2025 International Conference on New Trends in Computing Sciences (ICTCS 2025)

Amman, Jordan
16-18 April 2025

IEEE Catalog Number: CFP25HAB-POD
ISBN: 979-8-3315-2342-8

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:	CFP25HAB-POD
ISBN (Print-On-Demand):	979-8-3315-2342-8
ISBN (Online):	979-8-3315-2341-1

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

Copyright Information I
About the Conference Organization VI
Keynote Address by HRH Princess Sumaya bint El Hassan VII
Welcome Message XI
Conference Committees XIII
Steering Committee XIII
Organizing Committee XIII
Track Chairs XIV
Technical Committee XV
Keynote Speakers XIX
Papers XXVI

Title	Page number
Analysis of Player Response Priority to Different Types of Danger Cues	1
An Agent-Based Approach for Modeling Disease Control Strategies Using the SIR Model	8
Optic Disc Segmentation in Fundus Images Using U-Net	14
Optimizing Wireless Networks for Automated Guided Vehicles and Remote-Control Systems in Smart Factory	20
Transformer-Based Approach for Detecting LLM-Generated Scientific Text	26
Navigating Challenges and Opportunities in Project Management for Global Software Development (GSD)	32
Optimized Machine Learning Models for Early Alzheimer's Disease Detection: a Feature-Reduction Approach	39
Prediction of the Running Time for Multiplying Two 2048x2048 Matrices Using a GPU OpenCL SGEMM Kernel	45
Evaluation of an Educational Game Based on Compilation Techniques to Enhance Students' Understanding of Programming Concepts	52
AI-Driven Classification of Academic and Psychological Challenges in Higher Education	59
AI-Driven Intrusion Detection: a Machine Learning-Based Approach	64
TALH: a Tangible User Interface and Hand Gestures-Based Tool for Enhancing Animal Learning in Preschool	72
Optimized Temporal Convolutional Networks with Multi-Stage Attention for Efficient Human Action Recognition	78
Leveraging Ensemble Learning for Multiclass Diabetes Prediction from Health Indicators	82
AI-Driven Penetration Testing: Automating Exploits with LLMs and Metasploit - a VSFTPD Case Study	89
ICT: Iterative Clustering with Training: Preliminary Results	97
Privacy-Preserving and Scalable Digital Evidence Management: a Hyperledger Fabric Architecture with Growth Projections for Law Enforcement	105
Towards Privacy-Preserving Data-Driven Education: the Potential of Federated Learning	113
Self-Adaptive Moving Target Defense with Cyberdeception for Proactive Defense of IoT Networks	119
iCook: a Smart Tangible Cooking Interface Integrating TUIO Markers, Hand Gestures, Object Detection, Emotion Analysis, and Eye Gaze Tracking	127
An Enhanced Model of DDoS Attacks Detection Using One-Hot Encoding of Feature's Categories	133
Enhancing Perceptual Quality of Images Using Deep Residual U-Net and PatchGAN Discriminator	141
Self-Supervised Learning for Facial Skin Lesion Classification	148
Asteroid Orbit Classification with Machine Learning: a Data-Driven Approach	156
ArabicTextFool: a Framework for Arabic Adversarial Attacks	164
Solar Panel Fault Detection and Classification Using Transfer Learning and Deep Neural Networks	170
Fine-Tuning Fake Review Detection Models with Genetic Algorithms	176

A Comparative Study of Oversampling Techniques for Predicting Breast Cancer Recurrence	184
Segmentation-Guided CycleGAN for Synthetic CT Generation from MRI for Radiotherapy	191
Enhancing Healthcare Data Security with Blockchain and Advanced Cryptography	198
Detection of Propaganda and Bias in Social Media: a Case Study of the Israel-Gaza War (2023)	204
Interpretable Traffic Flow Prediction Using SHAP and STID-Recurrence Model	211
Cross-Platform Benchmarking of the FHE Libraries: Novel Insights into SEAL and Openfhe	219
Automated Multi-Layer Detection of Bone Fractures in X-Ray Images Using Transfer Learning	227
Experimental Evaluation of Resampling Techniques for Imbalanced Stroke Data	233
Affective Speech Processing Using MFCC	239
Neo4j-Driven Content-Based Recommender System	245
Aspect-Based Sentiment Analysis of Amazon Product Reviews Using Machine Learning Models and Hybrid Feature Engineering	251
Boundary Analysis in Ensemble Clustering for Improved Document Classification	257
Intrusion Detection in IoT Networks Using LSTM Deep Learning Models with the UNSW-NB15 Dataset	263
Leveraging Machine Learning Models for Mental Health Data Exploration	270
Ocular Disease Recognition Using Deep Learning Models	276
Modification of YOLOv4-Tiny-3L Architecture to Improve the Accuracy of Airport Object Detection	284
Alternative Pain Management and Control with VR - the Case for HCI with Gradual Calming Effects	291
Streaming-Based Intrusion Detection with Big Data and Online Learning Algorithms	299
Hybrid Optimization-Based DDoS Attack Detection Using Fireworks and Grey Wolf Algorithms with Deep Learning	307
Clustering Multi-Omics Data in Gleason Scores 3+4 and 4+3 Reveals 3 Patterns	314
Enhancing SQL Injection Detection: CGAN with Discriminator Optimization Using Genetic Algorithm	321
Performance Comparison of Spatial Data Indexing Using Distributed Systems	327
Enhancing Arabic Hate Speech Detection: the Role of Word Embedding Techniques with Deep Learning Models	334
Enhancing Bible Verse Search Through Topic Modeling: an LDA-Based Approach	342
BiasLens: Graph Machine Learning Approach for Media Bias Detection	347
Machine Learning-Driven Prediction of Gleason Score 7 Prostate Cancer Patterns Using Multi-Omics Data	353
Optimizing Task Scheduling in Cloud Computing with Deep Learning: a Diabetes Detection Case Study	361
Evaluating Deep Learning for Detecting Data Integrity Attacks in Energy Smart Grids	368
Water Quality Forecasting Using Time Series Techniques	373
Sentiment Analysis of Customer Feedback and Reviews in E-Commerce Systems	379

Data-Driven Decision-Making in IT Projects: a Regression Application in Software Estimation	386
Applications of Digital Twin in Precision Medicine: a Systematic Review	392
Computed Tomography Image Enhancement Using Super-Resolution Generative Adversarial Network	400
Hybrid Metaheuristic-Based Cloud Task Scheduling Using Genetic Algorithm and Salp Swarm Algorithm	406
A Showdown of ChatGPT Vs DeepSeek in Solving Programming Tasks	413
A Blockchain-Based Secure Data-Sharing Framework for Automotive Supply Chains: Enhancing Privacy with Attribute-Based Encryption	419
Exploring the Impact of Live Coding on Student Experience in Introduction to Programming	425
A Multi-Step Comparative Framework for Anomaly Detection in IoT Data Streams	432
Leveraging Contextualized and Word Embeddings for Arabic Hate Speech Detection	440
Improving Warehouse Efficiency with Dynamic Slotting Optimization Using Genetic Algorithm	446
Arabic Dialect Detection Using Large Language Models: a Comparative Analysis	454
Optimizing Random Forest Hyperparameters for Enhanced Stock Price Prediction	460
Enhancing Smart Grid Security with Machine Learning: a Comparative Study of Supervised and Unsupervised Techniques	466
Smart Grid Data Management and Analytics Using Cloud Computing: Trends and Future Directions	472
Smart Rescue System for Private Pools	478
A Systematic Review of Process Mining in Healthcare	485
Securing Autonomous Vehicles with Smart AI Security Agents	493
Application of Blockchain in the Development of Central Bank Digital Currencies	499
Efficient Stochastic Error Injection for Optimizing Large Language Models in Arabic Spelling Correction	505
Advancing Arabic Medical Question Answering Systems with RAG and LLMs Integration	511
AI in Healthcare: Ethical and Regulatory Challenges	517
FireSense: AI-Based Wildfire and Smoke Detection in Forests	522
Dual-Sensor Fusion for Real-Time Monitoring of Crystal Methamphetamine Withdrawal Symptoms Using Machine Learning and Gramian Angular Fields	528
Applying Extreme Learning Machine with Structure Tuning for a Phishing Websites Classification	536