## 2024 IEEE 1st Karachi Section **Humanitarian Technology** Conference (KHI-HTC 2024)

Tandojam, Pakistan 8-9 January 2024



**IEEE Catalog Number: CFP24UI9-POD ISBN**:

979-8-3503-7305-9

## Copyright © 2024 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:
 CFP24UI9-POD

 ISBN (Print-On-Demand):
 979-8-3503-7305-9

 ISBN (Online):
 979-8-3503-7304-2

## **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**

A Method for Examining and Reducing Malicious URL Connections by Machine Learning Saima Siraj Qureshi, Jingsha He, Siraj Uddin Qureshi, Nafei Zhu, Hina Shafi, Ahsan Wajahat and Ahsan Nazir	1
ARTIFICIAL INTELLIGENCE TECHNIQUES IN IMPROVING THE QUALITY OF SERVICES PROVIDED BY E-GOVERNMENT TO CITIZENS	7
Determining the Impact of Artificial Intelligence on Modernization of Education	11
IoT Based Systems and Services: Recent Security Concerns and Feasible Solutions  Hafiz Muhammad Attaullah, Shahzad Ahmed Memon, Ozlem Feyza Erkan and Ruba Khawar	14
Designing and Evaluating a Mobile Social Robot as an Intervention Tool for Autism Spectrum Disorder	20
A Novel Hybrid Genetic and A-star Algorithm for UAV Path Optimization	25
Banking in the Digital Age: Predicting Eligible Customers through Machine Learning and AWS	30
EEG-BASED HUMAN EMOTION RECOGNITION USING DEEP LEARNING  Hamza Ahmed, Zobia Ali, Sanam Narejo, Asim Irfan and Danish Azeem	36
Multi-Modal Hate Speech Recognition Through Machine Learning	43
Efficient Load Control with Smart Meters: A Step Towards Grid Stability	49
A Computer Vision-Based Vehicle Detection System Leveraging Deep Learning	55
AuctiSafe: Building a Robust and Reliable Auction System for Optimized Security Measures	62
Unveiling the Arsenal of User Data Protection Tools and Practices	68
Security and Threat Detection through Cloud-Based Wazuh Deployment	75

A Blockchain-Powered Loan Management System Enhanced with Smart Contract 80  Muhammad Saleem, Muhammad Haris, Mehwish Naeem, Abdul Basit Abro, Maaz  Ahmed and Abdul Ahad Abro	)
Lane Detection in Autonomous Driving: A Comprehensive Survey of Methods and Performance	5
A Simplified Protection Scheme for Renewable Energy Integrated AC Microgrids 9.  Muhammad Talha Shahab, Syed Zain Abbas and Ahmad Usman	1
Review of National Cybersecurity Policies: A Case Study on Asian Countries	7
Role of Telemedicine Technology to Combat Contagious Diseases in Pakistan and People's Acquiescence Towards it	3
A PSS/E based Voltage Stability Assessment Toolbox (P-VSAT) with Automated Network Modeling	3
A Python-based Open-source Distribution Network Analysis ToolBox for Automated Modeling, Analysis and Visualization	1
Cyber Security Risk Assessment Methods for Smart Healthcare	1
MQTT Based Intelligent IoT Monitoring and Notification System for Enhanced Comfort of Learning Spaces	7
Cognitive Analysis based on Brain Connectivity for Learning Task fMRI Data using CONN Software Package	3
Technical Feasibility Study of 150 kW Grid-Connected PV System for an Academic Institution in Pakistan	)
Hybrid Deep Learning Model for Multilingual Sentiment Analysis	5
Web Based Online Car Rental System	L
Virtual Assistant in Health Care	)
Predicting Depression with Social Media Images	7

Design a conceptual model: predictors influencing the acceptance of ChatGPT usage in the academia of underdeveloped countries
Hifazat Ali Shah Masoomi, Nasrullah Dharejo, Abid Ali Shah Syed, Fatima Dayo and Ghulam Murtaza
Revolutionizing Technology: The Era of AI-Based 3DPrinted Humanoids
Recycling and Material Extraction from End-of-Life Photovoltaic Modules Waste:  Exploring Physical Recovery Techniques
Comparative Analysis of Software Testing Methodologies in the Age of Software-Defined Machines
Digital Prototyping and Simulation of a Humidity Control Robot for Tunnel Farming 198 Syeda Fakhra Jalal, Zarish Majid Shaikh, Tooba Khan and Muhammad Wasim Munir
PYTHON & DJANGO – THE FASTEST GROWING WEB DEVELOPMENT TECHNOLOGY
Detection and Prevention of DoS Attack in VANET Using Artificial Neural Network 211 $Md$ $Adil$ , $Sugandhi$ $Midha$ , $V.K$ $Srivastav$ and $Kavita$ $Kavita$
Diabetic Retinopathy Detection Using Voting Classification Method
lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:
Heart disease Prediction Using Data Mining Techniques
User Interface based Text-To-Speech Synthesizer
Security Challenges in Mobile Cloud Computing
Smart Web Dictionary using OCR (Optical Character Recognition)
A Study on Employee Competency Management System
Heart Disease Diagnosis using Deep Learning
Virtual assistance using Python
Impact of Blockchain Technology on Financial Services

STOCK PRICE PREDICTION USING LSTM NEURAL NETWORK STOCK PREDICTION (AMZN, MSFT, TSLA, AAPL)
NFT Marketplace: what are NFTs, and how does OpenSea succeed in acquiring the most of the NFT space
Anil Thakur, Divya K., Sahil Verma and Maninder Kaur
Artificial Intelligence & Justice Delivery System in India: A Symbiotic Relationship of Effectiveness
The Use of AI in Surveillance to Identify the Potential Threat of Terrorist Attacks
Role of IT in Management of Waste -Industry 4.0
Role of Artifical Intelligence in Education Sector
LEVERAGING ADVANCED TECHNOLOGY AND DESIGN THINKING TO ADDRESS CHALLENGES FACED BY INDIAN ADOLESCENT YOUTH
Ethics in the era of Intelligent Machines: Legal Perspective and Regulatory Implications 343  Divya Rawat, Dharmendra Kumar, Amaarjeet Rawat, Akhilesh Pandey, Gautam  Chauhan and Srinivas Aluvala
Designing a better food system in India: A Design Thinking Approach
Blue Brains – The Future Generation
Assessing the Effectiveness of Fingerprint Authentication in Preventing Fraud During Financial Transactions
Application of Metaverse in Education
A comparison and analysis of various cloud computing deployment models
Advancements of Emerging Technologies in Biometrics Authentication

AI IN CLASSROOMS
Understanding Human Behavior in Phishing Attacks Across Diverse User Groups: An Ethical Hacking Analysis
Fahad Hussain, Rayyanur Rahman, Zainab S. Attarbashi, Wafa Hussein Naser Fadaq and Manar Mustafa
Navigating the Cloud: Choosing the Right Cloud Computing Services for Your Business 406 Shivani Sisodia, Sonal Sharma, Dharmendra Kumar, Lotus Biswas and Srinivas Aluvala
TaxBot: An AI-driven Chatbot for Resolving Double Taxation Queries in India 414 Parthik Baliyan, Bhawna Arora and Kavita Kavita
Roman Urdu Slang Dictionary Development for Facebook Comment Sentiment Analysis 420 Umair Jamil Ahmad and Yasir Arfat Malkani
Comparative analysis of OFDM in AWGN & Local Acoustic Channel
Authentication in the Internet of Things: A Review
Data Security, Privacy and Cyber Policty of Pakistan: A Closer Look
2D T1-Weighted CE MRI Images Classification with Hybrid Channel Attention Block enhanced VGG-16 and MobileNet
Ransomware Detection Techniques Using Machine Learning Methods
Interoperability: Blockchain's Solution to SOA & Traditional Service-Based Integration Challenges
A Conceptual Framework For Determinants Of The Student Advisory System At The University Of Nizwa Oman
DESIGN AND DEVELOPMENT OF IOT BASED SMART ENERGY MANAGEMENT SYSTEM FOR DOMESTIC USERS
Threats and Vulnerabilities of Wireless Networks in the Internet of Things (IoT)

Cyber Security Assessment and Awareness: A Statistical Modelling Approach 4 Suman Srivastava and Snehil Raj	75
FILE SHARING THROUGH CLOUD-BASED SYSTEMS UTILIZING BLOCK CHAIN TECHNOLOGY	81
Improvement of a Two-Tier ATM Security System: Aiming to Deliver a Timely Resolution for Network Challenges	87
Measurements of Security Metrics for Wireless Communications	92
Quantification of Reliability in Object-Oriented Software: Functionality Perspective 48  Anuj Kumar Yadav and C L P Gupta	98
Implementation of Artificial Intelligence in Agriculture: An Empirical Approach 50 Bhagyashree Sungh and Pragya Bharti	04
Integrity Evaluation Model for Object Oriented Software: A Developer Perspective 5  Vivek Gupta and Clp Gupta	10
Examining digital forensics in the context of Shamoan attack behavior within fog computing and exploring threat intelligence for Incident Response	16
Business Intelligence Systems' Effect on Start-Up Companies' Decision-Making and Excellence Management Processes	23
Formal Modeling and Verification of IoT-based Smart Transport System using SPIN Model Checker	29
Formal Modeling and Verification of Justification and Finalization of Checkpoints in Ethereum 2.0 Beacon Chain	35
Formal Verification and Validation of IoT-based Railway Gate Controlling System at Level Crossing	41
Live synchronization with less downtime	47
Exploring Relationships among Bitcoin's Market Price, Energy Consumption and Carbon Dioxide Emissions: A Machine Learning Approach	53

Efficient Convolutional Neural Network (CNN) based Architecture for the Diagnosis of Foliar Pathologies in Potato Crops
Comprehensive Security Analysis and Threat Mitigation Strategies for React.js  Applications: Leveraging SonarQube for Robust Security Assurance
Investigation of Classification Model for Text-Based Sentiment Analysis
Social media text sentiment analysis: Exploration of machine learning methods 579 Fan Xing, Humaira Ashraf, Uswa Ihsan, Navid Ali Khan and Rajesh Bahuguna
Emotion Prediction in Amazon Kindle Book Reviews: Leveraging RNN for Sentiment Analysis
Sentiment Analysis System for Image and Text Based Social Media Data
Facial Expression Recognition (FER) System using Deep Learning
Security Threats and Countermeasure for IOT Based Library Management System 609  Anam Kalhoro, Najma Imtiaz Ali, Imtiaz Ali Brohi, Shadab Kalhoro, Maryam  Kalhoro and Noor Afzan Salleh
A COMPARATIVE STUDY OF AUTOMATIC HATE SPEECH DETECTION USING MACHINE LEARNING
Decoding Digital Hostility: Examining and Addressing Hate Speech on Social Media Platforms
Deep Radiomics: A picture is worth a thousand words - A Review
Investigating Bigdata Analytics Adoption in Higher Education: Pilot Study
i-Know: Revolutionizing Knowledge Management with Interactive Quizzes
Harvesting Prosperity: AI-Powered Solutions for Household Poverty Reduction through Smart Agriculture

A Comprehensive Survey of Software Defined Networking and its Security Threats6  Iftekhar Ahmed Mahar, Wu Libing, Zulfikar Ahmed Maher and Ghulam Ali Rahu	549
Aligning AI-Led Smart Manufacturing with SDGs for Poverty Reduction	554
Dielectric Characterization for Secure and Reliable High-Frequency Printed Circuit Board Applications	60
Analyzing the Parallel Computing Performance of Unsupervised Machine Learning 6 Vishnu Vardhan Baligodugula, Fathi Amsaad and Nz Jhanjhi	65
SRAM PUFs: A Study of Aging Impact and Potential Mitigation	571