

2022 International Conference on IT and Industrial Technologies (ICIT 2022)

**Chiniot, Pakistan
3 – 4 October 2022**



**IEEE Catalog Number: CFP22CO6-POD
ISBN: 978-1-6654-8946-1**

**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:	CFP22CO6-POD
ISBN (Print-On-Demand):	978-1-6654-8946-1
ISBN (Online):	978-1-6654-8945-4

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

Conference Program

1 Introduction	1
1 Preface	
1 About ICIT 22	
2 Message from Conference Chair - Dr. Aftab A. Maroof	
3 Message from the General Chair - Dr. Shahzad Sarfraz	
2 Organizing Committee	5
Day 1, 3 October, 2022	10
Software Engineering, IOT, Decision Support Systems, and Smart Grid	10
10 MangoTrace: An Intelligent Supply Chain Decision Support System <i>Sundus Shafique, Ayesha Hakim, Mubashir Mehdi, Irfan Ahmed Baig</i>	
14 Integration of electric vehicles in smart grids: A review of the advantages and challenges of vehicle-to-grid technology <i>Rafiq Asghar, Mohd Herwan Sulaiman, Zuraini Mustafa, Muhammad Nazir, Zahid Ullah</i>	
21 Structural Coverage of LTL Requirements for Learning-based Testing <i>Hafiz Abdul Quddus, Muddassar Azam Sindhu</i>	
27 Smart City IoT Application for Road Infrastructure Safety and Monitoring by Using Digital Twin <i>Ashfaq Niaz, Samiullah Khan, Fahim Niaz, Muhammad Usman Shoukat, Ibrar Niaz, Jia Yanbing</i>	
33 Development of Auto Transfer Switch for Industrial Micro-grids <i>Raheel Muzammel, Rabia Arshad</i>	
Computational Science and NLP	39
39 A Predictive Analysis for Early Signs of Dementia <i>Atika Islam, Nimra Fatima, Aimen Fatima, Ayesha Pervaiz, Kanwal Abbas, Faisal Bukhari, Waheed Iqbal</i>	
44 Diagnosis of Diabetes Mellitus using Pulse Plethysmograph <i>Mashal Raza, Aqsa Arshad, Muhammad Faraz, Sumair Aziz, Muhammad Umar Khan, Muhammad Atif Imtiaz</i>	
50 Urdu Text-to-Speech Conversion Using Deep Learning <i>Riffat Saba, Muhammad Bilal, Muhammad Ramzan, Hikmat Khan, Mahwish Ilyas</i>	
56 Speech Emotion Recognition Using Deep Neural Networks <i>Salam Ullah, Qayum Ahmad Sahib, Faiz Ullah, Sajad Ullah, Izaz Ul Haq, Ibad Ullah</i>	
62 Modeling, Simulation and Implementation of Multi-function Relay for Industrial Applications <i>Muhammad Tariq Ijaz, Professor Nasrullah Khan Kalair, Ali Raza Kalair, Qadeer Ul Hassan</i>	
Computer Graphics, Image Processing, Pattern Recognition, and Multimedia Technologies	70
70 Computer-Aided Diagnosis of Cataract Disease through Retinal Images <i>Syeda Nabila Shirazi, Shahzad Akbar, Syed Ale Hassan, Farwa Urooj</i>	
77 White blood cells segmentation and classification using U-Net CNN and hand-crafted features, <i>Rehan Khan, Junaid Mir</i>	
84 A Socialized Geotagging Based Garbage Identification and Severity Ranking Mechanism <i>Wilayat Ali Khan, Umer Rashid, Tariq Jamil</i>	
91 Blind Image Clustering Based on PRNU With Reduced Computational Complexity <i>Sidra Naveed Mufti, Sahib Khan</i>	
97 Reassessing the Performance of ARM vs x86 with Recent Technological Shift of Apple <i>Zohaib Ali, Talha Tanveer, Samia Aziz, Muhammad Usman, Awais Azam</i>	

Artificial Intelligence, Machine Learning, and Deep Learning **103**

- 103 Design and Development of Stewart Platform To Balance the Ball Using Fuzzy Logic Control
Zeeshan Ali, Mudasser Waqas, Muzzamil Waqas, Usama Aftab, Ali Raza
- 111 Environmental Constraints of Optimization Crop-Yield Prediction using Machine learning
Nida Hussain, Shahzad Sarfraz, Muhammad Ishaq
- 118 Developing Novel T-Swish Activation Function in Deep Learning
Irfan Javid, Rozaida Ghazali, Irteza Syed, Noor Aida Husaini, Muhammad Zulqarnain
- 125 Textual Cyberbullying detection using Ensemble of Machine Learning models
Gull Bano Anwar, Muhammad Waqas Anwar
- 132 A Survey of the Resource Discovery Techniques in the Distributed Computing Systems
Abdur Rehman Khan, Sanaullah Imtiaz, Ashfaq Hussain Farooqi

Day 2, 4 October, 2022 **138**

Computer Graphics, Image Processing, Pattern Recognition, and Multimedia Technologies **138**

- 138 Autonomous Vehicle based on Lane Detection through Computer Vision using Raspberry Pi
Adnan Khalid, Tayyab Tahir, Aun Haider, Moaz Ahmed, Malik Hamid, Soban Attari
- 145 Automatic Detection of Breast Cancer through Mammogram Images
Sabeen Abid, Shahzad Akbar, Syed Ale Hassan, Sahar Gull
- 152 A Quick Review on Cardiac Image Segmentation
Hanan Sharif, Faisal Rehman, Amina Rida, Usman Nawaz, Chaudhry Nouman Ali, Hira Akram, Ammara Zahid
- 157 4 × 4 Butler Matrix for Wireless Communication and Beamforming Antenna Applications
Syed Tamoor Shah, Noman Ahmad, Hafsa Niaz Awan, Maira Nabeel
- 162 Assessment of Chest X-Ray Image-Based COVID-19 Detection using Deep Transfer Learning Models
Faiz Ullah, Salam Ullah

Communications and Networking, Blockchain **169**

- 169 Hardware Accelerators And Accelerators For Machine Learning
Danish Ali, Anees Ur Rehman, Farhan Hassan Khan
- 176 Acoustic Based Drone Detection Via Machine Learning
Chaudhry Awais Ahmed, Faryal Batool, Wajeeda Haider, Syed Hossein Raza Hamadani, Muhammad Asad
- 182 Predict the Crop-Yield Through UAV using Machine learning A Systematic Literature Review
Nida Hussain, Shahzad Sarfraz, Sadaf Sattar, Sobia Riaz
- 188 Frequency Reconfigurable Polarization Conversion Metasurface,
Ahsaan Gul Hassan, Muhammad Sumaid, Salman Khattak, Fahad Ahmed, Noshawan Shoaib
- 191 Detection of Brain Tumour in 3D MRI
Ahtesham Shahid, Sajid Khan, Usman Habib, Sharjeel Mukhtar, Sophia Shahid, Ammar Ahmed

Communications and Networking, Blockchain **198**

- 198 Dynamic ACL Policy Implementation in Software Defined Networks
Farrukh Shoukat Ali, Rashid Amin, Muzammil Majeed, Muhammad Munwar Iqbal
- 205 Network Traffic Classification through Machine Learning methods in IoT Networks
Muhammad Arqam Awais, Zeshan Iqbal
- 211 Blockchain-based Academic Degrees Issuance and Attestation
Atta Ur Rehman Khan, Raja Wasim Ahmad
- 217 Software-Defined Networking Security Threats, Solutions, and Real-World Applications: A Survey
Abdul Ghafoor, Muhammad Waqas Tahir, Ammar Masood

- 225 Stress Avoidance and Exercise recommendation Through CVS Posture Observation
Arfan Ali Nagra, Muhammad Sohail, Kiran Amjad, Muhammad Asif, Sher Ali

Industrial Technology

235

- 235 Application of Digital Twin in Smart Battery Electric Vehicle: Industry 4.0
Muhammad Usman Shoukat, Muhammad Umair Raza, Muhammad Adeel, Tauqeer Khan, Lirong Yan, Changqing Du
- 242 A Compact Fractal Shaped 8-Elements Antenna Array for 5G mm-Wave Communication
Syed Tamoor Shah, Muzamil Hasan Durani, Umair Ahmed, Qudrat Ullah, Fazila Amir Jan, Muhammad Bilal
- 246 Transient Performance of Voltage Source Converter in V2G and G2V Electric Vehicles Application
Toqeer Ahmed, Saeed Mian Qaiser, Asad Waqar, Tanveer Hussain, Ahsan Iqbal

Index of Authors

253