

2022 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT 2022)

**Sakheer, Bahrain
20 – 21 November 2022**



**IEEE Catalog Number: CFP22R11-POD
ISBN: 978-1-6654-5194-9**

**Copyright © 2022 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP22R11-POD
ISBN (Print-On-Demand):	978-1-6654-5194-9
ISBN (Online):	978-1-6654-5193-2
ISSN:	2770-7458

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Scheduling Household Appliances Using Genetic Algorithms	1
<i>Maram Assi, Ramzi A. Haraty, Sergio Thoumi, Sanaa Kaddoura, Nahla A. Belal</i>	
Machine Learning and Big Data Based IDS System Extensive Survey	7
<i>Noora Alromaihi, Alauddin Y. Al-Omary</i>	
Damage Assessment and Recovery in Fog-Based Computing Systems.....	13
<i>Sergio Thoumi, Ramzi A. Haraty</i>	
An Effective Galaxy Classification Using Fractal Analysis and Neural Network	19
<i>Priyanka S. Radhamani, M. Saeed Sharif, Wael Elmedany</i>	
Investigation of Credit Card Fraud Detection Under the Lens of Comparative Machine Learning Models.....	25
<i>Mohammad Sadman Tahsin, Neda Firoz, Shah Abul Hasnat Chowdhury, S. M. A. Wasei, Musaddiq Al Karim, M. Yeasmin Ara</i>	
Real-Time Arabic Sign Language Recognition Using CNN and OpenCV	32
<i>Shaikhah Almana, Alauddin Al-Omary</i>	
Short-Term Aggregated Residential Load Forecasting Using BiLSTM and CNN-BiLSTM.....	37
<i>Bharat Bohara, Raymond I. Fernandez, Vysali Gollapudi, Xingpeng Li</i>	
Reliability of Saliency Methods Used in Graph Neural Network Models.....	44
<i>Juan G. Diaz Ochoa, Faizan E. Mustafa</i>	
The Effects of Fully Connected Layers Adjustment for Lightweight Convolutional Neural Networks	50
<i>Evangelos Nerantzis, Apostolos Kazakis, Georgios Symeonidis, George A. Papakostas</i>	
An Estimation of the Multidimensional Energy Poverty Index in Pakistan	58
<i>Abid Rashid Gill, Najma Rasheed, Muhammad Abrarulhaq, Farheen Akram</i>	
Future Energy Consumption Estimation for the Kingdom of Bahrain	64
<i>Isa S. Qamber</i>	
New Intelligent System for Proactive Bearing Fault Detection in Electrical Induction Machines.....	69
<i>Pascal Dore, Saad Chakkor, Ahmed El Oualkadi, Mostafa Baghour</i>	
Design of Urban Bus Alarm System (UBAS)	77
<i>Mohsen A. Ghani, Ali Hussain Jassim, Murtadha Ali Abdulla, Mohamed Sadeq, Salwa Baserrah</i>	
Application of Industrialized Building System in the Field of Construction Toward Sustainability: Future Routes and a Theoretical Mapping.....	82
<i>Aawag Mohsen Alawag, Wesam Salah Alaloul, M. S. Liew, Ammar Al-Ashmori, Ahmed Tawifk Alqadami, Syed Ammad</i>	
Planar Ultra-Wideband Antenna with Added GSM Frequency Bands.....	89
<i>Umair Rafique, Syed Muzahir Abbas</i>	

Trust-Aware Security System for Dynamic Southbound Communication in Software Defined Network.....	93
<i>Fatema Salman, Ahmed Jedidi</i>	
Polymer Optic Fibers: Potential of Development and Application in Networks.....	98
<i>Myroslav Panchuk, Andrii Panchuk, Marek Szkodo, Alicja Stanislawska, Igor Prunco</i>	
Multiband Millimeter Wave Phased Array Antenna Design for 5G Communication.....	106
<i>Baye Zenebe Chekole, Ayodeji Olalekan Salau, Habitamu Endalamaew Kassahun</i>	
UAV-Assisted Wireless Communication System with Reconfigurable Intelligent Surfaces: Outage Probability Approach.....	112
<i>Emre Hanbay, Gökhan Altin</i>	
Evaluating Customer Usage and Satisfaction in Bahrain Towards AI-Enabled E-Commerce Websites.....	117
<i>Eman Almohsen, Tara Henari, Abdulrahman Al Rawi, Hussain Salman, Mohamed Fardan</i>	
Voice Command AI Assistant for Public Safety.....	124
<i>Swarnamouli Majumdar, Sonny Kirkley, Mayur Srivastava</i>	
The Moderating Effects of Managerial Competencies and Organization Capabilities on ERP Implementation by Service Sector Enterprises in Saudi Arabia.....	132
<i>Marzouq Aiedh Alghamdi, Ali Hussein Zolait</i>	
Non-Immersive Virtual Reality Umrah Simulation: A Functionality Test.....	138
<i>Siti Nuramalina Binti Johari, Nor Syahirah Binti Nadri, Nurul Hidayah Mat Zain, Anita Mohd Yasin, Zainab Othman, Siti Rahayu Abdul Aziz</i>	
Digital Skills of Public Sector Employees for Digital Transformation.....	144
<i>Thandeka Manana, Tendani Mawela</i>	
Future Glycemic Events Prediction Model Based on Artificial Neural Network.....	151
<i>Muhammad Syafrudin, Ganjar Alfian, Norma Latif Fitriyani, Tony Hadibarata, Jongtae Rhee, Muhammad Anshari</i>	
Mechanism of Network Traffic Detection Using Count Vectorizer.....	156
<i>Mohammad Nadeem. S, R. Surendran, Saravanan. M. S, Madhusundar. N</i>	
Prediction of Defective Products Using Logistic Regression Algorithm Against Linear Regression Algorithm for Better Accuracy.....	161
<i>Vasantha Naga Vasu, R. Surendran, M. S. Saravanan, N. Madhusundar</i>	
A Supervised Learning Classifier for Replayed Voice Attack Detection.....	167
<i>Najla Abdulrahman, Sarah Al-Shareeda, Dalal Ali</i>	
Evaluating the Stressful Commutes Using Physiological Signals and Machine Learning Techniques.....	175
<i>Mhd Saeed Sharif, Madhav Raj Theeng Tamang, Wael Elmedany, Cynthia H. Y. Fu</i>	
Speaker Identification Through Gender Detection.....	181
<i>Mir M. Taosif Nur, Sumaiya Sultana Dola, Apurba Kishore Banik, Tanzeem Akhter, Nafees Hossain, A. B. M. Alim Al Islam, Jannatun Noor</i>	
Customers' Perceptions and Behavioral Intentions Regarding Mobile Banking Usage.....	189
<i>Alaa S. Jameel, Ahmed S. Alheety</i>	

A Model for Forex Market Price Prediction Using Deep Learning.....	195
<i>David Makiya, Bernard Shibwabo</i>	
Financial Impact of IFRS on Indian Telecommunication Sector	203
<i>Prasanna Kulkarni, Abhijit Chirputkar, Pankaj Pathak</i>	
A Blockchain Enabled System for Enhancing Fintech Industry of the Core Banking Systems.....	209
<i>Sameer Al-Jeshi, Ahmed Tarfa, Hasan Al-Aswad, Wael Elmedany, Chitra Balakrishna</i>	
The Role of Artificial Intelligence in Asset Management of Enterprise Systems	214
<i>Abimbola Adebayo, Mhd Saeed Sharif, Wael Elmedany</i>	
Assessing Gender Inclusive User Preferences: A Case of Urban Public Spaces in Chandigarh	221
<i>Prateek Dhasmana, Kanika Bansal, Mehardeep Kaur</i>	
An Effective Random Generalised Linear Model to Predict COPD	227
<i>Linah Saraireh, Mhd Saeed Sharif, Muna Alsallal</i>	
Hardware Trojan and Countermeasures for Internet of Things	233
<i>Ali Alaali, Wael Elmedany</i>	
Lightweight Encryption Algorithms for Internet of Things: A Review on Security and Performance Aspects	239
<i>Hesham Hasan, Ghassan Ali, Wael Elmedany, Chitra Balakrishna</i>	
Reconfigurable Cyber-Security Architecture for Small Satellite with Low Complexity and Power.....	245
<i>Aysha Alharam, Yaqoob Alqassab, Reem Senan, Muneera Almalki, Weal Elmedany</i>	
Cybersecurity Threats and Solutions of IoT Network Layer.....	250
<i>Ali Maki Alaali, Abdulla Alateeq, Wael Elmedany</i>	
Privacy and Security Issues in Blockchain Based IoT Systems: Challenges and Opportunities	258
<i>Wafa Alzuabi, Yasser Ismail, Wael Elmedany</i>	
A Cybersecurity Architecture to Mitigate Shamoon Attacks	266
<i>Theyab Alrubaie, Wael Elmedany, Nedal Ababneh, Sherali Zeadally, Kevin Curran</i>	
Anomaly-Based Detection Technique Using Deep Learning for Internet of Things: A Survey	278
<i>Hussain Ismaeel, Wael Elmedany</i>	
The Use of UML Diagrams to Enhance Dynamic Feature Location Techniques	285
<i>Faisal Buzaid, Fawzi Albalooshi, Wael Elmedany</i>	
Design and Analysis of Cpm and Cpmk Indices for Uncertainty Environment by Using Pythagorean Fuzzy Sets.....	293
<i>Selin Yalçin, Ihsan Kaya</i>	
Performance Analysis of PRIME Technology Based on QPSK and 16/64-QAM of Power Line Communication	298
<i>Shaimaa Mudhafar Hashim, Israa Badr Al-Mashhadani</i>	
Proposed a Model to Evaluate mGovernment Service Quality from the Perspective of Perceived Ease of Use (PEU).....	304
<i>Abdulla Jaafar Desmal, Suraya Hamid, Mohd Khalit Othman, Ali Hussein Zolait</i>	
Automating Arabic Tags Creation for Annotating Web Contents.....	311
<i>Jana Alhasan, Shahd Sulaiman, Batool Barham, Amjad Hawash</i>	

Ease of Access to Healthcare Services: Developing a Telehealth Application Prototype.....	319
<i>Douniazed Amira Toumi, Ines Dermeche, Ghalem Belalem</i>	
Empirical Study for Improving Project Allocation on Freelancing Platform.....	325
<i>Muhammad Zohaib Siddique, Muhammad Basit, Iqra Fatima</i>	
Harnessing the Power of Games for E-Learning in Higher Education.....	333
<i>Fatima Vapiwala, Deepika Pandita</i>	
How TinyML Can Be Leveraged to Solve Environmental Problems: A Survey	338
<i>Hatim Bamoumen, Anas Temouden, Nabil Benamar, Yousra Chtouki</i>	
Review on Reinforcement Learning in CartPole Game	344
<i>Yusuf Mothanna, Nabil Hewahi</i>	
Graph Deep Clustering Using Cluster Graph Conventional.....	350
<i>Amal Shaheen, Nabil Hewahi, Riadh Ksantini</i>	
Dimension Reduction Techniques for Image Classification	358
<i>Hasna Alsaeed, Nabil Hewahi, Riadh Ksantini</i>	
Effective Machine Learning Based Techniques for Predicting Depression	366
<i>Mhd Saeed Sharif, Abin Zorto, Abisha Thayyath Kareem, Rasha Hafidh</i>	
Efficiency Optimization of Vehicle Routing Problem with Considering IoT - A Case Study in Slovakia.....	372
<i>Mohammad Zaher Akkad, Sameh Haidar, Rana Rabee, Tamás Bányai</i>	
An IoT-Based Condition-Boosting Solution for the Oil Upstream Industry	380
<i>Hussain K. Mohammad, Mohammed H. Alead, Ahmad A. Abdullah, Abdullah A. H. Hussain, Ahmad A. G. Mohammad, Wael A. Farag</i>	
Real-Time Implementation and Evaluation of the LEACH Protocol by PROWLER Simulator	387
<i>Mostafa Baghoury, Saad Chakkor, Zineb Cheker, Ahmed El Oualkadi</i>	
IoT Based Parking System: Prospects, Challenges, and Beyond	393
<i>Salma Hani Nova, Shafquat Mahmud Quader, Saumitra Das Talukdar, Mubtasimur Rahman Sadab, M. Shaba Sayeed, A. B. M. Alim Al Islam, Jannatun Noor</i>	
Low-Cost, Low-Power, and Low-Compute Based ECG Monitoring Systems: Comparative Analysis and Beyond.....	401
<i>M. Abu Obaida Zishan, H. M. Shihab, Sabik Sadman Islam, Maliha Alam Riya, Gazi Mashrur Rahman, Jannatun Noor</i>	
Lung Cancer Classification and Model Interpretation with Novel Gene Biomarkers Using Explainable Artificial Intelligence.....	408
<i>Karthik Sekaran, Ashwini Karthik, Shanmugam Sundaramurthy</i>	
Experimental Evaluation of Boosting Algorithms for Fuel Flame Extinguishment with Acoustic Wave.....	413
<i>Raj Gaurang Tiwari, Ambuj Kumar Agarwal, Rupesh Kumar Jindal, Anshbir Singh</i>	
Two-Dimensional Uncertainty Analysis for Cp and Cpk Process Capability Indices.....	419
<i>Selin Yalçin, Ihsan Kaya</i>	

Efficient Solution to Develop an Exercising Algorithm Using Model-Centric and Data-Centric Artificially Intelligent Approaches	424
<i>Mitisha Agarwal, Vishesh Mittal, Surya Prakash</i>	
Perceptive Classification for Crystal Structure of ABO ₃ Perovskite-Type Oxides Using Machine Learning	428
<i>Neha Ujjwal, Anshbir Singh, Raj Gaurang Tiwari</i>	
Detection of Sesame Disease Using a Stepwise Deep Learning Approach.....	434
<i>Bekalu Tadele Abeje, Ayodeji Olalekan Salau, Esayas Gebremariam Tadesse, Aleka Melese Ayalew</i>	
Railway Condition Monitoring and Fault Detection Based on YOLOv4.....	439
<i>Merve Yilmazer, Mehmet Karakose</i>	
COVID-19 mRNA Vaccine Degradation Prediction by Using Deep Learning Algorithms	444
<i>Ooi Nian Chze, Azian Azamimi Abdullah</i>	
Exploiting Deep Learning-Based LSTM Classification for Improving Hand Gesture Recognition to Enhance Visitors' Museum Experiences	451
<i>Nabil Zerrouki, Amrane Houacine, Fouzi Harrou, Riadh Bouarroudj, Mohammed Yazid Cherifi, Ying Sun</i>	
A Novel Deep Learning-Based Framework for Blackhole Attack Detection in Unsecured RPL Networks	457
<i>Wijdan Choukri, Hanane Lamaazi, Nabil Benamar</i>	
A Literature Review of the Seriousness of Flooding-Based DoS Attack	463
<i>Houda Mohammed Albadi, Moaiad Ahmad Khder, Samah Wael Fujo, Tasneem Mohamed Yousif</i>	
Comparison Between High Throughput and Efficiency of 802.11 Wireless Standards.....	470
<i>Mohamed Darwish, Mustafa Belras Ali, Mahmoud Altaeb, Salem Omar Sati, Mohammed Salem Elmusrati</i>	
Planar Absorbing FSS Unit Cells for Radar Cross-Section Reduction	476
<i>Mustafa B. Jasim, Khalil H. Sayidmarie</i>	
Energy Efficient Channel Coding for Terahertz Communications in 6G Networks	481
<i>Mohamed El Jbari, Mohamed Moussaoui</i>	
DQN-Based Reinforcement Learning for Vehicle Control of Autonomous Vehicles Interacting with Pedestrians.....	489
<i>Badr Ben Elallid, Nabil Benamar, Nabil Mrani, Tajjeeddine Rachidi</i>	
Enhancement Techniques for Improving Facial Recognition Performance in Convolutional Neural Networks	494
<i>Mhd Saeed Sharif, Matthew Olusegun Afolabi, Abin Zorto, Wael Elmedany</i>	
Design and Development of Light Weight and Low-Cost Quadruped Robot for Spying and Surveillance	500
<i>Aravind Swaminathan, R. Surendran, Joel Benjamin, V. Jaswant</i>	
Non-Linear Filters to Aid Detection of Glioblastoma in CT and MRI Brain Images	505
<i>Leena Chandrashekar</i>	

Development of Efficient Ensemble Model Based on Stacking Learning for Automated Sleep Staging.....	511
<i>Santosh Kumar Satapathy, Hari Kishan Kondaveeti, S. R. Sreeja, Hiral Madhani</i>	
Investigating HCI of the LMS Blackboard Ultra Using WAMMI During COVID-19: Usability and Design Interactivity	519
<i>Hussain Salman, Eman Al Mohsin, Abdulrahman Al Rawi, Safwan Shatnawi</i>	
Eagle-Eye: Open-Source Intelligence Tool for IoT Devices Detection	526
<i>Yusuf Al Mahmeed, Wael Elmedany, M. Saeed Sharif</i>	
New Perspectives for Cyber Security in Software Development: When End-User Development Meets Artificial Intelligence.....	531
<i>Vita Santa Barletta, Fabio Cassano, Alessandro Pagano, Antonio Piccinno</i>	
An Efficient Approach to Reduce the Encryption and Decryption Time Based on the Concept of Unique Values	535
<i>Zainab Salman, Alauddin Alomary</i>	
Mobility-Aware RPL Network Assessment Under a Blackhole Attack.....	541
<i>Saloua Ibrahimy, Hanane Lamaazi, Nabil Benamar</i>	
Prediction of Cyber-Attacks and Criminality Using Machine Learning Algorithms	547
<i>Aravind Swaminathan, Balamurali Ramakrishnan, M. Kanishka, R. Surendran</i>	
Digital Data Extraction for Vehicles Forensic Investigation	553
<i>Corey Stathers, Musa Muhammad, Adebamigbe Fasanmade, Ali Al-Bayatti, Jarrad Morden, M. Saeed Sharif</i>	
Design of a Prototype Local Smart Weather Station Based on Wi-Fi.....	559
<i>Ahmed A. Radhi, Fawzi M. M. Al-Naima</i>	
A Fuzzy Decision-Making Methodology for Assessment of Solar Energy Plant Location Selection Criteria.....	566
<i>Emine Bozkus, Fatma Kutlu Gündogdu, Ali Karasan, Gürkan Isik, Ihsan Kaya</i>	
A Model Proposal for Smart Campus Investment Prioritization by Using Data Envelopment Analysis.....	572
<i>Murat Çolak, Fatma Kutlu Gündogdu, Emine Bozkus, Gürkan Isik, Ali Karasan, Ihsan Kaya</i>	
AI-Powered Collaborative Geo-Tagging and Visualization of Touristic and Social Activities on Smartphones	576
<i>Maha Yaghi, Lana Qamhieh, Doaa Abueida, Maha Abueida, Farid Ibrahim, Mohammad Alkhedher, Mohammed Ghazal</i>	
Light-Weight Food Image Classification for Egyptian Cuisine	581
<i>Salma Zakzouk, Aya Saafan, Menna-Allah Sayed, Mustafa A. Elattar, M. Saeed Darweesh</i>	
Systematic Mapping Study on the Use of Different Approaches for Detecting the Femoral Fracture Types Using X-Ray Images.....	587
<i>Minuja Kanthasamy, Senthana Prasanth, Kuhaneswaran Banujan, B. T. G. S. Kumara</i>	
Detection of Lettuce Plant Conditions Based on Images Using Backpropagation Method.....	593
<i>Hanizar Rachman, Yudha Purwanto, Casi Setianingsih</i>	
Light-Weight Face Mask Detector	598
<i>Mohamed Tarek, Rashed Al Numan, Kareem Moussa, M. Saeed Darweesh</i>	

Traffic Light Detection Using OpenCV and YOLO	604
<i>Noor Hussain Sarhan, Alauddin Yousif Al-Omary</i>	
Design and Implementation of New Collision Resistant Fast Hash Function Family for IoT Healthcare Blockchain Ledger	609
<i>Ahmed Ali Fayez, Ammar Ibrahim El Sayed, Emad S. Othman, Emad A Elsamahy, Bassam. W. Aboshosha</i>	
Blockchain and NFT: A Novel Approach to Support BIM and Architectural Design	616
<i>Mario Casillo, Francesco Colace, Brij B. Gupta, Angelo Lorusso, Francesco Marongiu, Domenico Santaniello</i>	
Analysis of Real-Time Applications of Blockchain	621
<i>Ashis Kumar Samanta, Nabendu Chaki</i>	
User Awareness of Wearable IoT Devices Privacy Issues	627
<i>Ghada Alrabia, Baneen Alhaddad, Amal Alrayes, Reem Alkaabi</i>	
How Personality Traits Impacts on Cyber Security Behaviors of SMEs Employees	635
<i>Shadab Kalhoro, Ramesh Kumar Ayyasamy, Abdulkarim Kanaan Jebna, Anam Kalhoro, Kesavan Krishnan, Suresh Nodeson</i>	
Arabic Speech Recognition Using Deep Learning and Common Voice Dataset	642
<i>Nourredine Oukas, Taha Zerrouki, Samia Haboussi, Halima Djettou</i>	
Multi-Classification Network for Detecting Skin Diseases Using Deep Learning and XAI.....	648
<i>Fahima Hasan Athina, Sadaf Ahmed Sara, Quazi Sabrina Sarwar, Nishat Tabassum, Mun Tarin Jannat Era, Faisal Bin Ashraf, Muhammad Iqbal Hossain</i>	
Cancer Diagnosis Based on Artificial Intelligence, Machine Learning, and Deep Learning	656
<i>Haval Tariq Sadeeq, Siddeeq Yousif Ameen, Adnan Mohsin Abdulazeez</i>	
Visual Inference Through YOLO V4 Integrated Perspective Localization of Obstacles and Path Mapping in AGV	662
<i>Rapti Chaudhuri, Suman Deb</i>	
An Intelligent Handwritten Digits and Characters Recognition System	670
<i>Ahmed Ayman Mokhtar, Ahmed Mohamed El-Sharkawy, Sara Said Mahmoud, Habiba Walid Samy, Baher Abdelmawla, Kareem Moussa, M. Saeed Darweesh</i>	
HBalancer: A Machine Learning Based Load Balancer in Real Time CPU-GPU Heterogeneous Systems.....	674
<i>Taha Abdelaziz Rahmani, Fatima Daham, Ghalem Belalem, Sidi Ahmed Mahmoudi</i>	
Comparative Analysis of Ant Colony Optimization and Particle Swarm Optimization for Test Case Prioritization.....	680
<i>Mugilan A, Tushar Totla, Yash Renwa, Charanya R, Stalin Subbiah, T. B. Dharmaraj, S. Om Prakash</i>	
Implementation of Blockchain Technologies to Avoid Fraud in Supply Chain.....	687
<i>Rohit Chowdary Atluri, Pankaj Pathak, Vimal Bhatt</i>	
Challenges and Future Directions for Security and Privacy in Vehicular Fog Computing	693
<i>Ossama Nazih, Nabil Benamar, Hanane Lamaazi, Habiba Chaoui</i>	

Developing Modern Agent Technologies in Combating Covid-19 Exposure: An Application in a Healthcare Facility	700
<i>Mohammad Shbool, Ammar Al-Bazi, Laith Zureigat, Azmi Mahafzah</i>	
Classification of Respiratory Diseases and COVID-19 from Respiratory and Cough Sounds.....	707
<i>M. Mubtasim Ahasan, Mohammad Fahim, Himadri Mazumder, Nur E. Fatema, Sheikh Mustafizur Rahman, A. B. M. Alim Al Islam, Jannatun Noor</i>	
Convolutional Neural Network Based COVID-19 Recognition from X-Ray Image	715
<i>Sujana Saha, Ragib Mehedi, M. Rafiqul Islam</i>	
Challenges of Machine Learning for Covid-19 Diagnosis Based on Blood Tests	721
<i>Bayrammyrat Myradov</i>	
Students' Satisfaction with Online Learning Environments - Post COVID-19.....	728
<i>Amal Alrayes, Ons Al-Shamaileh, Nishara Nizamuddin, Fatima Ahmed</i>	

Author Index