

# ADVANCES IN SCIENCE, TECHNOLOGY AND ENGINEERING SYSTEMS JOURNAL

Special Issue

April 2020

## CONTENTS

*Mitigating Congestion in Restructured Power System using FACTS Allocation by Sensitivity Factors and Parameter Optimized by GWO*

by Anubha Gautam, Parshram Sharma and Yogendra Kumar

*Offline Signature Recognition and Verification Using ORB Key Point Matching Techniques*

by Aravinda Chickmaglore Venkataramu, Atsumi Masahiko, Akshaya, Amar Prabhu Gurupura, Udaya Kumar Reddy Kyasambally and Rajashekar

*Qualitative Properties of a Cell Proliferating Model with Multi-phase Transition and Age Structure*

by Youssef El Alaoui and Larbi Alaoui

*Standardized UCI-EGO Dataset for Evaluating 3D Hand Pose Estimation on the Point Cloud*

by Sinh-Huy Nguyen and Van-Hung Le

*A Novel Representative k-NN Sampling-based Clustering Approach for an Effective Dimensionality Reduction-based Visualization of Dynamic Data*

by Dharamsotu Bheekya, Kanakapodi Swarupa Rani, Salman Abdul Moiz and Chillarige Raghavendra Rao

*A Study on Intelligent Dialogue Agent for Older Adults' Preventive Care – Towards Development of a Comprehensive Preventive Care System*

by Sho Hirose, Daisuke Kitakoshi, Akihiro Yamashita, Kentarou Suzuki and Masato Suzuki

*Synthesis and Characterization of Graphene Oxide Under Different Conditions, and a Preliminary Study on its Efficacy to Adsorb Cu<sup>2+</sup>*

by Olayinka Oluwaseun Oluwasina, Surjyakanta Rana, Sreekantha Babu Jonnalagadda and Bice Susan Martincigh

*Case Study to Determine the Causes of Fire in Agriculture*

by Marianna Tomašková, Darina Matisková and Michaela Balážiková

*Automatic Comprehension and Summarisation of Legal Contracts*

by Sibusiso Kubeka and Abejide Ade-Ibijola

*Supervised Learning Techniques for Stress Detection in Car Drivers*

by Pamela Zontone, Antonio Affanni, Riccardo Bernardini, Leonida Del Linz, Alessandro Piras and Roberto Rinaldo

*Analysis of Green Building Effect on Micro grid Based on Potential Energy Savings and BIM*

by Ihsan Mizher Baht, Petre Marian Nicolae, Ileana Diana and Nameer Baht

*Effective Segmented Face Recognition (SFR) for IoT*

*by Fei Gao and Jiangjiang Liu*

*Using Leader Election and Blockchain in E-Health*  
*by Basem Assiri*

*Organizational, Social and Individual Aspect on Acceptance of Computerized Audit in Financial Audit Work*  
*by Bambang Leo Handoko, Nada Ayuanda and Ari Tihar Marpaung*

*Fast Stream Cipher based Chaos Neural Network for Data Security in CAN Bus*  
*by Zhongda Liu, Takeshi Murakami, Satoshi Kawamura and Hitoaki Yoshida*

*Low Power Bulk Driven Series Parallel OTA for Low Frequency Applications*  
*by Sushma Padubidri Shivaprasad and Sreemannarayanay Kulkarni*

*Automated Extraction of Heavyweight and Lightweight Models of Urban Features from LiDAR Point Clouds by Specialized Web-Software*  
*by Sergiy Kostrikov, Rostyslav Pudlo, Dmytro Bubnov, Vladimir Vasiliev and Yury Fedyay*

*Power Loss Minimization using the Integration of DGs and Reconfiguration of Distribution System: Applied on Real Distribution Feeder of Urbain Areas of Kenitra City in Morroco*  
*by Ismail Moufid, Soukaina Naciri, Hassan EL Moussaoui, Tijani Lamhamdi and Hassane El Markhi*

*Method of Modelling Prices for R&D Products in the Case of their Transfer from Engineering Universities to the Business*  
*by Oleksandra Mrykhina, Lidiya Lisovska, Ihor Novakivskyj, Terebukh and Valentyna Zhukovska*

*Maximum Power-Point Tracking and Stall Control with Eddy Current Brake System on Small-Scaled Wind Turbines and its Application on Agricultural Harvesting*  
*by Anupa Koswatta, Famarz Alsharif, Yasushi Shiroma, Shiro Tamaki and Junji Tamura*

*Transient Analysis of a Line-Start Synchronous Reluctance Motor with Symmetrical Distributed Brass Rotor Bars*  
*by Mbika Muteba*

*Using TOST in Teaching Operating Systems and Concurrent Programming Concepts*  
*by Tzanko Golemanov and Emilia Golemanova*

*Personality Measurement Design for Ontology Based Platform using Social Media Text*  
*by Andry Alamsyah, Sri Widiyanesti, Rizqy Dwi Putra and Puspita Kencana Sari*

*Experimental Studies of the Silicon Photomultiplier Readout Electronics Based on the Array Chip MH2XA030*  
*by Oleg Dvornikov, Vladimir Tchekhovski, Yaroslav Galkin, Alexei Kunz and Nikolay Prokopenko*

*Optimization of Dual Motion Mechanism with Double Grooved Cams for High-voltage Gas Circuit Breaker*

by Masanao Terada, Yuki Nakai, Hiroaki Hashimoto, Daisuke Ebisawa, Hajime Urai and Yasunobu Yokomizu

*The Impact Assessment of the Errors in Determining the Mass and Zero Lift-Drag Coefficient on the Aircraft's Performance Data*

by Klyagin Viktor Anatolievich and Laushin Dmitry Andreevich

*Design of an EEG Acquisition System for Embedded Edge Computing*

by Kanishk Rai, Keshav Kumar Thakur, Preethi K Mane and Narayan Panigrahi

*Infrared Uplink Implementation for Software Defined Visible Light Communication Systems*

by Oswaldo René Banda-Sayco

*Downlink Indoor Coverage Performance of Unmanned Aerial Vehicle LTE Base Stations*

by Mahmut Demirtas, Kerem Cagdas, Durmus Gulcin Tanis, Caner Arslan and Metin Balci

*Composition of Methods to Ensure Iris Liveness and Authenticity*

by Ali Al-Rashid

*Balancing Exploration-Exploitation in the Set Covering Problem Resolution with a Self-adaptive Intelligent Water Drops Algorithm*

by Broderick Crawford, Ricardo Soto, Gino Astorga, José Lemus-Romani, Sanjay Misra, Mauricio Castillo, Felipe Cisternas-Caneo, Diego Tapia and Marcelo Becerra-Rozas

*Performance Analysis of Joint Precoding and Equalization Design with Shared Redundancy for Imperfect CSI MIMO Systems*

by Bui Quoc Doanh, Ta Chi Hieu, Truong Sy Nam, Pham Thi Phuong Anh and Pham Thanh Hiep

*Electro-tactile Stimulation for Augmenting Finger Motoric Learning*

by Daniel Sutopo Pamungkas and Arjon Turnip

*Applications of TCAD Simulation Software for Fabrication and study of Process Variation Effects on Threshold Voltage in 180nm Floating-Gate Device*

by Thinh Dang Cong, Toi Le Thanh, Hao Mai Tri, Phuc Ton That Bao and Trang Hoang

*Aviation MRO: Impact of Physical Environment Factors on Job Performance in Aircraft Maintenance Organization*

by Kamal Jaiswal, Serdar Dalkilic, Evangelos Papageorgiou and Balgopal Singh

*Design of Purebred Dog Recommendation System Using MCDM Approach*

by Phie Chyan

*Four-Dimensional Sparse Data Structures for Representing Text Data*

by Martin Marinov and Alexander Efremov

*Nearest Neighbour Search in k-dSLst Tree*

*by Meenakshi Hooda and Sumeet Gill*

*Research of the Effect of Rotation and Low-Frequency Vibration on the Robotic Assembly Process*

*by Mikhail Vladimirovich Vartanov, Trung Ta Tran and Van Dung Nguyen*

*Modelling and Simulation of Aerodynamic Parameters of an Airship*

*by Anoop Sasidharan Pillai and Venkata Ramana Murthy Oruganti*

*Industry 4.0 Operators: Core Knowledge and Skills*

*by Olayan Alharbi*

*Contextualization of the Augmented Reality Quality Model through Social Media Analytics*

*by Jim Scheibmeir and Yashwant Malaiya*

*A Toolkit for the Automatic Analysis of Human Behavior in HCI Applications in the Wild*

*by Andrea Generosi, Silvia Ceccacci, Samuele Faggiano, Luca Giraldi and Maura Mengoni*

*Real-Time Identification and Classification of Driving Maneuvers using Smartphone*

*by Munaf Salim Najim Al-Din*

*Trace-Driven Simulation of LoRaWAN Air Channel Propagation in an Urban Scenario*

*by Eugen Harinda, Hadi Larjani and Ryan M. Gibson*

*Multi-Directional Light Sensing Using A Rotating Sensor*

*by Hoang Anh Dung, Nguyen Manh Cuong and Nguyen Phan Kien*

*Dynamic Decision-Making Process in the Opportunistic Spectrum Access*

*by Mahmoud Almasri, Ali Mansour, Christophe Moy, Ammar Assoum, Denis Lejeune and Christophe Osswald*

*Applicability of Generalized Metropolis-Hastings Algorithm to Estimating Aggregate Functions in Wireless Sensor Networks*

*by Martin Kenyeres and Jozef Kenyeres*

*Sensorless Control and Corrected Error Commutation of the Brushless DC Motor*

*by Anatoly Stepanov and Vitaly Enin*

*Assessing Heutagogical Elements in Learning of Engineering Education: Instrument Validation*

*by Mimi Mohaffyza Mohamad, Alias Masek, Jailani Md Yunos, Maizam Alias, Nor Hidayah Hamdan and Andika Bagus Nur Rahma Putra*

*IT GRC Smart Adviser: Process Driven Architecture Applying an Integrated Framework*

*by Meriyem Chergui and Aziza Chakir*

*Improved Nonlinear Fuzzy Robust PCA for Anomaly-based Intrusion Detection*

*by Amal Hadri, Khalid Chougdali and Raja Touahni*

*Differential Evolution based Hyperparameters Tuned Deep Learning Models for Disease Diagnosis and Classification*  
by Sathyabama Kaliyapillai and Saruladha Krishnamurthy

*Multi Operated Virtual Power Plant in Smart Grid*  
by Yevhen Fediv, Olha Sivakova and Mykhailo Korchak

*Enhanced Collaborative Constellation for Visible Light Communication System*  
by Manh Le Tran and Sunghwan Kim

*A Novel Demand Side Management by Minimizing Cost Deviation*  
by Vikas Anand Vatul, Arputha Aravinth, Narayanan K, Gulshan Sharma and Tomonobu Senjyu

*Trajectory Tracking Control of a DC Motor Exposed to a Replay-Attack*  
by Reda El Abbadi and Hicham Jamouli

*A Comprehensive Review of Traditional Video Processing*  
by Helen Kottarathil Joy and Manjunath Ramachandra Kounte

*Overmind: A Collaborative Decentralized Machine Learning Framework*  
by Puttakul Sakul-Ung, Amornvit Vatcharaphrueksadee, Pitiporn Ruchanawet, Kanin Kearpimy, Hathairat Ketmaneechairat and Maleerat Maliyaem

*Based on Reconfiguring the Supercomputers Runtime Environment New Security Methods*  
by Andrey Molyakov

*Cluster Centroid-Based Energy Efficient Routing Protocol for WSN-Assisted IoT*  
by Nalluri Prohess Raj Kumar and Josemin Bala Gnanadhas

*Complex Order  $Pl\alpha+j\beta D\gamma+j\theta$  Design for Surface Roughness Control in Machining CNT Al-Mg Hybrid Composites*  
by Ravi Sekhar, Tejinder Paul Singh and Pritesh Shah

*Economic and Environmental Analysis of Life Expectancy in China and India: A Data Driven Approach*  
by Nittaya Kerdprasop, Kittisak Kerdprasop and Paradee Chuaybamroong

*Deep Learning Model for A Driver Assistance System to Increase Visibility on A Foggy Road*  
by Samir Allach, Mohamed Ben Ahmed and Anouar Abdelhakim Boudhir

*ISR Data Processing in Military Operations*  
by Ladislav Burita and Ales Novak

*A Hybrid Approach for Intrusion Detection using Integrated K-Means based ANN with PSO Optimization*  
by Jesuretnam Josemila Baby and James Rose Jeba

*Logistics Solutions in the Preparation Phase for the Appearance of Disasters*

*by Erika Barojas-Payán, Diana Sánchez-Partida, Miguel-Josué Heredia-Roldan, Victorino Juárez-Rivera and Jesús Medina-Cervantes*

*Multi-Model Security and Social Media Analytics of the Digital Twin  
by Jim Scheibmeir and Yashwant Malaiya*

*Distributed Microphone Arrays, Emerging Speech and Audio Signal Processing Platforms: A Review  
by Shahab Pasha, Jan Lundgren, Christian Ritz and Yuexian Zou*

*The Contribution of Wind Energy Capacity on Generation Systems Adequacy Reliability using Differential Evolution Optimization Algorithm  
by Athraa Ali Kadhem, Noor Izzri Abdul Wahab and Ahmed Abdalla*

*Computational Intelligence and Statistical Learning Performances on Predicting Dengue Incidence using Remote Sensing Data  
by Nittaya Kerdprasop, Kittisak Kerdprasop and Paradee Chuaybamroong*

*DC-DC Buck Converter Driver with Variable Off-Time Peak Current Mode Control  
by Osvaldo Gasparri, Paolo Del Croce and Andrea Baschirotto*

*Design and Optimization of a Three Stage Electromechanical Power Unit using Numerical Methods  
by Yashwant Kolluru, Rolando Doelling and Lars Hedrich*

*Blueprint Model: An Agile-Oriented Methodology for Tackling Global Software Development Challenges  
by Andre Figliuolo da Cruz, Cristiano Pereira Godoy, Lanier Menezes dos Santos, Lucas Frota Marinho, Marco Santarelle Jardim, Elisangela Paiva da Silva, Cícero Augusto Pahins, Paulo Fonseca and Felipe Taliar Giuntini*

*Bilateral Communication Device for Deaf-Mute and Normal People  
by Raven Carlos Tabiongan  
Semiclassical Theory for Bacteria Motility Under External Electric Fields and Interactions with Nanodevices  
by Huber Nieto-Chaupis*

*Comparison of Gaze Points Among Viewing Conditions (Resolution, Display Size, Viewer Position) During Video Viewing  
by Miho Shinohara, Yusuke Nosaka, Reiko Koyama, Riko Nakagawa, Takuya Sarugaku and Mitsuho Yamada*

*Environmental Entrepreneurship as an Innovation Catalyst for Social Change: A Systematic Review as a Basis for Future Research  
by Carol Dineo Diale, Mukondeleli Grace Kanakana-Katumba and Rendani Wilson Maladzhi*

*Enhancing Decision Making Capabilities in Humanitarian Logistics by Integrating Serious Gaming and Computer Modelling  
by Za'aba Bin Abdul Rahim, Giuseppe Timperio, Robert de Souza and Linda William*

*To the Question of Multi-Criteria Optimization of Aircraft Components in Order to Optimize its Life Cycle*

*by Sergey Alekseevich Serebryansky and Alexander Vladimirovich Barabanov*

*A Framework for Measuring Workforce Agility: Fuzzy Logic Approach Applied in a Moroccan Manufacturing Company*

*by Fadoua Tamtam and Amina Tourabi*

*A Hybrid Mod*

*by Chalinee Partanapat, Chuleerat Jaruskulchai and Chanankorn Jandaeng*

*A Simulation Based Proactive Approach for Smart Capacity Estimation in the Context of Dynamic Positions and Events*

*by Naeem Ahmed Haq Nawaz, Hamid Raza Malik, Ahmed Jaber Alshaor and Kamran Abid*

*Effective Learning of Tax Regulations using Different Chatbot Techniques*

*by Rafael Mellado-Silva, Antonio Faúndez-Ugalde and María Blanco-Lobos*

*Newton-Raphson Algorithm as a Power Utility Tool for Network Stability*

*by Lambe Mutalub Adesina, Ademola Abdulkareem, James Katende and Olaosebikan Fakolujo*

*Electronic Warfare Methods Combatting UAVs*

*by Miroslav Kratky, Vaclav Minarik, Michal Sustr and Jan Ivan*

*A Solution Applying the Law on Road Traffic into A Set of Constraints to Establish A Motion Trajectory for Autonomous Vehicle*

*by Quach Hai Tho, Huynh Cong Phap and Pham Anh Phuong*

*Bayes Classification and Entropy Discretization of Large Datasets using Multi-Resolution Data Aggregation*

*by Safaa Alwajidi and Li Yang*

*Short-Term Dynamic Exchange Rate Model: IFEER Concept Development*

*by Anton Kuzmin*

*Extending the Classifier Algorithms in Machine Learning to Improve the Performance in Spoken Language Understanding Systems Under Deficient Training Data*

*by Sheetal Jagdale and Milind Shah*

*Spot Toyota: Design and Development of a Mobile Application for Toyota's Promotion Actions to the Young Audience*

*by Nuno Martins and Joel Enes*

*The Sound of Trust: Towards Modelling Computational Trust using Voice-only Cues at Zero-Acquaintance*

*by Deborah Ooi Yee Hui, Syaheerah Lebai Lutfi, Syibrah Naim, Zahid Akhtar, Ahmad Sufiril Azlan Mohamed and Kamran Siddique*

*Reliability Improvement of Radial Distribution System by Reconfiguration*  
by Srividhya. P, Mounika. K, Kirithikaa. S, Narayanan. K, Gulshan Sharma, Girish Ganesan.  
R and Tomonobu Senju

*American Sign Language Recognition Based on MobileNetV2*  
by Kin Yun Lum, Yeh Huann Goh and Yi Bin Lee

*Neural Network-Based Fault Diagnosis of Joints in High Voltage Electrical Lines*  
by Marco Bindi, Igor Aizenberg, Riccardo Belardi, Francesco Grasso, Antonio Luchetta, Stefano Manetti and Maria Cristina Piccirilli

*Design of Interactive Aids for Children's Teeth Cleaning Habits*  
by Cheng Chuko, Fang-Lin Chao and Hsin-Yu Tsai

*An Economic Theory Perspective for the Fight Against Poverty in the Peruvian Andes*  
by Robert Antonio Romero-Flores

*Remote Control of Garden Plantation Water Pumps using Arduino and GSM Mobile*  
by Beza Negash Getu, Mohamed Abdulkadir and Michael Tous

*Decision Making System for Improving Firewall Rule Anomaly Based on Evidence and Behavior*  
by Suchart Khummanee, Phatthanaphong Chomphuwiset and Potchara Pruksasri

*Growth Models and Age Estimation of Rice using Multitemporal Vegetation Index on Landsat 8 Imagery*  
by Abdi Sukmono, Arief Laila Nugraha, Arsyad Nur Ariwahid and Nida Shabrina

*Genetic Organization and Evolution of Electromechanical Objects with Adaptive Geometry of Active Zone*  
by Vasyl Shynkarenko, Ali Makki, Viktoriia Kotliarova, Anna Shymanska and Pavlo Krasovskiy

*IoT Based Human Activity Recognition System Using Smart Sensors*  
by Deepti Sehrawat and Nasib Singh Gill

*The Capacity Factor of Renewable Energy Power Plants During Electric Power Peak Times in Jeju Island*  
by Zulmandakh Otgongerel, Gaemyoung Lee and Ankhzaya Baatarbileg

*Efficient Discretization Approaches for Machine Learning Techniques to Improve Disease Classification on Gut Microbiome Composition Data*  
by Hai Thanh Nguyen, Nhi Yen Kim Phan, Huong Hoang Luong, Trung Phuoc Le and Nghi Cong Tran

*The Newtonian Model of the Smolensk Catastrophe*  
by Józef Pawelec

*Application of EARLYBREAK for Line Segment Hausdorff Distance for Face Recognition*  
by Chau Dang-Nguyen and Tuan Do-Hong

*A Fuzzy-PID Controller Combined with PSO Algorithm for the Resistance Furnace*  
by Trinh Luong Mien, Vo Van An and Bui Thanh Tam

*Warehouse Relocation of a Company in the Automotive Industry Using P-median*  
by Zarate-Zapata, Aldo Cesar, Garzón-Garnica, Eduardo Arturo, Cante-Mota, Román, Olmos-Álvarez, Fernando, Martínez-Flores, José Luis, Sánchez-Partida and Diana

*Solutions for Building a System to Support Motion Control for Autonomous Vehicle*  
by Quach Hai Tho, Huynh Cong Phap and Pham Anh Phuong

*Review of Pedagogical Principles of Cyber Security Exercises*  
by Mika Karjalainen and Tero Kokkonen

*Customer Satisfaction Recognition Based on Facial Expression and Machine Learning Techniques*  
by Moulay Smail Bouzakraoui, Abdelalim Sadiq and Abdessamad Yousfi Alaoui

*Real-Time Traffic Sign Detection and Recognition System for Assistive Driving*  
by Adonis Santos, Patricia Angela Abu, Carlos Oppus and Rosula Reyes

*A Typological Study of Portuguese Mortality from Non-communicable Diseases*  
by Ana Paula Nascimento, Cristina Prudêncio, Mónica Vieira, Rui Pimenta and Helena Bacelar-Nicolau

*The Design Process in the Improvement of The Experience Between a Brand and its Target Audience Through a Digital Product: The Lexus Portugal's used Car Website Case Study*  
by Nuno Martins, Juan-Ramon Martin-Sanroman and Fernando Suárez-Carballo

*Finding Association Patterns of Disease Co-occurrence by using Closed Association Rule Generation*  
by Panida Songram, Phattanaphong Chompowiset and Chatklaw Jareanpon

*Automatic Stochastic Dithering Techniques on GPU: Image Quality and Processing Time Improved*  
by Giorgia Franchini, Roberto Cavicchioli and Jia Cheng Hu

*Social-Interactive Learning Concept Used for Electronic Educational Resource "Post-Graduate Foreign Language" and the Obtained Learning Curve*  
by Natalya Chernova, Victor Chernov, Margarita Emelianova, Raisa Akhunzianova and Danil Sukhopluev

*Correlation-Based Incremental Learning Network for Gas Sensors Drift Compensation Classification*  
by Panida Lorwongtrakool and Phayung Meesad

*Improved System Based on ANFIS for Determining the Degree of Polymerization*

*by Marcel Nicola, Marian Duță, Maria-Cristina Nițu, Ancuța-Mihaela Aciu and Claudiu-Ionel Nicola*

*Investigation of Dielectric Properties of Indigenous Blended Ester Oil for Electric System Applications*

*by D.M. Srinivasa, Usha Surendra and V.V. Pattanshetti*

*Fuzzy Recognition by Logic-Predicate Network*

*by Tatiana Kosovskaya*

*Hand-Based Biometric Recognition Technique – Survey*

*by Katerina Prihodova and Miloslav Hub*

*Optimal Hydrokinetic Turbine Array Placement in Asymmetric Quasigeostrophic Flows*

*by Victoria Monica Miglietta and Manhar Dhanak*

*An Innovative Angle of Attack Virtual Sensor for Physical-Analytical Redundant Measurement System Applicable to Commercial Aircraft*

*by Antonio Vitale, Federico Corrado, Nicola Genito, Luca Garbarino and Leopoldo Verde*

*Newton-Euler Based Dynamic Modeling and Control Simulation for Dual-Axis Parallel Mechanism Solar Tracker*

*by Sarot Srang, Sopagna Ath and Masaki Yamakita*

*Adaptive Identification Method of Vehicle Model for Autonomous Driving Robust to Environmental Disturbances*

*by Yohei Yamauchi and Mitsuyuki Saito*

*Eliminating Target Anopheles Proteins to Non-Target Organisms based on Posterior Probability Algorithm*

*by Marion Olubunmi Adebisi and Oludayo Olufolorunsho Olugbara*

*Johnson Noise and Optical Characteristics of Polymer Nanocomposites Based on Colloidal Quantum Dots and In-Situ Nanoparticles Formation*

*by Fatin Hana Naning, S. Malik, Lee Feng Koo, Tze Jin Wong and Pang Hung Yiu*

*Transient Response & Electromagnetic Behaviour of Flexible Bow-Tie Shaped Chip-less RFID Tag for General IoT Applications*

*by Muhammad Usman Ali Khan, Raad Raad and Javad Foroughi*

*Optimization of Multi-user Face Identification Systems in Big Data Environments*

*by Majdoulina Meddad, Chouaib Moujahdi, Mounia Mikram and Mohammed Rziza*

*Surge Protection Device for Ex Application*

*by Teik Hua Kuan, Kuew Wai Chew and Kein Huat Chua*

*A Method for Detecting Human Presence and Movement Using Impulse Radar*

*by Young-Jin Park and Hui-Sup Cho*

*Using Classic Networks for Classifying Remote Sensing Images: Comparative Study*  
by Khalid A. AlAfandy, Hicham Omara, Mohamed Lazaar and Mohammed Al Achhab

*Ethics as a Motivation Indicator in Second Language Vocational Digital Teaching*  
by Natalya Viktorovna Matveeva and Ludmila Vladimirovna Makar

*A Novel Quantum No-Key Protocol for Many Bits Transfer with Error Correction Codes*  
by Duc Manh Nguyen and Sunghwan Kim

*Development of a Wireless Displacement Estimation System Using IMU-based Device*  
by Tri Nhut Do, Quang Minh Pham, Hoa Binh Le-Nguyen, Cao Tri Nguyen and Hai Minh Nguyen-Tran

*Optimal Irrigation Strategy using Economic Model Predictive Control*  
by Luisella Balbis

*Design and Implementation of Quad-Site Testing on FPGA Platform*  
by Basavaraj Rabakavi and Saroja V Siddamal

*Non-Ridership Presumption Toward New Bus Rapid Transit Purwokerto-Purbalingga Execution*  
by Fauzan Romadlon

*Mentoring Model in an Active Learning Culture for Undergraduate Projects*  
by Wongpanya Nuankaew, Kanakarn Phanniphong, Sittichai Bussaman, Direk Teeraputon and Praty Nuankaew

*Innovative Solution for Parking-Sharing of Private Institutions Using Various Occupancy Tracking Methods*  
by Adrian Florea, Valentin Fleaca and Simona Daniela Marcu

*Ferromagnetic Core Reactor Modeling and Design Optimization*  
by Subash Pokharel and Aleksandar Dimitrovski

*Performance Analysis of Grid-Connected PV Rooftop, at Sakon Nakhon Province, Thailand*  
by Supalak Sathiracheewin, Patamaporn Sripadungtham and Settakorn Kamuang

*Innovative Course Delivery using Analyze – Group – Design – Optimize (AGDO) Methodology: Case Study of Entity-Relationship Model*  
by Aparna Sharma, Rishabh Singh, Prathamesh Churi and Mahesh Mali

*Fine Tuning the Performance of Parallel Codes*  
by Sanaz Gheibi, Tania Banerjee, Sanjay Ranka and Sartaj Sahni

*Deaf Chat: A Speech-to-Text Communication Aid for Hearing Deficiency*  
by Mandlenkosi Shezi and Abejide Ade-Ibijola

*Effect of Heat Retention Time and Pouring Temperature on Graphite Shape and Mechanical Properties of Gray Cast Iron*  
by Hong-Nga Thi Pham

*An Enhanced Conceptual Security Model for Autonomous Vehicles*  
by Abdulla Obaid Al Zaabi, Chan Yeob Yeun, Ernesto Damiani and Gaemyoung

*Low Power Fast Settling Switched Capacitor PTAT Current Reference Circuit for Low Frequency Applications*  
by Muhammed Mansoor C. B., Hanumantha Rao G. and Rekha S.

*Blockchain Application in Higher Education Diploma Management and Results Analysis*  
by Fernando Richter Vidal, Feliz Gouveia and Christophe Soares

*Evaluating the Effectiveness of Query-Document Clustering Using the QDSM Measure*  
by Claudio Gutierrez-Soto, Marco Palomino, Arturo Curiel, Hector Riquelme Cerda and Fernando Bejar Rain

*Method of Analysis and Classification of Acoustic Emission Signals to Identify Pre-Seismic Anomalies*  
by Marapulets Yury, Senkevich Yury, Lukovenkova Olga and Solodchuk Alexandra

*Need of E-Recruitment System for Universities: Case of Pulchowk Campus, Nepal*  
by Vijay Yadav, Ujjwal Gewali, Suman Khatri, Shree Ram Rauniyar and Aman Shakya

*A Fast Adaptive Time-delay-estimation Sliding Mode Controller for Robot Manipulators*  
by Dang Xuan Ba

*Investigation of the Effect of FBG Profiles, Temperature and Transmission Distance for Environmental Sensing & Monitoring*  
by Muhammad Arif Riza and Yun li Go

*Procrustes Dynamic Time Wrapping Analysis for Automated Surgical Skill Evaluation*  
by Safaa Albasri, Mihail Popescu, Salman Ahmad and James Keller

*Effect of Cover Number on Distilled Water Production of Distillers with a Novel Water Feeding*  
by Mirmanto Mirmanto, Made Wirawan, I Made Adi Sayoga, Abdullah Abdullah and Muhamad Faisal

*Barriers and Supports in Engineering Career Development: An Exploration of First-Year Students*  
by Rosmery Ramos-Sandoval and Jano Ramos-Diaz

*Prediction of Vessel Dynamic Model Parameters using Computational Fluid Dynamics Simulation*  
by Nu'man Amri Maliky, Nanda Pratama Putra, Mochamad Teguh Subarkah and Syarif Hidayat

*Design and Implementation of DFT Technique to Verify LBIST at RTL Level*  
by Nagaraj Vannal and Saroja V Siddamal

*Dense SIFT–Flow based Architecture for Recognizing Hand Gestures*  
by Suni S S and K Gopakumar

*Scattering of H-Wave by a Moving Dispersive Conducting Complex Object*  
by Esmail Mohamed Abuhdima, Gurcan Comert, Ahmed El Qaouaq and Ashleigh Nicole Reeves

*The Impact of Innovation on the Performance of Manufacturing Enterprises in Vietnam*  
by Thi Anh Van Nguyen and Khac Hieu Nguyen

*Matrix-based Minimal Cut Method and Applications to System Reliability*  
by Emad Kareem Mutar

*Renewable Electric Power from the Equine Treadmill: An Evaluation of the Potential*  
by Faizan Dastgeer and Hasan Erteza Gelani

*Control of Soft Robotic Artificial Muscle with Hand Gesture Using Leap Motion Sensor*  
by Victoria Oguntosin and Akindele Ayoola E

*Dissection of Quantitative Trait Loci (QTL), Annotation of Single Nucleotide Polymorphism (SNP), and Identification of Candidate Genes for Grain Yield in *Triticum turgidum* L. var *durum**  
by Issame Farouk, Ahmad Alsaleh, Jihan, Fatima Gaboun, Bouchra Belkadi, Abdelkarim Filali Maltouf, Zakaria Kehel, Ismahane Elouafi, Nasserelhaq Nsarellah, Dimah Habash and M. Miloudi Nachit

*Simulated IoT Based Sustainable Power System for Smart Agriculture Environments*  
by Shahenaz S. Abou Emira, Khaled Y. Youssef and Mohamed Abouelatta

*VLSI Architecture for OMP to Reconstruct Compressive Sensing Image*  
by Santosh Bujari and Saroja V Siddamal

*Essential Features/Issues of a Multi-Phase Switching Synchronous Buck Regulator*  
by Hani Ahmad-Assi, Nour Sultan Gammoh and Mariana Awni Al Bader

*Review of Different Methods for Optimal Placement of Phasor Measurement Unit on the Power System Network*  
by Ademola Abdulkareem, Divine Ogbe and Tobiloba Somefun

*Synthesis of CVs Using a Context-free Grammar*  
by Darren Tafadzwa Semusemu and Abejide Ade-Ibijola

*Nature Inspired and Transform Based Image Encryption Techniques: A Comparative Study*  
by Bhagyashri Pandurangi R, Chaitra Bhat and Meenakshi R. Patil

*Human Emotion Recognition Based on EEG Signal Using Fast Fourier Transform and K-Nearest Neighbor*  
by Anton Yudhana, Akbar Muslim, Dewi Eko Wati, Intan Puspitasari, Ahmad Azhari and Murein Miksa Mardhia

*5G, Vehicle to Everything Communication: Opportunities, Constraints and Future Directions*  
by Boughanja Manale and Tomader Mazri

*Posture Recognition Method for Caregivers during Postural Change of a Patient on a Bed using Wearable Sensors*

*by Kodai Kitagawa, Koji Matsumoto, Kensuke Iwanaga, Siti Anom Ahmad, Takayuki Nagasaki, Sota Nakano, Mitsumasa Hida, Shogo Okamatsu and Chikamune Wada*

*Development of Secondary Processing Data Methods under Single Point Thunderstorm Activity Monitoring*

*by Anatoly Panyukov and Alexander Bogushov*

*Tolerance of Characteristics and Attributes in Developing Student's Academic Achievements*

*by Wongpanya Nuankaew and Praty Nuankaew*

*Feature Extractors Evaluation Based V-SLAM for Autonomous Vehicles*

*by Mounir Amraoui, Rachid Latif, Abdelhafid El Ouardi and Abdelouahed Tajer*

*Effects of Resting Actions Using Smart Toys During Break Times on Concentration in E-learning*

*by Takashi Ito, Kenichi Takahashi and Tomoko Kajiyama*

*A Proactive Mobile Edge Cache Policy Based on the Prediction by Partial Matching*

*by Lincan Li, Chiew Foong Kwong and Qianyu Liu*

*Improvised E-Rickshaws for Indian Roads by Effective Battery-Ultracapacitor Hybridization*

*by Shimin Vayal Veetil, Varsha Shah and Makarand Lokhande*

*PV Integrated Recursive Least Mean Square Estimation Based Shunt Active Power Filter*

*by Ragam Rajagopal, K. Palanisamy and S. Paramasivam*

*Advanced Control Strategies on Nonlinear Testbench Dynamometer System for Simulating the Fuel Consumption*

*by Marika Fanesi and David Scaradozzi*

*Defeating Anti-Debugging Techniques for Malware Analysis Using a Debugger*

*by Jong-Wouk Kim, Jiwon Bang and Mi-Jung Choi*

*Synthesis of SQL Queries from South African Local Language Narrations*

*by George Obaido, Abejide Ade-Ibijola and Hima Vadapalli*

*Development of a Technology and Digital Transformation Adoption Framework of the Postal Industry in Southern Africa: From Critical Literature Review to a Theoretical Framework*

*by Kgabo Mokgohloa, Grace Kanakana-Katumba and Rendani Maladzhi*

*Examination of a Skill Sampling Method of an Athlete Using the Athlete's Movement and Eye Movement for the Development of an AI Coach*

*by Takuya Sarugaku, Jun Lee, Yasuaki Matsumoto and Mitsuho Yamada*

*Evolution of Teaching Approaches for Science, Engineering and Technology within an Online Environment: A Review*

*by Rendani Wilson Maladzhi and Grace Mukondeleli Kanakana-Katumba*

*Development and Performance Analysis of HRPL Using 6LoWPAN CC2538 Module for IoT Ecosystem*

*by Nin Hayati Mohd Yusoff and Nurul Azma Zakaria*

*Priority-based Scheduling Algorithm for NOMA-integrated V2X*

*by Ala Din Trabelsi, Hend Marouane and Faouzi Zarai*

*Design and Development of Electronic Sensor and Monitoring System of Smart Low-cost Phototherapy Light System for Non-Invasive Monitoring and Treatment of Neonatal Jaundice*

*by Paul Cabacungan, Carlos Oppus, Gregory Tangonan, Nerissa Cabacungan, John Paul Mamaradlo and Neil Angelo Mercado*

*Agricultural Data Fusion for SmartAgro Telemetry System*

*by Ioana Marcu, Ana-Maria Drăgulinescu, Carmen Florea, Cristina Bălăceanu, Marius Alexandru Dobrea and George Suci*

*Laser Deprocessing Technique and its Application to Physical Failure Analysis*

*by Yanlin Pan, Jia Rui Thong, Pik Kee Tan, Siong Luong Ting and Chang Qing Chen*

*An Overview on CryptDb and Word2vec Approaches*

*by Hana Yousuf, Asma Qassem Al-Hamad and Said Salloum*

*A Circular Invariant Convolution Model-Based Mapping for Multimodal Change Detection*

*by Redha Touati, Max Mignotte and Mohamed Dahmane*

*Empirical Probability Distributions with Unknown Number of Components*

*by Marcin Kuropatwiński and Leonard Sikorski*

*C-Band FMCW Radar Design and Implementation for Breathing Rate Estimation*

*by Mohammad Mohammad Abdul-Atty, Ahmed Sayed Ismail Amar and Mohamed Mabrouk*

*Basic Study of 3-D Non-Invasive Measurement of Temperature Distribution using Ultrasound Images during HIFU Heating*

*by Ryosuke Sakakibara, Yasuhiro Shindo, Kazuo Kato, Pak Kon Choi and Akira Takeuchi*

*Wideband Active Switch for Electronic Warfare System Applications*

*by Mahadev Sarkar, Gaurav Anand and Sivakumar Ramadoss*

*Evaluating the Impact of Semantic Gaps on Estimating the Similarity using Arabic Wordnet*

*by Mamoun Abu Helou*

*Evaluation of Simple Space Interpolation Methods for the Depth of Precipitation: Application for Boyacá, Colombia*

*by Pedro Mauricio Acosta Castellanos, Alejandra Castro Ortegón and Hugo Fernando Guerrero Sierra*

*SH-CNN: Shearlet Convolutional Neural Network for Gender Classification*

*by Chaymae Ziani and Abdelalim Sadiq*

*Handling Priority Data in Smart Transportation System by using Support Vector Machine Algorithm*

*by Sara Ftaimi and Tomader Mazri*

*Fabrication and Optimization of High Frequency ZnO Transducers for Both Longitudinal and Shear Emission: Application of Viscosity Measurement using Ultrasound*

*by Hatem Dahmani, Ibrahim Zaaroura, Abbas Salhab, Pierre Campistron, Julien Carlier, Malika Toubal, Souad Harmand, Vincent Thomy, Marc Neyens and Bertrand Nongaillard*

*Parameter Estimation for Industrial Robot Manipulators Using an Improved Particle Swarm Optimization Algorithm with Gaussian Mutation and Archived Elite Learning*

*by Abubakar Umar, Zhanqun Shi, Lin Zheng, Alhadi Khilil and Zulfiqar Ibrahim Bibi Farouk*

*A Software-Defined Network Approach for The Best Hospital Localization Against Coronavirus (COVID-19)*

*by Bilal Babayigit and Eda Nur Hascokadar*

*NemoSuite: Web-based Network Motif Analytic Suite*

*by Wooyoung Kim, Yi-Hsin Hsu, Zican Li, Preston Mar and Yangxiao Wang*

*On Design of IoT-based Power Quality Oriented Grids for Industrial Sector*

*by Nesma N. Gomaa, Khaled Y. Youssef and Mohamed Abouelatta*

*A Novel Way to Design ADS-B using UML and TLA+ with Security as a Focus*

*by Pranay Bhardwaj, Carla Purdy and Nawar Obeidat*

*Real-time Gradient-Aware Indigenous AQI Estimation IoT Platform*

*by Hasan Tariq, Abderrazak Abdaoui, Farid Touati, Mohammad Abdullah Al Hitmi, Damiano Crescini and Adel Ben Mnaouer*

*Japanese Abstractive Text Summarization using BERT*

*by Yuuki Iwasaki, Akihiro Yamashita, Yoko Konno and Katsushi Matsubayashi*

*Efficient and Scalable Ant Colony Optimization based WSN Routing Protocol for IoT*

*by Afsah Sharmin, Farhat Anwar and S M A Motakabber*

*Design of Power Efficient Routing Protocol for Smart Livestock Farm Applications*

*by Shahenda S. Abou Emira, Khaled Y. Youssef and Mohamed Abouelatta*

*New Properties of Crimes in Virtual Environments*

*by Roman Dremluiga, Natalia Prisekina and Andrei Yakovenko*