## ADVANCES IN SCIENCE, TECHNOLOGY AND ENGINEERING SYSTEMS JOURNAL

Volume 5 Issue 4 July-A	ugust 2020
CONTENTS	
Offline Signature Recognition and Verification Using ORBKey Point Matching Techniques Aravinda Chickmaglore Venkataramu, Atsumi Masahiko, Akshaya, Amar Prabhu Gurupura, Udaya Kumar Reddy Kyasambally Rajashekar	01
A Novel Representative k-NN Sampling-based Clustering Approach for an Effective Dimensionality Reduction-based Visualization of Dynamic Data Dharamsotu Bheekya, Kanakapodi Swarupa Rani, Salman Abdul Moiz, Chillarige Raghavendra Rao	08
Citizen Behavior: The Evaluation of Complaint Application that Connected to Smart City Evaristus Didik Madyatmadja, Hendro Nindito, Debri Pristinella	24
Ontologic Design of Software Engineering Knowledge Area Knowledge Components Bulat Kubekov, Anar Utegenova, Leonid Bobrov, Vitaliy Naumenko, Aibek Ibraimkulov	30
Adapting to Individual Differences (ATID) For Inductive Thinking and Learning Purpose Nia Rohayati, Deni Darmawan	35
A Mobile Application Design to Prevent Criminal Acts in Lima, Peru Alexi Delgado, Enrique Lee Huamaní, Elizabeth Jenny Cortez-De La	40
Selection of Top-Notch Global Circulation Models that Properly Simulate the Climate Change of Egypt Based Upon the Spatial Assessment Metrics Khaled Kheireldin, Mahmoud Roushdi, Mostafa Aboelkhear	Withdrawn
Energy Recovery Equipment and Control Strategies in Various Climate Regions Rand Talib, Alexander Rodrigues, Nabil Nassif	47
Fraud Detection Call Detail Record Using Machine Learning in Telecommunications Company Ma'shum Abdul Jabbar, Suharjito	63
Robust Static Output-Feedback Fault Tolerant Control for a Class of T-S Fuzzy Systems using Adaptive Sliding Mode Observer Approach Slim Dhahri, Essia Ben Alaia	70

Maximum Power-Point Tracking and Stall Control with Eddy Current Brake System on Small-Scaled Wind Turbines and its Application on Agricultural Harvesting Anupa Koswatta, Faramarz Alsharif, Yasushi Shiroma, Shiro Tamaki, Junji Tamura	81
Multi-Agent Data Recognition System Based on Received Signal in Antenna on Board Telecom System Chafaa Hamrouni	94
Smart Grid Users Benefits Based on DSM Algorithm Mathematical Optimization Problems Studied Chafaa Hamrouni	99
Contribution in Private Cloud Computing Development based on Study and KPI Analysis Chafaa Hamrouni, Slim Chaoui	105
Optimization of Dual Motion Mechanism with Double Grooved Cams for High-voltage Gas Circuit Breaker Masanao Terada, Yuki Nakai, Hiroaki Hashimoto, Daisuke Ebisawa, Hajime Urai, Yasunobu Yokomizu	109
Design of an EEG Acquisition System for Embedded Edge Computing Kanishk Rai, Keshav Kumar Thakur, Preethi K Mane, Narayan Panigragi	119
Composition of Methods to Ensure Iris Liveness and Authenticity Ali Al-Rashid	130
A Survey on 3D Hand Skeleton and Pose Estimation by Convolutional Neural Network Van-Hung Le, Hung-Cuong Nguyen	144
Nearest Neighbour Search in k-dSLst Tree Meenakshi Hooda, Sumeet Gill	160
Modelling and Simulation of Aerodynamic Parameters of an Airship Anoop Sasidharan Pillai, Venkata Ramana Murthy Oruganti	167
Industry 4.0 Operators: Core Knowledge and Skills Olayan Alharbi	177
Contextualization of the Augmented Reality Quality Model through Social Media Analytics Jim Scheibmeir, Yashwant Malaiya	184
Cause of Time and Cost Overruns in the Construction Project in Nepal Bishnu Prasad Khanal, Sateesh Kumar Ojha	192

High-Order Thinking Skills: The Educational Treasure Hunt Game Yogi Udjaja, Sasmoko, Jurike V. Moniaga, Kevin Zulfian Bay	196
Entertainment Technology: Dynamic Game Production Yogi Udjaja	203
Malware Classification Based on System Call Sequences Using Deep Learning Rizki Jaka Maulana, Gede Putra Kusuma	207
The Importance of Sustainability Audit Report in Go Public Companies Sector, in Indonesia Bambang Leo Handoko, Ang Swat Lin Lindawati	217
Dynamic Decision-Making Process in the Opportunistic Spectrum Access Mahmoud Almasri, Ali Mansour, Christophe Moy, Ammar Assoum, Denis Lejeune, Christophe Osswald	223
Nonlinear 1 <sub>2,p</sub> -norm based PCA for Anomaly Network Detection Amal Hadri, Khalid Chougdali, Raja Touahni	234
Buffering Supercapacitor Mechanism based on Bidirectional DC/DC Converter for Mini All-Terrain Vehicle Application Syifaul Fuada, Braham Lawas Lawu, Bommegowda Kabbala Basavarajappa	244
Utilization of Data Mining to Predict Non-Performing Loan Yosaphat Catur Widiyono, Sani Muhamad Isa	252
Diffusion of Technology for Language Challenges in the South African Healthcare Environment Phathutshedzo Makovhololo, Tiko Iyamu	257
Exploring the Performance Characteristics of the Naïve Bayes Classifier in the Sentiment Analysis of an Airline's Social Media Data Mba Obasi Odim, Adewale Opeoluwa Ogunde, Bosede Oyenike Oguntunde, Samuel Ayodele Phillips	266
Coastal Risk Modelling for Oil Spill in The Mediterranean Sea Abdellatif Soussi, Chiara Bersani, Roberto Sacile, Dounia Bouchta, Ahmed El Amarti, Hamid Seghiouer, Driss Nachite, Jaouad Al Miys	273
Optimization of the Procedures for Checking the Functionality of the Greek Railways: Data Mining and Machine Learning Approach to Predict Passenger Train Immobilization Ilias Kalathas, Michail Papoutsidakis, Chistos Drosos	287

Cluster Centroid-Based Energy Efficient Routing Protocol for WSN-Assisted IoT Nalluri Prophess Raj Kumar, Josemin Bala Gnanadhas	296
Deep Learning Model for A Driver Assistance System to Increase Visibility on A Foggy Road Samir Allach, Mohamed Ben Ahmed, Anouar Abdelhakim Boudhir	314
Logistics Solutions in the Preparation Phase for the Appearance of Disasters Erika Barojas-Payán, Diana Sánchez-Partida, Miguel-Josué Heredia-Roldan, Victorino Juárez-Rivera, Jesús Medina-Cervantes	323
Distributed Microphone Arrays, Emerging Speech and Audio Signal Processing Platforms: A Review Shahab Pasha, Jan Lundgren, Christian Ritz, Yuexian Zou	331
Computational Intelligence and Statistical Learning Performances on Predicting Dengue Incidence using Remote Sensing Data Nittaya Kerdprasop, Kittisak Kerdprasop, Paradee Chuaybamroong	344
Design and Optimization of a Three Stage Electromechanical Power Unit using Numerical Methods Yashwant Kolluru, Rolando Doelling, Lars Hedrich	351
Bilateral Communication Device for Deaf-Mute and Normal People Raven Carlos Tabiongan	363
Survey Analysis: Enhancing the Security of Vectorization by Using word2vec and CryptDB Hana Yousuf, Said Salloum	374
Development of Soil Moisture Monitoring by using IoT and UAV-SC for Smart Farming Application Sarun Duangsuwan, Chakree Teekapakvisit, Myo Myint Maw	381
The Role of KM in Enhancing Al Algorithms and Systems Hani AlGhanem, Mohammad Shanaa, Said Salloum, Khaled Shaalan	388
Potential of Solar Energy in Residential Rooftop Surface Area in Semarang City, Indonesia Djoko Adi Widodo, Purwanto Purwanto, Hermawan Hermawan	397
Keyword Driven Image Description Generation System Sreela Sreekumaran Pillai Remadevi Amma, Sumam Mary Idicula	405

Tidal Propagation Based On Co-Phase Chart and Co-Range Chart in Sunda Strait, Indonesia Denny Nugroho Sugianto, Harjo Susmoro, Khoirol Imam Fatoni, Virginia Stephanie Claudia, Haris Djoko Nugroho	412
Fuzzy-logical Control Models of Nonlinear Dynamic Objects Siddikov Isamiddin Xakimovich, Umurzakova Dilnoza Maxamadjonovna	419
A Framework of E-Procurement Technology for Sustainable Procurement in ISO 14001 Certified Firms in Malaysia Pratik Kumar Singh, Fadillah Binti Ismail, Chan Shiau Wei, Muhammad Imran, Syed Ashfaq Ahmed	424
Effects of Oversampling SMOTE in the Classification of Hypertensive Dataset Nurhafifah Matondang, Nico Surantha	432
A CNN-based Differential Image Processing Approach for Rainfall Classification Roberta Avanzato, Francesco Beritelli	438
Artificial Intelligence Approach for Target Classification: A State of The Art Maroua Abdellaoui, Dounia Daghouj, Mohammed Fattah, Younes Balboul, Said Mazer, Moulhime El Bekkali	445
Assessing the Operator's Readiness to Perform Tasks of Controlling by the Unmanned Aerial Platforms Dmytro Kucherov, Olha Sushchenko, Andrii Kozub, Volodymyr Nakonechnyi	457
Short-Term Dynamic Exchange Rate Model: IFEER Concept Development Anton Kuzmin	463
The Sound of Trust: Towards Modelling Computational Trust using Voice- only Cues at Zero-Acquaintance Deborah Ooi Yee Hui, Syaheerah Lebai Lutfi, Syibrah Naim, Zahid Akhtar, Ahmad Sufril Azlan Mohamed, Kamran Siddique	469
Study Of The Effect Of Abnormalities In The External Ear Inducing Hearing Problems Jihane Melloui, Jamila Bakkoury, Omar Bouattane	477
Neural Network-Based Fault Diagnosis of Joints in High Voltage Electrical Lines Marco Bindi, Igor Aizenberg, Riccardo Belardi, Francesco Grasso, Antonio Luchetta, Stefano Manetti, Maria Cristina Piccirilli	488

Remote Control of Garden Plantation Water Pumps using Arduino and 499 GSM Mobile Beza Negash Getu, Mohamed Abdulkadir, Michael Tous
Decision Making System for Improving Firewall Rule Anomaly Based on Evidence and Behavior Suchart Khummanee, Phatthanaphong Chomphuwiset, Potchara Pruksasri
IoT Based Human Activity Recognition System Using Smart Sensors  Deepti Sehrawat, Nasib Singh Gill
Damage Accumulation Model for Cracked Pipes Subjected to Water Hammer Zakaria Mighouar, Laidi Zahiri, Hamza Khatib, Khalifa Mansouri
Development of an Adaptive HVAC Fuzzy Logic Controller for Commercial Facilities: A Case Study Hamidi Meryem, Bouattane Omar, Raihani Abdelhadi, Khalili Tajeddine
Human-Robot Multilingual Verbal Communication – The Ontological knowledge and Learning-based Models Mohammed Qbadou, Intissar Salhi, Hanaâ El fazazi, Khalifa Mansouri, Michail Manios, Vassilis Kaburlasos
Development Trends of Smart Cities in the Future – Potential Security Risks and Responsive Solutions Vu Nguyen Hoa Hong, Luong Tuan Anh
Application of EARLYBREAK for Line Segment Hausdorff Distance for 557 Face Recognition Chau Dang-Nguyen, Tuan Do-Hong
Organizational Agility Assessment of a Moroccan Healthcare Organization 567 in Times of COVID-19 Fadoua Tamtam, Amina Tourabi
A Support Vector Machine Based Technique for Fault Detection in A Power Distribution Integrated System with Renewable Energy Distributed Generation Katleho Moloi, Yskandar Hamam, Jacobus Andries Jordaan
Overview of Solar Radiation Estimation Techniques with Development of Solar Radiation Model Using Artificial Neural Network Amar Choudhary, Deependra Pandey, Saurabh Bhardwaj

Customer Satisfaction Recognition Based on Facial Expression and Machine Learning Techniques  Moulay Smail Bouzakraoui, Abdelalim Sadiq, Abdessamad Youssfi  Alaoui	594
Real-Time Traffic Sign Detection and Recognition System for Assistive Driving Adonis Santos, Patricia Angela Abu, Carlos Oppus, Rosula Reyes	600
Performance Analysis of Go-Back-N ARQ Protocol Used In Data Transmission Over Noisy Channels Fayza Ahmed Nada	612
Modeling and Transformation from Temporal Object Relational Database into Mongodb: Rules Soumiya Ain El Hayat, Mohamed Bahaj	618
Modelling and Simulation of 3-DOF Lower Limb Rehabilitation Robot using Force Feed Forward Control Pham Van Bach Ngoc, Le Thi Hong Gam, Dam Hai Quan, Bui Trung Thanh, Nguyen Luong Thien	626
Earthquake Response of Multi-Storey Infilled Reinforced Concrete Buildings Miloud Mouzzoun, Abdelkader Cherrabi	633
Machine Learning for Network Intrusion Detection Based on SVM Binary Classification Model Anouar Bachar, Noureddine El Makhfi, Omar EL Bannay	638
COVID-19 Crises: Global Economic Shocks vs Pakistan Economic Shocks Naveeda K. Katper, Muhammad Nawaz Tunio, Niaz Hussain, Attaullah Junejo, Faheem Gul Gilal	645
Social-Interactive Learning Concept Used for Electronic Educational Resource "Post-Graduate Foreign Language" and the Obtained Learning Curve Natalya Chernova, Victor Chernov, Margarita Emelianova, Raisa	655
Akhunzianova, Danil Sukhopluev	
Correlation-Based Incremental Learning Network for Gas Sensors Drift Compensation Classification Panida Lorwongtrakool, Phayung Meesad	660
Design of a Flapping Wings Butterfly Robot based on Aerodynamics Force Kanjanapan Sukvichai, Kan Yajai	667

Clustering of Mindset towards Self-Regulated Learning of Undergraduate 67 Students at the University of Phayao Pratya Nuankaew	76
Fuzzy Recognition by Logic-Predicate Network Tatiana Kosovskaya	86
Deep Learning Approach for Automatic Topic Classification in an Online Submission System Tran Thanh Dien, Nguyen Thanh-Hai, Nguyen Thai-Nghe	00
Bathtub-Shape Failure Rate Life Time Model in a New Version with the use 71 of Bayesian Prediction Bounds for the Presence of Outliers Ayed Rheal A. Alanzi	10
Interpolatory Projection Techniques for H2 Optimal Structure-Preserving Model Order Reduction of Second-Order Systems Md. Motlubar Rahman, Mohammad Monir Uddin, Laek Sazzad Andallah, Mahtab Uddin	15
Towards Classification of Shrimp Diseases Using Transferred 72 Convolutional Neural Networks Nghia Duong-Trung, Luyl-Da Quach, Chi-Ngon Nguyen	24
Determination of ERP Readiness Assessment Using Agile Parameters: A 73 Case Study Santo Fernandi Wijaya, Harjanto Prabowo, Ford Lumban Gaol, Meyliana	33
A Review on Cross-Layer Design Approach in WSN by Different 74 Techniques Sultana Parween, Syed Zeeshan Hussain	41
Design and Implementation of a PLC Trainer Workstation 75 Matthew Oluwole Arowolo, Adefemi Adeyemi Adekunle, Martins Oluwaseun Opeyemi	55
An Explanatory Review on Cybersecurity Capability Maturity Models  Adamu Abdullahi Garba, Maheyzah Muhamad Siraj, Siti Hajar Othman	62
A Method for Detecting Human Presence and Movement Using Impulse 77 Radar Young-Jin Park, Hui-Sup Cho	70
Ethics as a Motivation Indicator in Second Language Vocational Digital 77 Teaching Natalya Viktorovna Matveeva, Ludmila Vladimirovna Makar	76

The Effects of Transmission Power and Modulation Schemes on the Performance of WBANs in on-Body Medical Applications Marwa Boumaiz, Mohammed El Ghazi, Mohammed Fattah, Anas Bouayad, Moulhime El Bekkali	783
Non-Ridership Presumption Toward New Bus Rapid Transit Purwokerto- Purbalingga Executio Fauzan Romadlon	795
Mentoring Model in an Active Learning Culture for Undergraduate Projects Wongpanya Nuankaew, Kanakarn Phanniphong, Sittichai Bussaman, Direk Teeraputon, Pratya Nuankaew	805
Performance Analysis of Grid-Connected PV Rooftop, at Sakon Nakhon Province, Thailand Supalak Sathiracheewin, Patamaporn Sripadungtham, Settakorn Kamuang	816
Fine Tuning the Performance of Parallel Codes Sanaz Gheibi, Tania Banerjee, Sanjay Ranka, Sartaj Sahni	824
Generic Decision Support Model for Determining the Best Marketer Ditdit Nugeraha Utama, Sherly Oktafiani	841
Design of Aerial Panoramic Photography: Contrast between Industrialized and Natural Zones Wei Zhong Feng, Yu-Che Huang, Fang-Lin Chao	849