

2025 13th International Symposium on Digital Forensics and Security (ISDFS 2025)

**Boston, Massachusetts, USA
24-25 April 2025**

Pages 1-465



**IEEE Catalog Number: CFP25F05-POD
ISBN: 979-8-3315-0994-1**

**Copyright © 2025 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:	CFP25F05-POD
ISBN (Print-On-Demand):	979-8-3315-0994-1
ISBN (Online):	979-8-3315-0993-4
ISSN:	2837-827X

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

Illuminated Secrets: Exploiting Display Brightness for Out-Of-Band Optical Covert Communication	1
<i>Virguens Honorius, Cihan Varol</i>	
Implementation of Device-To-Device Authentication with Middleware Broker System for Secure Smart Homes	7
<i>Zainatul Yushaniza Mohamed Yusoff, Mohamad Khairi Ishak, Lukman Ab Rahim, Khalid Ammar</i>	
FSCsec: Collaboration in Financial Sector Cybersecurity - Exploring the Impact of Resource Sharing on it Security	13
<i>Sayed Abu Sayeed, Mir Mehedi Rahman, Samiul Alam, Naresh Kshetri</i>	
DataLDA: Analyzing Data Quality in Big Data Using Traditional Approaches Vs. Latent Dirichlet Allocation - Systematic Review	19
<i>Sayed Abu Sayeed, Naresh Kshetri, Mir Mehedi Rahman, Samiul Alam, Abdur Rahman</i>	
Internet of Things (IoT) Forensics: Chip-Off Forensics.....	25
<i>Munirah Aljuwair, Emad-Ul-Haq Qazi, Tanveer Zia</i>	
Advancements and Challenges in AI-Powered Honeypots: A Comparative Study of Detection, Engagement and Ethical Implications	31
<i>Anil Sezgin, Gürkan Özkan, Aytug Boyaci</i>	
Hardware Performance Evaluation of Freeware ETL Tools.....	37
<i>Tugba Elmas, Adrien Chardon Fabian, Cihan Varol, Asaf Varol</i>	
Reconciling Safety and Privacy: A Systematic Review of Moderation in End-To-End Encrypted Messaging.....	42
<i>Chaitanya Rahalkar, Anushka Virgaonkar</i>	
Enhancing Trust and Security in Learning Management Systems: Addressing Submission Concerns with Timestamp Transparency and Digital Signatures	49
<i>Natalia A. Bueno-Pizarro, Juan G. Lalinde-Pulido</i>	
Multi-Agent Deep Q-Network Based Ant Colony Optimization for Advanced Network Intrusion Detection	54
<i>Amani Bacha, Farah Barika Ktata, Olfa Belkahla Driss</i>	
Evaluating IEEE P2834.1 Standard: Use Case Scenarios for Enhancing Digital Forensics in Trusted Learning Systems	60
<i>Khushi Gupta, Cihan Varol, Hamadou Saliah-Hassane</i>	
Intrusion Detection System Based on Machine Learning Algorithms in the DOUNG Ad Hoc Network.....	67
<i>Boubacar Tawayé Abdoul Aziz, Mahamadou Issoufou Tiado, Boukar Abatchia Nicolas, Boureima Djibo Abasse</i>	
Multi-Objective Task Scheduling in Fog-Cloud Environments: LS-NSGA-II Optimization and Blockchain Integration for Enhanced Security and Efficiency.....	72
<i>Mohsen Aydi, Housseem Eddine Nouri, Olfa Belkahla Driss</i>	

Enhancing Online Laboratories' Security Through the Use of RFID Technology.....	78
<i>Michael Stalford, Luis Felipe Zapata-Rivera, Catalina Aranzazu-Suescun</i>	
Chaotic Time Series Forecasting Optimisation Based on Hybrid PSO Algorithm.....	84
<i>Ding Wang</i>	
Predicting Cyberattacks on Connected Healthcare Devices Using LightGBM-Based Approach	92
<i>Amine Berqia, Habiba Bouijij, Manar Chahbi, Oussama Ismaili</i>	
Advanced DDoS Detection in Online Learning Environments.....	98
<i>Amine Berqia, Oussama Ismaili, Manar Chahbi, Habiba Bouijij</i>	
FIRM-OT: A Methodology for Cybersecurity Forensics and Incident Response in OT	103
<i>Hebert Silva, Thiago Gonçalves, Dirceu Lippi</i>	
A Framework to Automate the Digital Forensics Pipeline of Electron-Based Social Media Applications.....	109
<i>Khushi Gupta, Phani Lanka, Cihan Varol</i>	
Honeytrap Resilience: A Study of Malware Redirection Awareness	115
<i>Eric Edge, James H Jones, Kathryn Laskey</i>	
A Digital Forensic Analysis of WhatsApp Artifacts in Windows 11 Operating System Using Microsoft Edge.....	122
<i>Timothy Laryea, Anwah Pascal, Tahir M. Khan</i>	
DetectGNN: Harnessing Graph Neural Networks for Enhanced Fraud Detection in Credit Card Transactions.....	128
<i>Irin Sultana, Syed Mustavi Maheen, Naresh Kshetri, Md Nasim Fardous Zim</i>	
An Empirical Analysis of Security and Privacy Issues Associated with Selling and Purchasing of Secondhand Storage Devices.....	134
<i>Mahra Mohammed Alnaqbi, Shaikha Tareq Alblooshi, Elyazia Abdulla Alshamsi, Niyat Seghid, Farkhund Iqbal</i>	
Comparing Unidirectional, Bidirectional, and Word2vec Models for Discovering Vulnerabilities in Compiled Lifted Code.....	141
<i>Gary A. McCully, John D. Hastings, Shengjie Xu, Adam Fortier</i>	
Security Assessments of Data Transfer Phase of Adapted EEG System in Learning Systems.....	147
<i>Ahmet Furkan Aydogan, Cihan Varol, Hamadou Saliah-Hassane</i>	
Detection of Dynamic Code Loading in Android.....	154
<i>Megha Gopakumar, Saranya Chandran</i>	
Leveraging Large Language Models in Software Testing: A Review of Applications and Challenges.....	160
<i>Anil Sezgin, Gürkan Özkan, Esra Cosgun</i>	
A Game Between the Defender and the Attacker for Trigger-Based Black-Box Model Watermarking	167
<i>Chaoyue Huang, Hanzhou Wu</i>	
Enhancing Kalman Filter Resilience in Electric Vehicles: Cyber-Attack Mitigation with Machine Learning Based Adaptive Filtering.....	173
<i>Bryan Anderson, Gahangir Hossain</i>	

The Relationship Between Secondary School Students' Digital Game Addictions and Their Responsibilities Toward Learning	179
<i>Fulya Görkem Orhan, Aysenur Kuloglu</i>	
Source Identification of DeepFake Videos in Social Media-Like Networks Using Centrality Measures.....	184
<i>Aryan Kumar, Bharath Raja, Ashlin Furtado, Anoushka Vemireddy, Prasad B. Honnavalli, Sapna V. M.</i>	
Scalable and Ethical Insider Threat Detection Through Data Synthesis and Analysis by LLMs	191
<i>Haywood Gelman, John D. Hastings</i>	
Quantized Hybrid Privacy Preserving Approach for Federated Learning with Flower Framework.....	197
<i>Firoz Khan, C. Sai Varun, Balamurugan Balusamy, Jeevanandam Jotheeswarn</i>	
Ensuring Privacy in the Labour Market: Towards Full Compliance with LGPD and GDPR.....	204
<i>Hebert Silva, Aldrey Pedrazoli, Sergio Nascimento, Regina Moraes</i>	
Automated Threat Detection in the Dark Web: A Multi-Model NLP Approach.....	210
<i>Abhay Kamath, Aditya Joshi, Aditya Sharma, Nikhil R Shetty, Lenish Pramiee</i>	
Blockchain-Based Enhanced Secure Data Storage Model: A Framework for the Internet of Vehicle Networks	216
<i>Muhammad Umar Majigi, Richard A. Ikuesan, Ismaila Idris, Shafi'I Muhammad Abdulhamid</i>	
Legal & Ethical Implications of Predictive Digital Techniques in the Judicial Criminal Proceedings.....	223
<i>Grazia Garzo, Alessandro Palumbo</i>	
Assessing the Usability of an AI-Powered Mobile App on Student Engagement in Remote Field Activities	229
<i>Chennaiah Madduri, Ranita Ganguly, Dishant Banga</i>	
Using Machine Learning Techniques to Address IoT Forensics Challenges.....	233
<i>Boitumelo Nkwe, Michael Kyobe</i>	
Advancing IoMT Security with Privacy-Preserving Federated Learning Techniques.....	239
<i>Maurel Kouekam, Fadoua Khennou</i>	
MemLOL: Memory-Based LOBins Dataset for Fileless Malware Detection.....	247
<i>Shunmika Chidambaram, Swapna M P</i>	
Enhancing Breast Cancer Detection with AI: Ensuring Image Security and Diagnostic Precision Through Deep Learning Techniques.....	252
<i>Thrushna Matharasi, Priyam Ganguly, Isha Mukherjee, Sanjeev Lakkaraju</i>	
User Behavior Analysis for Cyber Threat Detection: A Comparative Study of Machine Learning Algorithms.....	257
<i>Anant Wairagade, Sumit Ranjan</i>	
Retrieval Augmented Anomaly Detection (RAAD): Nimble Model Adjustment Without Retraining	263
<i>Sam Pastoriza, Iman Yousfi, Christopher Redino, Marc Vucovich, Abdul Rahman, Sal Aguinaga, Dhruv Nandakumar</i>	
Recognizing the Financial Fraud Type of Telegram Advertisement Posts Based on the Multimodal Learning	269
<i>Chunlan Gao, Yubao Wu</i>	

Enhancing Phishing Website Detection with Machine Learning Algorithms	275
<i>Weijie Pang, Ayrton Joseph Dipina, Ashar Neyaz</i>	
Analysis of the SHA Function Selection on the Security of a Digital Signature Scheme	280
<i>Manuel Alejandro Cardona-López, Juan Carlos Chimal-Eguía, Víctor Manuel Silva-García, Rolando Flores-Carapia</i>	
A Novel Multi-Scale Spectral-Guided Graph Attention Network for DeepFake Video Detection.....	286
<i>Muhammad Irfan, Myung J. Lee, Ashar Neyaz, Daiki Nobayashi</i>	
Digital Forensics Analysis of iMazing Phone Explorer Tool to Aid Mobile Forensics Investigation	293
<i>Ashar Neyaz, Avinash Kumar, Bingyu Liu</i>	
DockerGate: Automated Seccomp Policy Generation for Docker Images	301
<i>Rohit Venkata Satya Kuppili</i>	
Security Threats Mitigation for Internet of Vehicles Using Cryptographic Protocols	307
<i>Khurram Shahzad, Muhammad Raheel Raza, Asaf Varol</i>	
Adversarial Retraining and White-Box Attacks for Robust Malware Detection.....	313
<i>Hajar Ouazza, Fadoua Khennou, Abderrahim Abdellaoui</i>	
On the Application of Fundamental Clustering Methods to Large Scale Cyber Security Log Classification	319
<i>Jet Le, Mihai Lazarescu, Sie Teng Soh, Reza Ryan, Peng Cai, Qian Li</i>	
APT-LLM: Embedding-Based Anomaly Detection of Cyber Advanced Persistent Threats Using Large Language Models	325
<i>Sidahmed Benabderrahmane, Petko Valtchev, James Cheney, Talal Rahwan</i>	
Covert Channels Through Docker Image Manipulation.....	331
<i>Jacob Fricano, Nicholas Geigel, Daryl Johnson</i>	
Packers and Features: Efficacy of Static Analysis for Packed Linux Malware	337
<i>Jayanthi Ramamoorthy, Narasimha K Shashidhar, Cihan Varol</i>	
Multi-Stage Attack Traffic Detection Using Self-Supervised Learning	343
<i>Nasreddine Abdelli, Abdelkamel Tari, Mohand Tahar Kechadi</i>	
Enhanced Multi-Head Self-Attention Transformer-Based Method for Prediction of Drug-Drug Interactions	349
<i>Semih Cal, Ramazan Ozgur Dogan, Hulya Dogan</i>	
Leveraging Machine Learning for Effective Device Detection and Security in LoRa-Based IoT Systems.....	355
<i>Nurettin Selcuk Senol, Anitha Chennamaneni, Amar Rasheed, Ahmet Furkan Aydogan</i>	
Enhancing Cyberspace Security with Phishing Detection and Defense Using Machine Learning Models.....	361
<i>Md Nazmul Haque Siam, Ehsan Hallaji, Roozbeh Razavi-Far</i>	
Forensic Investigations in the Age of AI: Identifying and Analyzing Artifacts from AI-Assisted Crimes	367
<i>Amina Alnaqbi, Meera Alblooshi, Hessa Ali Nasser, Niyat Habtom, Farkhund Iqbal</i>	

Harmonized Data Drive: Standardizing and Unifying Smart Car Information Storage for Enhanced Forensics and Interoperability	373
<i>Hossein Jamali, Josh Watson, Sergiu M. Dascalu, Frederick C. Harris</i>	
Evaluating Machine Learning Algorithms for Enhancing Network Intrusion Detection Systems: A Comparative Study	379
<i>Gunay Abdiyeva-Aliyeva, Naila Allakhverdiyeva, Nihad Alili, Ilkin Balazade</i>	
An Integrated Framework for Video-Based Deepfake Forensic Analysis	383
<i>Bashaer Mohamed Alsalami, Richard Ikuesan</i>	
Enhancing the Digital Forensics Presentation Phase Through Immersive Virtual Reality Training Environments.....	388
<i>Chukwuemeka Ihekweazu, Khushi Gupta, Chiamaka Femi-Adeyinka, Naomi Aghado, Pat Ko</i>	
Deep-Learning Based 3D Lung Segmentation	394
<i>Kerem Erciyas, Mustafa Soydan, Ozgur Gumus</i>	
Customer Personality Analysis Using Machine Learning with Explainable AI	400
<i>Din Mohammad Dohan, Naheyan Prottush, Md. Ashiq Ui Islam Sajid, Sudipta Mondal, Sumaya Binte Zilani Choya, Md. Golam Rabiul Alam</i>	
Focus: A One-Vs-All Resolution Strategy for Temporal Metadata Analysis.....	406
<i>Michael C. Todd, Gilbert L. Peterson</i>	
Behavioral and Propagation-Based Analysis of APT Attacks for Effective Attack Attribution.....	412
<i>Mohammed Rauf Ali Khan, Ahmad Almulhem</i>	
A Multi-Layer Model of Psychological Factors and Parametric Approaches for Human-Centric Phishing Prevention.....	420
<i>Seydanur Ahi Duman, Atahan Duman, Rukiye Hayran, Ibrahim Sogukpinar</i>	
Advanced Privacy and Security Techniques in Federated Learning Against Sophisticated Attacks	425
<i>Hariprasad Holla, Arun Ambika Sasikumar, Chandu Gutti, Karthik Thumula, Hemanth Gogineni</i>	
Privacy-Preserving Secret Sharing Using Fully Homomorphic Encryption.....	431
<i>Adoum Youssef, Abdramane Issa, Daouda Ahmat</i>	
An Ensemble Transformer Approach with Cross-Attention for Automated Code Security Vulnerability Detection and Documentation	437
<i>Adiba Mahmud, Yasmeen Rawajfih, Fan Wu</i>	
Solving the Financial, Operational, and Reputational Impact of Commercial Fleet Collisions: Challenges and Mitigation Strategies Using Data-Driven Decision-Making Process	443
<i>Thrushna Matharasi, Priyam Ganguly</i>	
Investigating NoSQL Injection Attacks on MongoDB Web Applications.....	447
<i>Hardi Matholia, Oluwasola Mary Adedayo</i>	
From Snap to Evidence: Snapchat Footprint on iOS	453
<i>Vedant Gupta, Yuting Zhang</i>	
Machine Learning Approaches for Classifying Encrypted Files	459
<i>Razaq Jinad, Abm Islam, Narasimha Shashidhar</i>	

Migrating Traditional Applications to Cloud-Native DevOps: A Framework for Successful Cloud Migration and Modernization.....	466
<i>Neha Surendranath, Sai Annamaiah Basava Raju, Ranita Ganguly</i>	
Speed as an Instrument: Exploiting Time-Scale Modification for Adversarial Attacks and Defenses in Speaker Recognition Systems	472
<i>Umang Patel, Shruti Bhilare, Avik Hati</i>	
Development of Two-Stage Steganography Method	478
<i>Zhanat Saukhanova, Sayat Raykul, Altynbek Sharipbay, Gulmira Shakhmetova, Alibek Barlybayev, Altay Khassenov</i>	
Deep Learning-Based Classification of Software Bugs Using Code Context and AST Features.....	483
<i>Alpaslan Gokcen, Arda Arsik, Akhan Akbulut, Cagatay Catal</i>	
Advanced Forensic Analysis for Vehicle Speed Estimation: A Two-Video Comparison Approach	488
<i>Christos Liambas, Athanasios Manios</i>	
Cloud Service Analysis from the Security Principles Perspective.....	494
<i>Olga Dye, Ebru Celikel Cankaya</i>	
Cost-Optimized Cloud Scheduling for ETL and Big Data Using AI.....	500
<i>Chaitanya Krishnama, Raghavender Puchhakayala, Sudarshan Kotha, Faiz Gouri</i>	
AI-Driven Digital Evidence Triage in Digital Forensics: A Comprehensive Review.....	506
<i>Md Zakir Hossain Zamil, Tahir M. Khan</i>	
NIDS Using Hierarchical Attack Structure and Transformer	512
<i>Avinash Kumar, Nuri Alperen Kose, Kubra Kose, Hyuk Cho</i>	
PowerShell Proxy-Aware Intercommunication and Manipulation	520
<i>Jean Rosemond Dora, Ladislav Hluchy</i>	
The Role of Machine Learning in Distance Education.....	525
<i>Abdullah Alan, Songul Karabatak, Murat Karabatak</i>	
AutoBnB: Multi-Agent Incident Response with Large Language Models.....	531
<i>Zefang Liu</i>	
Exploring the Potential of DeepSeek-R1 Model in Transforming Healthcare Solutions: An Overview	537
<i>Muhammad Raheel Raza, Shahbaz Ahmed, Fahad Ahmed Khokhar, Asaf Varol</i>	
Enhancing Intrusion Detection in Industrial Control Systems: An Adaptive Protocol-Agnostic Approach	541
<i>Jack Nunnelee, Alex Howe, Philip Rahal, Mauricio Papa</i>	
LexChain: A Blockchain-Based Solution to Safeguard Electronic Evidence in Legal Systems.....	547
<i>Neha Adhikari, Manan Chhajed, Divya Raichura, Prasenjit Bhavathankar</i>	
Anomaly Detection in Metaverse Healthcare for 6G-Enabled Internet of Things: An Approach Based on Feature Selection	553
<i>Omar Farshad Jeelani</i>	
Protection of 3D Models by QIM Watermarking with Reduced Distortion	559
<i>David Shapiro, Victor Fedoseev</i>	

Dynamic Threat Detection and Mitigation Using AI-Infused Firewalls.....	564
<i>Abhinav B V, Abhirup Mvns, Adithya D Shetty, Akash Bhat, Clara Kanmani A</i>	
Feature Selection and XGBoost for Enhanced Intrusion Detection: A Comparative Study Across Benchmark Datasets	569
<i>Pedro Ferreira, Enmanuel Martins, Joaquim Silva, Paulo Teixeira</i>	
Comparing Traditional Hacking Tools and AI-Driven Alternatives	575
<i>Rui Fernandes, Nuno Lopes, Joaquim Gonçalves, John Cosgrove</i>	
Network Intrusion Detection System Based on Multiple Datasets: Machine Learning Approaches.....	580
<i>André Araújo, David Rodrigues, Patrícia Leite, Joaquim Gonçalves</i>	
Evaluating Spam Detection Techniques: A Comparison of TF-IDF and Sentence Embeddings with Machine Learning Models.....	585
<i>Bruno Silva, Patricia Leite, Óscar R. Ribeiro</i>	
Enhancing IoT Security with Deep Learning Based Approach for Medical IoT Threat Detection.....	589
<i>Nadir Can Kavkas, Kazim Yildiz</i>	
Unlocking Student Success: Applying Machine Learning for Predicting Student Dropout in Higher Education.....	594
<i>Margorie Pérez, Danny Navarrete, Maria Baldeon-Calisto, Yúvinne Guerrero, André Sarmiento</i>	
Foundation Models for Medical Image Segmentation: A Literature Review	600
<i>Said Berrezueta, Maria Baldeon-Calisto, Danny Navarrete, Noel Pérez-Pérez, Ricardo Flores-Moyano, Daniel Riofrío, Diego Benítez</i>	
Towards a Unique User-Centric Security & Privacy (S&P) Label for Social Robots	607
<i>Ankur Chattopadhyay, Mohammad Azhar, Ezra Faith, Alexandra Lisa, Oksana Piven, Suhaas Ravela</i>	
A Comparison of Supervised Learning Models on Distinct Datasets for Malware Detection.....	614
<i>Mariana Carvalho, Daniel Fernandes, Nuno Lopes, Óscar R. Ribeiro</i>	
Edge-Focused Temporal Graph Autoencoders for Anomalous Link Prediction in OT Networks	619
<i>Alex Howe, Mauricio Papa</i>	
Real-Time Practical Analysis of Data Decay in Physical Memory	625
<i>Luis A. Rivera, James H. Jones</i>	
Insider Threat Pattern Detection Using Deep Learning to Evaluate Cyber Value at Risk (CVaR).....	631
<i>Prashant Vajpayee, Chittal Karuppiah, Gahangir Hossain</i>	
Securing Blockchain-Based E-Voting Through Shamir's Secret Sharing Over Ethereum	636
<i>Esma Beydili, Umut Can Cabuk, Gokhan Dalkilic, Yusuf Ozturk</i>	
A Comprehensive Comparative Analysis of RFID Devices Security in Supply Chain Geofencing Technologies.....	642
<i>Hala Strohmier Berry, Brecken Merrill, Shamreen Shakil Shaikh, Mary Alice Woolington</i>	
Creating User-Centric and Artificial Intelligence-Enhanced Hybrid Authentication Systems and Policies: A Theoretical Approach	646
<i>Mustafa Senol, Abdulsamet Hasiloglu</i>	

AssessCICA: Assessing and Mitigating Financial Losses from Cyber Attacks with Role of Cyber Insurance in Post-Pandemic Era	652
<i>Asura Akter Sunna, Tanzina Sultana, Naresh Kshetri, Mohammed Majbah Uddin</i>	
Artificial Intelligence Applications in Education Within the Scope of the National Artificial Intelligence Strategy in Turkey.....	658
<i>Songül Karabatak, Sevinç Ay, Murat Karabatak</i>	
Critical Factors for Privacy and User Retention in Event-Based Social Media Apps	662
<i>Hala Strohmier Berry, Keenan Golston, Autumn Hurley, Jadon Ott, Julian Ward</i>	
Bibliometric Analysis in AI Assistant for E-Learning to Focus Students by Using Camera, Keyboard and Mouse.....	668
<i>Zhala Sarkawt Othman, Songül Karabatak, Murat Karabatak</i>	
Digital Assistants: AI to Reduce Teachers' Expectations of Reality Shock	674
<i>Songül Karabatak, Müslim Alanoglu, Aysenur Kuloglu, Ezgi Bozkurt</i>	
Unity-Supported Game-Based Learning: Teachers' Perspectives on the Development of Classroom Management Skills	680
<i>Songül Karabatak, Aysenur Kuloglu, Müslim Alanoglu, Ezgi Bozkurt</i>	
Strategic Placement of FACTS Devices for Optimizing Power Transmission Efficiency and Stability	686
<i>Blake Pickett, Asaf Varol</i>	
Context-Aware Behavior-Driven Pipeline Generation	693
<i>Pawara Gunathilaka, Dinal Senadheera, Shenan Perara, Chamithu Gunawardana, Samantha Thelijjagoda, Jenny Krishara</i>	
A Zero Trust Framework with AI-Driven Identity and Intrusion Detection for Multi-Cloud MLOps	699
<i>H N V Sai Murali Krishna Tungala, Ganapathi Yeeswarapu, Mahesh Shivnatri, Sridhar Kumar Irujolla</i>	
Enhancing Brain Tumor Detection Using a CNN-Powered Android Application.....	705
<i>Md Zakir Hossain Zamil, Byoung Jik Lee</i>	
An Efficient Plagiarism Detection Algorithm by Ordering Texts of a Document Under Scrutiny.....	711
<i>Muhammad Nomani Kabir, Yasser M. Alginahi</i>	
Probabilistic Deep Learning for Energy Time Series Forecasting: A Comparative Study	717
<i>Ramakrishna Garine, Sunil Pradhan Sharma</i>	
Merging Attack Trees and MITRE ATT&CK Tactics for More Effective Attack Modeling.....	723
<i>Natalija Vlajic, Melina Najimi, Milos Stojadinovic</i>	
Artificial Intelligence and Classroom Management in Education: Evolution of Academic Studies and Research Trends.....	731
<i>Sevinç Ay, Songül Karabatak, Murat Karabatak</i>	
SURF: Sequential Undersampling-Refinement Framework for Two-Stage Anomaly Detection.....	737
<i>Pranav Goda Narahari, Omkar Kulkarni, Anna Singh, Sathya Prasad</i>	
CLIP-Based Few-Shot Multi-Label Classification Methods: A Comparative Study.....	743
<i>Yagmur Çigdem Aktas, Jorge Garcia Castaño</i>	

Gaming Without Harm: AI-Driven Content Moderation to Improve Safety in Roblox	749
<i>Arda C. Varol, Larissa T. Coffee</i>	
Advancing DevSecOps in SMEs: Challenges and Best Practices for Secure CI/CD Pipelines.....	753
<i>Jayaprakashreddy Cheenepalli, John D. Hastings, Khandaker Mamun Ahmed, Chad Fenner</i>	
Extent of an Attack in an Attack Graph: Method to Evaluate Evidence Set.....	759
<i>Mukesh Yadav, Peter J. Hawrylak</i>	
CrossSentry: A Cross-Layer Approach to Ransomware Detection in IoT	765
<i>Farhad Mofidi, Sena G Hounsinou, Gedare Bloom</i>	
Leveraging Feature Engineering and Machine Learning for Internet of Things (IoT) Cyberattack Detection: A Scalable Approach	771
<i>Arafat Asim, Peter J. Hawrylak</i>	
Leveraging Feature Selection and Deep Learning for Accurate Malware and Ransomware Detection in PE Files	777
<i>Rebecca Kipanga, Fadoua Khennou</i>	
Stealth Eye: Behavioral Analysis for Fileless Malware Detection	783
<i>H. M. H. M Bandara, K. M. N Ayeshani, M. M. P. M Kumari, D. M. S. T Wijerathna, Kavinga Yapa Abeywardena, Ayesha Wijesooriya</i>	
A Dual-Branch CNN and Metadata Analysis Approach for Robust Image Tampering Detection	789
<i>Asmath Zakey, Dinura Bawantha, Dinuth Shehara, Nethmi Hasara, Kavinga Yapa Abeywardena, Harinda Fernando</i>	
A Behavioral Analysis of Ransomware in Active Directory: A Case Study of BlackMatter, Conti, LockBit, and Midnight	795
<i>Prajna Bhandary, Charles Nicholas</i>	
Romance Scam Victimization: A Survey-Based Examination of Financial, Psychological, and Reporting Factors	801
<i>Ld Herrera</i>	
Debate-Driven Multi-Agent LLMs for Phishing Email Detection	807
<i>Ngoc Tuong Vy Nguyen, Felix D Childress, Yunting Yin</i>	
Automated Static Analysis of Linux ELF Malware: Framework and Application	812
<i>Jayanthi Ramamoorthy, Narasimha K Shashidhar, Cihan Varol</i>	
To See Or Not to See: A Privacy Threat Model for Digital Forensics in Crime Investigation	817
<i>Mario Raciti, Simone Di Mauro, Dimitri Van Landuyt, Giampaolo Bella</i>	
Malware Detection in PDF and PE Files Using Machine Learning and Feature Selection.....	823
<i>Rosemary Uwem Usoroh, Ioana Ghergulescu, Arghir-Nicolae Moldovan</i>	
Bridging Gaps in Understanding College Graduation Rates	829
<i>George Thompson, Serkan Varol, Derya Ucu, Zachary Ridder</i>	
Trigger Labs: Advancing Malware Detection Through Realistic Scenario Simulation.....	836
<i>Elon Salfati, Harry Yu</i>	
Blockchain-Based Custody Evidence Management System for Healthcare Forensics	843
<i>R. D. D. L. K Jayasinghe, M. W. K. L Sasanka, D. A. S. M Athukorala, M. A. D Sandeepani, Anuradha Jayakody, Amila Senarathna</i>	

Human-In-The-Loop: Legal Knowledge Formalization in Attempto Controlled English.....	849
<i>Grazia Garzo, Alessandro Palumbo</i>	
Stroke Prediction on Healthcare Data Using SMOTE and Explainable Machine Learning.....	855
<i>Md Zakir Hossain Zamil, Md Raisul Islam, Sajib Debnath, Md Tuhin Mia, Md Anisur Rahman, Arindam Kishor Biswas</i>	
Project HyperAdapt: An Agent-Based Intelligent Sandbox Design to Deceive and Analyze Sophisticated Malware	861
<i>Shamalka Perera, Shenuka Dias, Vishwadinu Vithanage, Avishka Dilhara, Amila Senarathne, Deemantha Siriwardana, Chethana Liyanapathirana</i>	
A Deep Learning Approach for Rapid and Cost-Effective Detection of Pesticide Residues in Agricultural Products.....	867
<i>Ahmet Saatçi, Ergin Taskan, Mehmet Sahin</i>	
From TikTok to RedNote: A Comprehensive Mobile Forensic and Security Analysis on Android.....	873
<i>Xiao Hu, Mingyang Xie, Akif Ozer, Umit Karabiyik</i>	
Malware Exploitation and Vulnerability Assessment of CVE-2024-38063 in Windows 10 and 11 in Academic Networks Cybersecurity	879
<i>Chris Clark, Hala Strohmier Berry, Bryce Sullivan, Nicholas Maroney, Jonathan Galbraith</i>	
Remote Laboratory Security Case Study: Physical and Digital Risks of FPGA and Raspberry Pi Farms.....	884
<i>Harry Joseph Vecchio-Ferrer, Elizabeth Marie Jijon, Maria M. Larrondo-Petrie</i>	
A Scientific Discovery in Virtual Reality and Augmented Reality Enriched with Artificial Intelligence	889
<i>Murat Karabatak, Sevinç Ay, Songül Karabatak</i>	
COVID Infodemic Advisor (CIA): An Online Recommender for Content Consumers & Providers.....	894
<i>Chase Maschinot, Ankur Chattopadhyay, Seth Adjei</i>	
Muffins Vs. Chihuahuas Revisited: Exploring Zero-Shot and Few-Shot CLIP-Based Methods for Similar Object Classification.....	901
<i>Gordey Danilochkin, Fedir Ensary, Eva Tuba</i>	
Deep Learning Models for Malware Family Detection.....	907
<i>Jenna Snead, Krishnendu Ghosh</i>	
Almiqanaas T — a Crime Scene Evidence Detector	913
<i>Thangavel Murugan, Fotoon Khalifah Abdullah, Ghalya Salem Almehrzzi, Eiman Mohamed Alsereidi, Aisha Aldahmani, Eiman Mubarak Alahbabi, N Nasurudeen Ahamed</i>	
Thermographic Detection of Tool Wear: A Review on Deep Learning-Based Approaches	919
<i>Büsra Tan Saatçi, Mustafa Ulas, Turan Gürgenç</i>	
Academic Fraud Detection in Online Exams with DNN's Multilayer Model	924
<i>Bahaddin Erdem, Murat Karabatak</i>	
The Importance of Dark Web Access in Cyber Threat Intelligence	930
<i>Victor Obojo, Richard A. Ikuesan, Abdulkabir Adekanye, Elias Iortom</i>	
IoT Cyberattack Detection Via Fog Computing and Multilayer Perceptron Neural Networks	936
<i>Branly Alberto Martínez González, Malena Pérez Sevilla, Jaime Andrés Rincón Arango, Daniel Urda Muñoz</i>	

Author Index