognize the usability issues, Leadership Factors and their impact on user's purchase while browsing the Lazada website. According to the results of data analysis, word of mouth of online stores has a huge positive effect on online shopping.

**Keywords**— E-commerce, Leadership Factors, Online Purchases, Lazada



## A Model for Unified Agile Business Intelligence

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### Abstract

Business Intelligence (BI) is a dominant trend today. It has been searched by many researchers through the last twenty years. However, when it comes to implementation, BI applications provide fewer features than expected or claimed in the literature. BI application should feature business analysis, decision-support, and sustainability. Although this topic has been studied many times in many papers, we still do not have a unified definition for BI nor fully featured BI model. In this paper, we redefine business intelligence in the light of the literature and the agile approach to assemble the standards that rule it. We aim to construct a unified model to engine an application programming interface (API) that can be implemented and integrated into any BI featured application. The model employs artificial intelligence techniques to serve business purposes. Our methodology started by analyzing the considerations about BI and agile software development to elicit the standards. Then, we proceed to define the model and propose the mechanism and techniques to be used and the calculated method. This model aims to help BI researchers proceed in a unified lane instead of distributing the efforts in the repetitive details. It also opens the road for developers and investors to a new global-oriented service-business.

**Keywords:** Agile Modeling; Artificial Intelligence; Unified Organizational Software; Business Solution; Sustainable Software.

## Proposal for a Priority Site for the Conservation of Biodiversity in the Huancavelica Region – Peru

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### Abstract

This research aims to propose a priority site for biodiversity conservation in the region of Huancavelica - Peru, using the methodology of fine filtering through the analysis of biodiversity, delimiting the proposal area, identifying the objects of conservation, sources of pressure, and threats of ecological processes; and zoning according to the legal regulations of SERNANP. Using digital tools such as ArcMap, Google Earth, SASPlanet, Microsoft Excel, and state geoportals such as SERNANP, MINAM, and IUCN. Besides suggesting a conservation area in Huancavelica, the study aims to stimulate research in the design of natural protected areas (NPA) in the country with the ultimate goal of conserving biodiversity, allowing better management of natural resources. The results show that the priority site would be located within the provinces of Castrovirreyna and Huancavelica with an area of 179 227.92 ha, identified 6 objects of conservation of cultural, natural and ecosystem aspects, among the sources of pressure, is the sustainable agricultural expansion, the development of road infrastructure projects, mining or other liabilities in which there is a change of land use and poaching and indiscriminate.

**Keywords:** Biodiversity, Priority Site, Conservation, Ecosystem, Huancavelica, Sources of Pressure, Zoning

223

## Green Infrastructure Design for the Revaluation of the Ventanilla Wetlands

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### Abstract

The present research aims to propose a green infrastructure design that allows the revaluation of Ventanilla wetlands, which enhances ecotourism through natural resource conservation spaces, taking advantage of its landscape and nature, turning it into a tourist attraction by providing services such as the interpretation of the landscape, the comfort of the user and the cultural exchange, which promotes the preservation and environmental awareness of the wetland. Likewise, the role and importance of citizens in valuing the ecosystem services that this type of landscape provides to the city is analyzed, in this context the proposal considers design and construction criteria with adequate sustainable technology where the environmental impact is minimized. so that there is an interaction and harmony with nature giving it a landscape value, thus generating the interest of local, national and international visitors.

**Keywords:** green infrastructure, revaluation, ecotourism, wetlands, landscape value

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