

2025 Horizons of Information Technology and Engineering (HITE 2025)

**Lahore, Pakistan
12-13 December 2025**

IEEE Catalog Number: CFP25XZ9-POD
ISBN: 979-8-3315-9263-9



Copyright © 2025, IEEE

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:	CFP25XZ9-POD
ISBN (Print-On-Demand):	979-8-3315-9263-9
ISBN (Online):	979-8-3315-9262-2

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

TABLE OF CONTENTS

Towards Robust Breast Cancer Diagnosis: A Hybrid Deep Learning Ensemble Framework	1
<i>Inzamam Shahzad, Asif Raza, Hasaan Maqsood, Saif Ur Rehman Khan, Ghazanfar Ali</i>	
Diabetes Detection with Hybrid Deep Learning Models	7
<i>Haseeb Iqbal, Bilal Gillani, Asif Ilyas</i>	
CrimeXplain: A Comparative Study of Deep and Transformer Models with Explainable AI for Crime Headline Classification	13
<i>Shamyla Firdoos, Muhammad Sheraz Ul Hassan, Adven Masih</i>	
Emission-Oriented Optimization of Energy Systems Using NSGA-II	19
<i>Salman Qayyum Butt, Fenglei Niu, Muhammad Ahtsham Iqbal</i>	
Improved Sign Language Recognition via Dynamic Features and Spatiotemporal Transformer	25
<i>Zarnab Kausar, Shaheryar Najam, Ahmad Jalal</i>	
Sign Language Interpreter using Machine Learning	31
<i>Umar Nawaz, Moez Amir, Hassaan Ahmad, Nabeel Khalid, Faiza Ghulam Nabi</i>	
Machine Learning based Predictive Analytics of Student Retention Using Transcript Data	37
<i>Faiza Tahir, Maha Saddal, Mamoona Mumtaz, Rabia Anwar, Saher Nazir, Maida Gulfam</i>	
A Novel Human Action Recognition over Body Part Labeling for Telerehabilitation Exercises	43
<i>Shahzaib Ali, Shaheryar Najam, Ahmad Jalal</i>	
Individual Action Detection using Yolov9 and Deep Neural Network	49
<i>Zaryab Shaker, Adnan Ahmed Rafique, Ahmad Jalal</i>	
WACE-SCAS: A Static-Dynamic Framework for Interference Aware Scheduling in Asymmetric Multicores	55
<i>Syeda Sughra Kamran, Zeeshan Ali Khan</i>	
Anomalous Human Action Recognition and Crime Event Classification using Deep Learning	62
<i>Kainat Aslam, Syed Farooq Ali, Ehtesham Ul Haq Dar, Malik Tahir Hassan</i>	
Artificial Intelligence in HRM: Linking Ethical Design, Digital Well-being, and Green HRM for Sustainable Performance	68
<i>Waseem Umer, Rakhshanda Furnaz, Burhan Sadiq, Ammara Naseem, Tayyeba Bashir</i>	
Transforming Crop Disease Classification with Hybrid Quantum Deep Learning	74
<i>Muhammad Shoaib Sarwar, Komal Batool</i>	
Analyzing Impact of Digital Media and Social Networks on Autism Prevalence and Advancing AI-Powered Diagnosis	80
<i>Noha Hazzazi, Shazia Saqib, Hussnain Ahmed Saqib, Wasim Ahmad Khan</i>	
Predicting Stroke Risk: A Comparison of ML and DL Approaches	85
<i>Awais Arif, Maliha Fajar</i>	
Autism Detection in Children from Facial Landmarks and MRI images Using a Deep Learning Model	93
<i>Daniyal Ahmed, Muhammad Ammar Hassan, Mehwish Afshan, Hassan Gilani</i>	

A Taxonomy of AI-Based Phishing Detection Across Multiple Mediums	98
<i>Chua Cheng Han, Kiran Adnan, Aun Yichiet</i>	
Robust MPPT for Photovoltaics: Interval Type-2 Fuzzy Logic with Experimental Validation	104
<i>Bakhtawar Butt, Tariq Kamal, Syed Zulqadar Hassan, Arsalan Masood</i>	
Is Reasoning in LLMs and AGI an Illusion or Reality?	110
<i>Ezaan Amin, Muhammad Umair, Haris Masood</i>	
Design and Development of an Autonomous Smart Agricultural Robot for Plant Disease Detection Using Machine Learning and Image Processing with GPS-Enabled Precision Pesticide Spraying	114
<i>Rehman Javed, Hamza Muhammad Nawaz, Ahsan Javed, Muhammad Zahid, Ahsan Riaz Muhammad Farhan</i>	
Optimization Framework for Minimizing Impact of EV Charging stations on Distribution System	122
<i>Kiran Khalil, Zunaib Maqsood Haider, Muhammad Ali Qureshi</i>	
Physiologically Consistent Postural Control via EHGO-Augmented Nonlinear Compensation	128
<i>Nadia Sultan, Talha Shakil, Muhammad Najam ul Islam, Beenish Ayaz</i>	
Optimal Placement of PV Systems and Capacitor Banks in Medium Voltage Feeders Using Star Fish Optimization Algorithm	134
<i>Maaz Ahmad, Ehtasham Mustafa</i>	
Detecting Mental Health Signals in Tweets: A Machine Learning and NLP Approach	140
<i>Aliza Sohail, Sibghat Ullah Bazai, Zoha Shahid, Isma Batool, Muhammad Imran Gafoor Uzair Aslam Bhatti</i>	
Design and Analysis of a 350W Wireless Charging System for Electric Bikes	146
<i>Sumama Bin Riaz, Malik Farooq Muhammad, Nahl Adeel, Faiza Hamid, Abdullah Ahmed, Asif Ali Aakash Hassan, Abdullah Baig, Tauseef Tauqueer</i>	
HARR-NET: A Novel Silhouette-Aware Fusion Method Using HSE-Net for Reliable UAV Human Activity Recognition	152
<i>Harris Shahid, Shaheryar Najam, Ahmad Jalal</i>	
AIRD-Syn: An AI-Driven Reconfigurable Chip Architecture for Synthetic Radar Signal Deception Against Anti-Radiation Drones	158
<i>S. Waseem, S. Ahmad Waseem</i>	
Deep Learning-Enhanced Multiparametric MRI for Prostate Cancer: Reducing Overdiagnosis and Improving Risk Stratification	164
<i>Daniyal Ahmed, Muhammad Ammar Hassan, Hassan Gilani, Mehwish Afshan, Muhammad Sheraz Khan</i>	
Multimodal Fusion for Physical Telerehabilitation using YoLov8 and Machine Learning Classifier	171
<i>Aqsa Fazal, Shaheryar Najam, Ahmad Jalal</i>	
Utility-Aware Big-Data Fraud Detection: An Empirical Comparison on Public Benchmarks using Distributed Feature Pipelines and Sequential Models	177
<i>Zulfiqar Ali, Israr Ur Rahman, Ali Abbas, Muhammad Ismail, Rehan Ali Qazi, Mehwish Rasheed</i>	
Optimized LED Placement for Indoor Visible Light Communication: Trade-offs Between Uniform Coverage and High Throughput	184
<i>Muhammad Saadi, Mohammadreza Khosravi, Shahid Mumtaz, Charalampos Tsimenidis</i>	

IoT-Enabled Fault Detection and Optimization for Smart Transmission Line Protection	189
<i>Mohsin Atta, Samaira Zahoor, Ateeq Hassan, Nouman Ali, Owais Hameed, Waqas Ahmed</i>	
A Novel Six Dimensional Hyperchaotic Map with Enhanced Dynamical Properties for Cryptographic Applications	195
<i>Muhammad Rehan Saleem, Muneeb Ali Muzaffar, Asif Farooq, Muhammad Umar Hameed</i>	
Blockchain-Enabled Green Supply Chains: A TOE-Based Framework for Carbon Reduction	202
<i>Muhammad Taseen, Wang Yongli, Burhan Sadiq, Ammara Naseem, Tayyeba Bashir</i>	
Intelligent Transportation Framework for Vehicle Detection and Tracking in Urban Scenes	208
<i>Muhammad Adeel Ahmed Tahir, Adnan Ahmed Rafique, Ahmad Jalal</i>	
Novel Directional Profiling and Transformer-Based Activity Recognition via Hybrid Feature Fusion	214
<i>Eman Fatima, Muhammad Hasan Danish Khan, Shaheryar Najam</i>	
Hand Gesture Recognition via GNN Attention-Keypoint Features Fusion and Geometric Encoding	220
<i>Esha-Tur-Razia, Shaheryar Najam, Ahmad Jalal</i>	
Enhancing Transparency in Humanitarian Crowdfunding: A Blockchain and MVC-Based Approach for Non-Profit Organizations in Pakistan	226
<i>Hanan Munir, Ayesha Rashid Khan, Aimen Qaiser, Touseef Tahir, Bilal Hassan, Hamid Jahankhani Mohammad Noman</i>	
Robust Flood Area Segmentation through Federated Learning on Distributed Remote Sensing Data	232
<i>Muhammad Saif Ul Islam</i>	
A Modified U-Net with Focal Modulation for Robust Breast Lesion Segmentation	237
<i>Khadija Arshad, Imran Arshad Choudhry, Gulshan Saleem</i>	
Flexible and Multifunctional Graphene Based Ecoflex Sensor for Radial Artery Pulse Detection	244
<i>Rizwan Zahoor, Babar Ali, Ghulam Murtaza, Hafiz Muhammad Bilal, Muhammad Ishfaq, Faisal Tufail</i>	