



## 7<sup>th</sup> International Conference on Engineering and Emerging Technologies (ICEET 2021)

27-28 October 2021  
Istanbul / Turkey  
<http://www.iceet.net>

### CONFERENCE PROGRAM BOOKLET

IEEE Conference Record No: 53442



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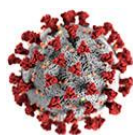
Convert your local presentation time from  
<https://www.timeanddate.com>

## 27 October 2021

	ROOM A	ROOM B	ROOM C	
08.40-09.00	<b>Welcome Talk on behalf of Organizing Committee</b> Opening Remarks by Conference Chairs			
09.00-10.45	<b>Parallel Session 1A:</b> Machine Learning, Neural Networks, Deep Learning and Intelligent Systems	<b>Parallel Session 1B:</b> Antenna & Wave Propagation	<b>Parallel Session 1C:</b> Mixed Topics	
10.45-11.00	<b>Tea Break</b>			
11.00-11.30	<b>Plenary Session 1: Keynote Speakers</b>			
11.30-13.30	<b>Parallel Session 2A:</b> Machine Learning, Neural Networks, Deep Learning and Intelligent Systems	<b>Parallel Session 2B:</b> Biomedical Engineering & Systems	<b>Parallel Session 2C:</b> Mixed Topics	
13.30-14.00	<b>Lunch Break</b>			
14.00-14.30	<b>Plenary Session 2: Keynote Speakers</b>			
14.30-16.15	<b>Parallel Session 3A:</b> Alternate Energy Systems	<b>Parallel Session 3B:</b> Artificial Intelligence	<b>Parallel Session 3C:</b> Advance electronics + Mixed Topics	
16.15-16.30	<b>Tea Break</b>			
16.30-18.00	<b>Parallel Session 4A:</b> Smart Grids & Energy Management	<b>Parallel Session 4B:</b> Modern Communication Technology	<b>Parallel Session 4C:</b> Signal and Image Processing Techniques	

## 28 October 2021

	ROOM A	ROOM B	ROOM C	
09.00-09.30	<b>Plenary Session 3: Keynote Speakers</b>			
09.30-11.15	<b>Parallel Session 5A:</b> Smart Grids & Energy Management	<b>Parallel Session 5B:</b> Robotics and Automation	<b>Parallel Session 5C:</b> Mixed Topics	
11.15-11.30	<b>Tea Break</b>			
11.30-13.00	<b>Parallel Session 6A:</b> Information and Network Security	<b>Parallel Session 6B:</b> Software Engineering	<b>Parallel Session 6C:</b> Artificial Intelligence	
13.00-13.30	<b>Lunch Break</b>			
13.30-15.15	<b>Parallel Session 7A:</b> Machine Learning, Neural Networks, Deep Learning and Intelligent Systems	<b>Parallel Session 7B:</b> Robotics and Automation	<b>Parallel Session 7C:</b> Education & Technologies (E-learning)	
15.15-15.30	<b>Tea Break</b>			
15.30-17.00	<b>Parallel Session 8A:</b> Information and Network Security	<b>Parallel Session 8B:</b> Software Engineering		
17.00-17.15	<b>Tea Break</b>			
17.15-17.45	<b>Closing Session:</b> Best Paper Prize Announcement (3 Positions) Closing Remarks by Conference Chairs			



27 October 2021

## PLENARY SESSION 00

Session 00: Opening Session – Welcome Talk on behalf of Organizing Committee  
Room A

08:40-09:00

*Dr. Sumera Rehman, Rector, Superior University*  
*Prof. Dr. Oğuz BAYAT, Altinbas University*  
*Dr. Mustafa Shakir, Superior University*

## PARALLEL SESSIONS 1

Parallel Session 1A: Machine Learning, Neural Networks, Deep Learning and Intelligent Systems

Session Chair: **Dr Abdullahi Abdu Ibrahim**

Room A

09.00-10.45	<b>Ahmad Al-Zoubi</b> , Goerschwin Fey, Konstantinos Tatas	<b>73</b> Resource-Aware Optimization of FPGA OpenCL Kernels
	<b>Manar D. Samad</b> , Ali Sekmen	<b>83</b> Manifold Regularized Convolutional Neural Network
	<b>Saadat Hasan Khan</b> , Md. Golam Rabiul Alam	<b>89</b> A Federated Learning Approach to Pneumonia Detection
	<b>Yung Gi Wu</b> , Bo Yuan Hsu	<b>91</b> Insurance Assessment Based on the Big Data of Driver Historical Timeline and Car Accident Occurrence
	<b>Supriya Yadav</b> , Pooja R.Khanna, Gareth Howells	<b>103</b> Device Identification Using Discrete Wavelet Transform
	<b>Yaren Özsoy</b> , Deniz Taşkın	<b>122</b> Comparison of Deep Learning Models AlexNet and GoogLeNet in Detection of Pneumonia and Covid19
	<b>Refed Adnan Jaleel</b> , Bahaulddin Nabhan Adday, Dr. Faris Ali Jasim Shaban, Mohammed Rasool jawad, , Musadaq Mahir Abdel Zahra	<b>145</b> Enhanced Vaccine Recommender System to prevent COVID-19 based on Clustering and Classification

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



**Parallel Session 1B: Antenna & Wave Propagation**

**Session Chair: Dr. Taisir Ismail**

**Room B**

09.00-10.45	<b>Israa Al Barazanchi</b> , Rina Azlin Razali, Wahidah Hashim, Ammar Ahmed Alkahtani, Haider Rasheed Abdulshaheed, Shihab A. Shawkat, Zahraa A. Jaaz	<b>40</b> WBAN System Organization, Network Performance and Access Control: A Review
	<b>Taisir Ismail</b> , Mohammad J. Mismar,	<b>120</b> Interference Detection and Suppression by Phase-Only Control of Antenna Array
	<b>Waleed Obaid</b> , A-K Hamid	<b>314</b> Optimization of Tri-band Bow-Tie Aperture Antenna Using Genetic Algorithm and Particle Swarm Optimization
	<b>Maryam S. Jameel</b> , Ehab Dh. Hussein, Yaqeen Sabah Mezaal, Oguz Bayat,	<b>329</b> Compact Microstrip Antenna for Ultra-Wideband Applications Using SIR Feeder
	<b>Maryam S. Jameel</b> , Yaqeen Sabah Mezaal, Dogu Cagdas Atilla, Ehab Dh. Hussein	<b>381</b> A Compact Coplanar Waveguide Fed UWB Antenna for Energy Harvesting Applications
	<b>Ting-Yu Chou</b> , Chia-Ling Chen, Fu-Je Chen, Chin-Chen Huang, James Chen	<b>432</b> A Study of the Influence of Microstructure, Nodulation and Barrier on Signal Integrity
	<b>Maryam Rasool</b> , Zayyad Bin Tariq, Bilal Ijaz, Adnan Iftikhar, Farooq Ahmed Bhatti	<b>458</b> A Compact Multi-slotted Quadband Antenna Array for 5G mmWave Applications

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



**Parallel Session 1C: Mixed Topics**

**Session Chair: Dr. Cagdas Atilla**

**Room C**

<b>09.00-10.45</b>	<b>Siti Nor Azlina Mohd Ghazali</b> , Muhamad Zahim Sujod, Mohd Shawal Jadin	<b>92</b> Forensic of Solar PV: A Review of Potential Faults and Maintenance Strategies
	<b>Amin Ebrahimzadeh</b> , Martin Maier, Roch. H. Glitho	<b>98</b> Trace-Driven Haptic Traffic Characterization for Tactile Internet Performance Evaluation
	<b>Volkan Gezer</b> , Achim Wagner	<b>101</b> Real-Time Edge Framework (RTEF): Decentralized Decision Making for Offloading
	<b>Neramitr Chirakanphaisarn</b> , Pavin Ganmol	<b>112</b> The sleeping positions that affect the heartbeat signal for normal subjects
	<b>Neriman Sen</b> , Dogu Cagdas Atilla, Oguz Karan	<b>123</b> Decision Support System for Operational, Financial, Performance and Risk Indicators of Maturity Models over Cloud-Based Software
	<b>Abdul Mueed</b> , Zhenkun Wu, Zhao Yang, Shumail Khan, Basir Usman, Muhammad Asif	<b>130</b> Computational Analysis of Shielded Twisted Pair Cable Based on MoM-MLFMM Algorithm
	<b>Karlheinz Blankenbach</b> , Aruthy Emmanuel, Andreas Reber	<b>142</b> Touchless User Interfaces for Public Applications Overcome Hygienic & Pandemic Issues
	<b>Adriana Riofrío</b> , Gustavo Caiza	<b>356</b> Cloud computing architecture with dockers for an industrial process

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



## PLENARY SESSION 1

### Plenary Session 1: Keynote Speaker

Room A

11.00-11.30	<b>Mehmet Toy, Ph.D</b>	<i>Title: Future Networks, Services, and Management</i>
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## PARALLEL SESSIONS 2

### Parallel Session 2A: Machine Learning, Neural Networks, Deep Learning and Intelligent Systems

Session Chair: **DR. Sérgio Galdino**

Room A

11.30-13.30	<b>S´ergio Galdino</b> , Jornandes Dias	<b>156</b> Interval-valued Data Ward's Hierarchical Agglomerative Clustering Method: Comparison of Three Representative Merge Points
	<b>S´ergio Galdino</b> , Jornandes Dias	<b>162</b> Interval-valued Data Ward's Minimum Variance Clustering - Centroid update Formula
	<b>Sung-Chi Hsu</b> , Yan-Jun Lai, Sixuan Lai	<b>179</b> Rainfall Forecasting Using Recurrent Neural Network and LSTM in Central Taiwan
	<b>Salam Ullah</b> , Atif Jan, Dr. Gul Muhammad Khan	<b>195</b> Facial Expression Recognition Using Machine Learning Techniques
	<b>Mohammad Nadim</b> , David Akopian, Wonjun Lee	<b>250</b> A Review on Learning-based Detection Approaches of the Kernel-level Rootkit
	<b>Dinh Van Do</b>	<b>260</b> Application of SVM networks in hybrid models for forecasting and estimating maximum and minimum daily humidities
	<b>Lamiaa Ali Ahmed Said</b> , Mohamed R. M. Rizk, Magdy Abd-ElAzim Ahmed, Hania H. Farag	<b>341</b> Diagnosing Pneumonia from Chest X-Rays Using Optimized Residual Network

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



**Parallel Session 2B: Biomedical Engineering & Systems**

**Session Chair: Dr. Rao M. Asif**

**Room B**

<b>11.30-13.30</b>	<b>Nawshad Ahmed Chowdhury</b> , Mohammad Mojammel Al Hakim	<b>149</b> Comparative analysis of the accumulation and inversion mode silicon nanowire transistors for an assessment of their biosensing potential
	<b>Shafaq Zia Mieee</b> , Ali Nawaz Khan miecee, Mayyda Mukhtar, Shan E Ali	<b>157</b> Human Activity Recognition Using Portable EEG Sensor and Support Vector Machine
	<b>Anton Yudhana</b> , Son Ali Akbar, Fatma Nuraisyah, M. Rian Sagita	<b>244</b> Self-Health Monitoring Based on Dehydration Level and Glucose Content in Urine using Thermal Sensing
	<b>Yaqoob Mubarak Al Rahbi</b>	<b>259</b> Mean Time System Failure & Reliability Analysis of Compressor House Station in an Industry
	<b>Prof. Dr. Hadeel Nasrat Abdullah</b> , Aseel N. Abdullah, Najat H. Khalaf, Hala K. Abduljaleel	<b>311</b> Detection and Classification of Skin Lesion Based Neural Networks
	<b>Imen Hamzaoui</b> , Aida Bouzir, Saloua Benammou	<b>380</b> Towards A Fuzzy Rule-Based Approach for Patient Flow Management in Emergency Department During the COVID-19: Sahloul Hospital Case Study, Tunisia
	<b>Vladislava Kapravchuk</b> , Andrey Briko, Svetlana Dyachencova	<b>391</b> Biotechnical control system based on electromyogram, electroimpedance and myotonogram signals
	<b>Ammar Alzuhair</b> , Mohammad Asif, Abdulhameed Alkhateeb, Mohammad Hussain	<b>443</b> Enhanced System For Computer Aided detection of MRI Glioblastoma
<b>Hafiza Sundus Fatima</b> , Kiran Aftab, Namrah Aziz, Erum Baig, Muhammad Khurram, Fatima Mubarak, Syed Ather Enam	<b>450</b> Machine Learning and Sampling Techniques to Enhance Radiological Diagnosis of Cerebral Tuberculosis	

**BREAKFAST / LUNCH / DINNER/TEA BREAK**





**Parallel Session 2C: Mixed Topics**

**Session Chair: Dr. Saif Ur Rehman**

**Room C**

<b>11.30-13.30</b>	<b>Yoko Seki</b>	<b>144</b> A Preliminary Study on Handwriting Classification Using Pen Pressure Patterns
	<b>Simonetta Fumagalli</b> , Laura Blaso, Andrea Testa, Gianluca Ruggieri, Owen Ransen	<b>146</b> EN 15193, Lighting Energy Numeric Indicator: LENICALC calculations in a retirement home case study
	<b>Mustafa Shakir</b> , Sohaib Aslam, Muhammad Adnan, Kashif A. Janjua	<b>173</b> Fuzzy Logic Based Closed Loop Buck Boost AC-AC Automatic Voltage Regulator
	<b>Alisha Abdoola Cassim</b> , Dr. Raj Kishen Moloo	<b>209</b> A Smart IoT based Fruit Fly Monitoring System
	<b>Malika Bachir</b> , Riadh Hocine, Nedjoua Louchene, Hamoudi Kalla	<b>298</b> A Fault Tolerant Scheduling Heuristics for Distributed Real Time Embedded System
	<b>mohamed ali belaid</b>	<b>326</b> Performance Evaluation Study of MOSFET Devices After S-band Pulsed-RF Accelerated Tests
	<b>Hendra Suherman</b> , Muhhamad Fauzan, Yovial Mahyoedin, Maria Ulfah, Irmayani Irmayani	<b>370</b> Implementation of Second Conductive Filler to Improve the Properties of Hybrid Graphite Composites
	<b>Aashir Mahboob</b> , Haider Mehdi, Aqib Noor, Muhammad Ahsan Khan	<b>371</b> Reliability based optimal distributed generation placement for a radial distribution network
<b>Sohaib Aslam</b> , Mustafa Shakir, Abdul Wali, Fakharul Zaman, Faisal Usman, Muhammad Qaiser	<b>159</b> Real-Time Implementation of Adaptive Traffic Control System using IoT	

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



## PLENARY SESSION 2

### Plenary Session 2: Keynote Speaker

Room A

14.00-14.30	Reinhard Haas, PhD	<i>Title: Heading Towards Sustainable Electricity Systems</i>
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## PARALLEL SESSIONS 3

### Parallel Session 3A Alternate Energy Systems

Session Chair: **Dr. Adnan Yousaf**

Room A

14.30-16.15	<b>Roberto P. S. Junior</b> , Tales Cleber Pimenta, Carlos Roberto Rocha, Leonardo Dalcin	<b>114</b> Floating Photovoltaic Generation Combined to Biogas to Eliminate Macrophyte from Hydroelectric Power Plants
	<b>Muhammad Imran Razzag</b>	<b>154</b> Solar Powered Electric Vehicle Charging Station with Fuzzy Logic Controller
	<b>Syed Abdur Rahman Tahir</b> , Muhammad Shakeel Virk, Taiwo Odunlami Awoniyi	<b>352</b> Offshore Wind Energy in Ice Prone Cold Regions- An Overview of Technological Gaps and Needs
	<b>Abdelrahman Alblooshi</b> , Mahmoud I. Masoud	<b>397</b> Design of a 1 MW Grid-tied Photovoltaic System
	<b>Hafiz Fuad Usman</b> , Waheed Aftab Khan, Shahzaib Hamid, Manzoor Ellahi, Adnan Yousaf	<b>419</b> Dynamic Modelling, Control and Power Management in a Grid-Integrated PV/SOFC/SC based Hybrid Power System
	<b>Mohannad Qawasmi</b> , Yousef Zurigat	<b>446</b> Techno-Economic Analysis of Renewable Energy-Powered RO Desalination System under Various Energy Storage Scenarios
	<b>Mishaal Ahmed</b> , M. Shoaib Farooq, M. Ibrar-ul-Haque, Manzar Ahmed, Hina Maqbool, Adnan Yousaf	<b>461</b> Application of Blockchain in Green Energy for Sustainable Future
<b>Neelofar Shaukat</b> , B. Khan, S. M. Ali, Athar Waseem	<b>278</b> A Control Approach Based on Fuzzy Logic for Grid-Interfaced Wind Energy Conversion System	

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



**Parallel Session 3B: Artificial Intelligence**

**Session Chair: Dr. A. Senthil Kumar**

**Room B**

<b>14.30-16.15</b>	<b>Dr. A. Senthil Kumar</b> , N.Pranavi, S. Gowri Priya Dharshini	<b>37</b> Emotions Based Voice Supportive Model Using SVM
	<b>Abdulhafis Abdulazeez Osuwa</b> , Hüseyin Öztoprak	<b>95</b> Importance Of Continuous Improvement of Machine Learning Algorithms From A Health Care Management And Management Information Systems Perspective
	<b>Guilherme Ribeiro</b> , Cristhiane Gonc,alves, Paulo Victor dos Santos, Rommel Melgac,o Barbosa	<b>110</b> Feature Selection Method AUC-Based with Estimation Probability and Smoothing
	<b>Wen-Cheng Lai</b>	<b>129</b> Millimetre Wave Receiver for Radar Detection with Vision and Optical Fusion
	<b>Kamel Jebreen</b> , Mohamad Motasem Nawaf, Amjad Barham, Badih Ghattas	<b>274</b> Inferring linear and nonlinear Interaction networks using neighborhood support vector machines
	<b>Murni Marbun</b> , Opim Salim Sitompul, Erna Budhiarti Nababan, Poltak Sihombing	<b>294</b> Taxonomy of rough set approaches for rule generation
	<b>Omar Almutiry</b>	<b>316</b> Automatic Key Phrase Extraction

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



**Parallel Session 3C: Advance Electronics + Mixed Topics**

Session Chair: **Dr. Rehan Usman**

**Room C**

<b>14.30-16.15</b>	<b>Mohamed el Amine Benkechkache</b> , Gian-Franco Dalla Betta, Lucio Pancheri, Saida Latreche, Lamis Ghoualmi	<b>403</b> Simulation and test results of a slim edge planar p-on-n sensor for FEL applications
	<b>Mohamed el Amine Benkechkache</b> , Saida Latreche, Lamis Ghoualmi	<b>505</b> Analysis of Through Silicon Vias and substrate coupling in 3D CMOS circuits by Spice simulations
	<b>Sergey Shevtsov</b> , Igor Zhilyaev, Natalia Snezhina	<b>379</b> On Predictive Evaluation of Sub-Objectives for Quality Assurance of Vacuum Assisted Resin Infusion of Large Composite Structures
	<b>Sahar Ajmal</b> , Muteeb Bin Muzammil, Shahzeb Javed, Arsalan Tariq, Umer Iqbal	<b>383</b> M-RS: A Systematic Literature Review on Multi-Objective Optimization along with Recommendation System
	<b>Nobar KASSABIAN</b> , Z. HAMMOUDAN, O. GRUNDER, L.IDOUMGHAR	<b>400</b> Simulated Annealing Algorithm for Solving the Hazardous Container Stacking Problem in Tripoli-Lebanon seaport
	<b>Marco Antonio de Campos Menezes</b> , Tales Cleber Pimenta, Carlos Barreira Martinez	<b>404</b> Signal Acquisition and Validation for Electrochemical Noise Corrosion Monitoring System
<b>Muhammad Waqas Rana</b> , Zhang Sufang, Khalid Jamil, Nasif Raza Jaffri, Iqra Hamid	<b>410</b> Eco-Innovation and its impact on Environmental Performance in the context of Green Technology	

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



## PARALLEL SESSIONS 4

### Parallel Session 4A: Smart Grids & Energy Management

Session Chair: **Dr. Rehan Ahmed**

#### Room A

<b>16.30-18.00</b>	<b>Guilherme Ribeiro</b> , Camila Maione, Camila Maione, Diego de Castro Rodrigues, Rommel Melgac,o Barbosa	<b>97</b> Recent advances in detection and prediction of customers energy consumption patterns through the use of machine learning techniques
	<b>Shamim Akhtar</b>	<b>111</b> A Novel Deep Learning Architecture for Data-Driven Energy Efficiency Management (D2EEM) - Systematic Survey
	<b>Eduardo Vasquez Mayen</b> , Emmanuel De Jaeger, Guy Wanlongo Ndiwulu, Angelo Kuti Lusala	<b>160</b> Voltage Unbalance Compensation for Isolated Microgrids with Hybrid Control Approach
	<b>Krystian Machaj</b> , Ziemowit Malecha, Robert Lis, Maciej Chorowski	<b>169</b> Mitigation of undesired influence of micro-PV installations on the Low Voltage network by means of a hybrid storage system.
	<b>Hugo Abreu Mendes</b>	<b>236</b> On AutoMLs for Short-Term Solar Radiation Forecasting in Brazilian Northeast
	<b>Raid W. Daoud</b> , Ahmed H. Ahmed, Wadhah H. Al Doori, Atalah H. Jassim, Anmmar M. Ahmed, Zaid H. Ali	<b>249</b> Exergy And Energy Analyses Of 70 Mw Gas Turbine Power Plant Using Fuzzy Technique

#### BREAKFAST / LUNCH / DINNER/TEA BREAK



## Parallel Session 4B: Modern Communication Technology

Session Chair: **Dr. Gibril Njai**

### Room B

16.30-18.00	<b>Hai Tian</b> , Danfeng Zhao, Haoxiang Jia	<b>30</b> Research on Nonbinary LDPC-OTFS Scheme in High Mobile Communication Scenarios
	<b>Leonardo Ribeiro Goncalves</b> , Tales C Pimenta,	<b>177</b> A Low-Cost Spectrum Qualifier for new IoT Technologies
	<b>Prem Basnet</b> , Chirag Parikh, nabeeh Kandalajt	<b>189</b> Application of Wi-Fi Communication Between FPGA and Microcontroller
	<b>Ebrahim Najafi</b> , Sergey V. Ivanov	<b>330</b> Image Registration by Affine-ORB on SAR and UAV Images to Find Object Geolocation
	<b>Gibril Njai</b> , Denis Bilibashi, Ibrahim Musa Conteh	<b>382</b> Energy-Efficient Resource Allocation Scheme in Hybrid Heterogeneous Networks with mmWaveBase Stations
	<b>Oleksandr Lemeshko</b> , Oleksandra Yeremenko, Amal Mersni	<b>463</b> Investigation of Enhanced Mathematical Model For Traffic Engineering Fault-Tolerant Routing

### BREAKFAST / LUNCH / DINNER/TEA BREAK



**Parallel Session 4C: Signal and Image Processing Techniques**

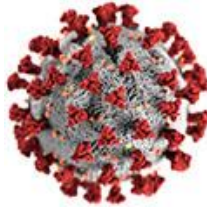
Session Chair: **Dr. Sadiq Ahmed**

**Room C**

<b>16.30-18.00</b>	<b>Rustem Khuziashev</b> , Igor Kuzmin, Iluza Ircagalieva	<b>180</b> Diagnostic Signs of Transient Signals in Power Lines
	<b>Yohei Nakada</b> , Yusuke Sano	<b>325</b> Visualization for Potential Pass Courses and Quantification for Offensive and Defensive Players in Basketball
	<b>Moussa DIALLO</b> , Moustapha Djamil GAYE , Papis NDIAYE, Moustapha MBAYE	<b>342</b> Massive MIMO Channel Feedback Compression in 5G context: Compress Sensing or Lossless Compression
	<b>Mat Kamil Awang</b> , Halimatus Saidah Aminuddin, Nurul Kamilah Mat Kamil, Kamarul 'Asyikin Mustafa	<b>350</b> Class 3 Wiener Filtering for Underwater Image Enhancement and Restoration
	<b>Takahiro Yoshioka</b> , Shuji Awai, Takeshi Konno	<b>411</b> Improving Person Re-Identification Based on Human Height Information
	<b>Enock Tafadzwa Chekure</b> , Peter Freere, Shaaista Gaffoor	<b>503</b> Straight line detection using Euclidean distances between consecutive pixels

**BREAKFAST / LUNCH / DINNER/TEA BREAK**





28 October 2021

**PLENARY SESSION 3**

**Plenary Session 3: Keynote Speaker**

Room A

09.00-09.30	<b>Amela Ajanovic, PhD</b>	<i>Title: Alternative energy systems in transport</i>
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**PARALLEL SESSIONS 5**

**Parallel Session 5A: Smart Grids & Energy Management**

Session Chair: **Dr. Hina Gohar Ali**

Room A

09.30-11.15	<b>Ali Jassim Lari</b> , Augustine Egwebe, Farid Touati, Antonio S. Gonzales Jr, Amith Abdullah Khandakar	<b>345</b> Power Generation Voting Prediction Model of Floating Photovoltaic System
	<b>Lasse Berntzen</b> , Qian Meng, Marius Rohde Johannessen, Boban Vesin, Thomas Brekke, Inessa Laur	<b>367</b> Aggregators and Prosumers - An Analysis of Business Model Opportunities
	<b>Hina Gohar Ali</b>	<b>394</b> Improved Pattern Search Method based Adaptive Sliding Mode MPPT Control of Solar Photovoltaic System
	<b>Festus .O. Fameso</b> , Dawood Desai, Schalk Kok, Dylan Armfield, Mark Newby, Daniel Glaser	<b>416</b> Depth of Compressive Residual Stress Enhancement In Laser Shock Peening of Power Generation Turbine blades
	<b>Pramish Shrestha</b> , Anil Adhikari, Brajesh Mishra, Brijesh Adhikary	<b>418</b> Reinforcement Techniques for Efficiency Improvement of a Distribution Feeder
	<b>Eduardo Vasquez Mayen</b> , Emmanuel De Jaeger	<b>444</b> Linearised Bipolar Power Flow for Droop-controlled DC Microgrids
	<b>Afef Awadid</b>	<b>465</b> Reference Architectures for Smart Grids: Towards a Standard-based Comparative Framework

**BREAKFAST / LUNCH / DINNER/TEA BREAK**





**Parallel Session 5B: Robotics and Automation**

Session Chair: **Dr. Kamel Guesmi**

**Room B**

<b>09.30-11.15</b>	<b>Kamel Guesmi</b> , Baghdadi Hamidouche, Najib Essounbouli	<b>11</b> Control and stabilization of dynamical chaotic systems
	<b>Sadequl Islam</b> , Md. Shahed Hasan, Animesh Chandra Pandit Antu, Md. Motaharul Islam, Faqueer Tanvir Ahmed	<b>66</b> Prototype Design and Development of a Smart Home
	<b>Alexander Verevkin</b> , Timur Murtazin, Oleg Kiryushin	<b>87</b> Contingency Approach To The Management Of A Complex Fractionating Column In Terms Of Quality Index And Technical And Economic Efficiency
	<b>Doga Yamac Oztulbas</b> , Nasser Houshangi	<b>133</b> Autonomous Navigation and Room Categorization for an Assistant Robot
	<b>Kristjan Pütsep</b> , Anton Rassõlkin	<b>147</b> Methodology for Flight Controllers for Nano, Micro and Mini Drones Classification
	<b>Duong Vu</b> , Trung Duy Dao	<b>187</b> Stable Locomotion and Tracking of the Climbing Robot
	<b>Kumari Gita</b>	<b>207</b> The System Block Diagram Reduction Characteristics Test with Shifting the Node States



Parallel Session 5C: Mixed Topics

Session Chair: **Dr. Saif Ur Rehman**

Room C

09.30-11.15	<b>Fatema – Tuz Zohra</b> , Omar Salim, Shuvashis Dey, Hossein Masoumi, Nemai Karmakar	<b>422</b> A Novel Mining Conveyor Belt Modelling for UHF RFID Sensor based Health Monitoring
	<b>Alexandre Bleuz´e</b> , J´er´emie Mattout, Marco Congedo	<b>428</b> Transfer learning for the Riemannian tangent space: Applications to Brain-Computer Interfaces
	<b>Ayse Bagbaba</b>	<b>438</b> A Comparative Study of MPI-IO Libraries for Offloading of Collective I/O Tasks
	<b>Ayse Bagbaba</b> , Ays, Xuan Wang, Christoph Niethammer, Jos´e Gracia	<b>455</b> Improving the I/O Performance of Applications with Predictive Modeling based Auto-tuning
	<b>Iwona Grabska-Gradzińska</b> , Ewa Grabska	<b>462</b> Towards modeling structures of the game worlds by systems of graphs
	<b>Christian Gang Liu</b> , Peter Bodorik, Dawn Jutla	<b>466</b> From BPMN to smart contracts on blockchains: Transforming BPMN to DE-FSM multi-modal models
	<b>Chayatorn Kukiattikoon</b> , Naphatsorn Vongsoasup, Nopdanai Ajavakom, Gridsada Phanomchoeng	<b>498</b> Automate platform for Capturing and Counting ELISpot on 96-Well Plate
<b>Engin Sansarci</b> , Abdullah Aktel	<b>506</b> A new approach to prevent the decrease of population diversity in genetic algorithms	



## PARALLEL SESSIONS 6

### Parallel Session 6A: Information and Network Security

Session Chair: **Dr. Yasa EKŞİOĞLU ÖZOK**

#### Room A

11.30-13.00	<b>Mochamad Teguh Kurniawan</b> , Muhammad Fathinuddin, Hilda Aries Widiyanti, Grace R Simanjuntak	<b>153</b> Network Slicing on SDN using FlowVisor and POX Controller to traffic isolation enforcement
	<b>Islam M. Momtaz A. Sadek</b> , Muhammed Ilyas	<b>269</b> Securing IoT Devices using Blockchain Concept
	<b>Khalid Ibrahim</b> , Ijaz Mansoor Qureshi, Adqas Naveed Malik, Athar Waseem	<b>301</b> COVER FIRE: Deceptive Anti-Jamming using Pseudo Secondary Users in Cognitive Radio Networks
	<b>Simon R. Davies</b> , Richard Macfarlane, William J. Buchanan	<b>312</b> Exploring the Need For an Updated Mixed File Research Data Set
	<b>Ammar Khader Mohammad Almasri</b> , Ismail Aburagaga	<b>319</b> Radio Frequency Identification Privacy and Security Issues
	<b>Muhammad Hassan Naem</b> , Imran Hafeez Abbasi, Mujahid Mohsin	<b>373</b> An Autonomous Intrusion Detection System for Ethernet-Based Avionics Communication Bus

#### BREAKFAST / LUNCH / DINNER/TEA BREAK



**Parallel Session 6B: Software Engineering**

Session chair: **Dr. Imran Harith Bin Azmy**

**Room B**

<b>11.30-13.00</b>	<b>Pir Hamid Ali Qureshi</b> , Mehwish Shaikh, Murk Shaikh, Dr. Qasim Ali Arain, Dr. Asma Zubedi, Pireh Shaikh	<b>31</b> Security Paradigms In SDLC Requirement phase – A Comparative Analysis Approach
	<b>Imran Harith Bin Azmy</b> , Azri Bin Azmi, Mohd Suffian Sulaiman, Othman Bin Mohd Yusop	<b>34</b> Digital Transformation in Oil and Gas Industry: Developing an OSDU Third-Party Application
	<b>Oleh Velychko</b> , Valentyn Gaman, Sergii Kursin, Tetyana Gordiyenko	<b>76</b> Features of Separation and Downloading Software of Measuring Instruments
	<b>Ammar Odeh</b> , Ammar El- Hassan, Ismail Keshta, Tareq AlHajahjeh	<b>99</b> A Model for Understanding Project Requirements based on CMMI Specifications
	<b>Immaculee Joselyne Munezero</b> , Gaurav Bajpai, Frederic Nzanywayingoma	<b>116</b> A Systematic Framework of Application Modernization to Microservice based Architecture
	<b>Astrit Desku</b> , Bujar Raufi, Artan Luma, Besnik Selimi	<b>165</b> Cosine Similarity through Control Flow Graphs For Secure Software Engineering

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



**Parallel Session 6C: Artificial Intelligence**

**Session Chair: Maraoui Amna**

**Room C**

<b>11.30-13.00</b>	<b>Alexander Demidovskij</b> , Artyom Tugaryov, Marat Fatekhov, Ekaterina Aidova, Evgenya Stepyreva, Maxim Shevtsov, Yury Gorbachev	<b>377</b> Accelerating Object Detection Models Inference within OpenVINO Deep Learning Workbench
	<b>Ahmed M. Alfadhel</b> , Ahmed Al Hilli	<b>399</b> Water Quality Evaluation Through Channel State Information in WiFi Networks
	<b>Anirudh Ayyagari</b> , Mahsa Mohaghegh	<b>445</b> Dynamic Chatbot for Parking Services
	<b>Esteve Hassan</b> , Jason Masters, Kugsang Jeong, Sepehr Heydarian, Mustafa ALisa	<b>485</b> New Industrial Internet of Things Platform for Predictive Maintenance In Handling Heavy Equipment
	<b>Maraoui Amna</b> , Werda Imen, Sayadi Fatma Ezahra	<b>493</b> Deep Learning For Intra Frame Coding
	<b>Matheus Nascimento Soares Marques de Lima</b> , Fabrício Y. K. Takigawa	<b>496</b> Evaluation of Machine Learning Algorithms for Multiclass Classification of Voice Calls from Power Systems Operations

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



## PARALLEL SESSIONS 7

Parallel Session 7A: Machine Learning, Neural Networks, Deep Learning and Intelligent Systems

Session Chair: **Dr. Rehan Ahmed**

Room A

13.30-15.15	<b>Anunay</b> , Pankaj, Chhavi Dhiman	<b>351</b> DepthNet: A Monocular Depth Estimation Framework
	<b>Firuz Kamalov</b> , Rita Zgheib, Ho Hon Leung, Ahmed Al-Gindy, Sherif Moussa	<b>435</b> Autoencoder-based intrusion detection system
	<b>Ahmet Semih Taşbas</b> , Şevket Utku Aydın	<b>448</b> 2-D Air Combat Maneuver Decision Using Reinforcement Learning
	<b>Ayoub Laouarem</b> , Chafia Kara-Mohamed (alias Hamdi-Cherif), El-Bay Bourenane, Aboubekour Hamdi-Cherif	<b>487</b> A deep learning model for CXR-based COVID-19 detection
	<b>Ishaq Hafez</b> , Rached Dhaouadi	<b>489</b> Parameter Identification of DC Motor Drive Systems using Particle Swarm Optimization
	<b>Sefik Ilkin Serengil</b> , Alper Ozpinar	<b>504</b> HyperExtended LightFace: A Facial Attribute Analysis Framework

BREAKFAST / LUNCH / DINNER/TEA BREAK



Parallel Session 7B: Robotics and Automation

Session Chair: **Dr. Sadiq Ahmed**

Room B

13.30-15.15	<b>Ahmed Refaat Ragab</b> , Mohammad Sadeq Ale Isaac, Marco A. Luna, Pablo Flores Peña	<b>248</b> Unmanned Aerial Vehicle Swarming
	<b>Denis Chikurtev</b> , Nayden Chivarov, Petko Stoev, Vasil Lozanov, Stefan Chivarov	<b>302</b> ROBCO Drone - Service Robot for Transport and Delivery of Grocery Products
	<b>Hoang-Anh Phan</b> , Duy Nam Bui, Tuan Nguyen Dinh, Bao- Anh Hoang, An Nguyen Ngoc, Dong Tran Huu Quoc, Ha Tran Thi Thuy, Tung Thanh Bui, Van Nguyen Thi Thanh	<b>365</b> <i>Development of a Vision System to Enhance the Reliability of the Pick-and-Place Robot for Autonomous Testing of Camera Module used in Smartphones</i>
	<b>Mustafa Mohammed Alhassow</b> , Oguz Ata, Dogu Cagdas Atilla	<b>393</b> Car-Like Robot Path Planning Based on Voronoi and Q-Learning Algorithms
	<b>Erkan Kaplanoglu</b> , Ahad Nasab, Erdem Erdemir, Mickael Young, Nicole Dayton	<b>402</b> Hand Gesture Based Motion Control of Collaborative Robot In Assembly Line
	<b>Michael G. Skarpetis</b> , Fotis N. Koumboulis, Klaous A. Tzamtziou, Paschalis Michopoulos	<b>453</b> A Robust Control Scheme for an Experimental Hydraulic System
	<b>Ronald Ponguillo-Intriago</b> , Daniel Ochoa, ORCIDAngel J. Lopez, Ivana Semanjski, Sidharta Gautama	<b>491</b> Genetic Algorithms for Solving Coverage Issues in Undersea Mining
	<b>Tolga Kaya</b> , Michael Ohara, Kaitlyn Mangano, Gilbert Lai, John Pineros, Mario Montuori, Arman Molki	<b>175</b> Development of an Autonomous Indoor Robot for Mapping Applications

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



**Parallel Session 7C: Education & Technologies (E-learning)**

Session Chair: **Dr. Rehan Usman**

**Room C**

<b>13.30-15.15</b>	<b>Ikram Asghar</b> , Oche A. Egaji, Mark G. Griffiths	<b>107</b> Digital Applications for Eye-Health Screening of Children: Challenges, Opportunities and Solutions
	<b>Tharanga Peiris</b> , Sobhani Pilapitiya	<b>376</b> Tailored Software Design for Remote Communication Skill Development in Software Engineering Curriculums
	<b>Thathsarani Wickramaarachchi</b> , Sachini Tennakoon, Ridmi Weerakotuwa, Piumi Sulochana, Anuradha Karunasena, Vijani Piyawardana	<b>390</b> E-Pod: E-learning System for Improving Student Engagement in Asynchronous Mode
	<b>Premarathne R. D. A. R.</b> , Gunathilake Y. A. G. U. T, Fasliya R. F, Anuradha Karunasena, Pradeepa Senani Bandara	<b>427</b> A technological intervention for improving cognitive abilities based on the preferences of Autistic children
	<b>Shaneekea Ricketts</b> , Kenique Rodney, Leighton Mitchell, Sean Thorpe	<b>475</b> Continuous Authentication Using Behavioural Biometrics A Step Towards Enhancing Authentication for Distance Learning in Jamaica

**BREAKFAST / LUNCH / DINNER/TEA BREAK**





## PARALLEL SESSIONS 8

### Parallel Session 8A: Information and Network Security

Session Chair: **Dr. Olaf Grote**

#### Room A

15.30-17.00	<b>Olaf Grote</b> , Andreas Ahrens, C'esar Benavente-Peces	<b>398</b> Small Quantum-safe Design Approach for Long-term Safety in Cloud Environments
	<b>Santiago Alejandro Acurio Maldonado</b> , Homero J. Velasteguí	<b>412</b> IoT-based Security Alarm Protocol
	<b>Simon R. Davies</b> , Richard Macfarlane, William J. Buchanan	<b>430</b> Review of Current Ransomware Detection Techniques
	<b>Davies Aklamati</b> , Basheerah Abdus-Shakur, Thabet Kacem	<b>472</b> Security Analysis of AWS-Based Video Surveillance Systems
	<b>Hasan Mohamed Marah</b> , Muhammad Ilyas	<b>482</b> The Influence of Encryption Techniques and Dynamic Routing Protocols on DMVPN Network Performance

#### BREAKFAST / LUNCH / DINNER/TEA BREAK



**Parallel Session 8B: Software Engineering**

Session Chair: **Dr. Ondrej Kachman**

**Room B**

<b>15.30-17.00</b>	<b>Banan Mohammad</b> , Wael Alzyadat, Mohammad Al-Fayoumi, Ruba EL Hawi, AyshAlhroob	<b>235</b> An Improve The Quality Of Data Considering Big Data Aspect Based On Sensitive Of Cost Time
	<b>Farhat Samara</b> , Samuel Ondieki, Ahmed Muntasir Hossain, Mehdi Mekni	<b>307</b> Online Social Network Interactions (OSNI): A Novel Online Reputation Management Solution
	<b>Mehdi Sliem</b> , Nabila Salmi, Malika Ioualalen	<b>396</b> Performance Analysis of Self-adaptive Policies in Containerized Microservices
	<b>Ondrej Kachman</b> , Gabor Gyepes, Marcel Balaz, Libor Majer, Peter Malik	<b>425</b> Configurable Flash Filesystem for Low-Power Sensor Devices
	<b>Gabriela R. Witeck</b> , Ana L. Lima, Anabela C. Alves, Ana João Santos, Ricardo J. Machado, Joana P. de Almeida, Joao Morais, Tiago Fernandes	<b>454</b> Learning processes by mobile technologies in a Product Development Sample Shop

**BREAKFAST / LUNCH / DINNER/TEA BREAK**



## CLOSING SESSION

Session 00: Closing Session – Closing Remarks by Conference Chairs

Room A

17:15-17:45

**Best Paper Prize Announcement (3 positions)**  
**Closing Remarks by Conference Chairs:**  
*Prof. Dr. Mardeni Bin Roslee, MMU, Malaysia*  
*Dr. Adnan Yousaf, Superior University Lahore, Pakistan*  
*Dr. Muhammad Ilyas, Altinbas University, Istanbul, Turkey*

*Hope to see you “physically” next time*

*Thank you very much for your contributions.*

