2026 IEEE International Conference on Engineering, Technology & Management (ICETM 2026)

Long Island, New York, USA
13-14 May 2026

IEEE Catalog Number: CFP26VX4-POD
ISBN: 979-8-3315-5987-8

IEEE
Advancing Technology for Humanity

Copyright © 2026, 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:	CFP26VX4-POD
ISBN (Print-On-Demand):	979-8-3315-5987-8
ISBN (Online):	979-8-3315-5986-1

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

Predicting Firm-Specific Risk in Emerging Markets via Localized Sentiment and Industrial 'Activity Gaps': A Hybrid ML Approach 1
Rishabh Kushwaha, Naina Sharma, Namita Sahay, Shweta Nanda, Inesh Agarwal, Simran Siddiqui

Integrated Energy and Cost Management in Electric Vehicle and Hydrogen Vehicle Parking Facilities 5
Semanur Sirin, Ali Furkan Tetik, Ozan Erdinc

Digital Transformation Through a Rail OEM Data Hub: Integrating Telematic Control Units and the Internet of Equipment 10
Prasun Saha

Intersectional Fairness Auditing in Clinical Cancer Risk Classifiers: Quantifying and Correcting Gender-Age Bias Through Subgroup-Aware Ensemble Learning 16
Gunjan Vasant Ramteke, Srinivas Thotakura

UncertainNet: Monte Carlo Dropout Bayesian Deep Learning for Calibrated Liver Fibrosis Staging from Ultrasound Images in Data-Scarce Settings 22
Gunjan Vasant Ramteke, Rahul Modi

Secure Multi-Tenant Architecture for Generative AI on Azure 29
Rahul Modi

A Real-Time DDS-Based Chest X-Ray Decision Support System for Resource-Constrained Clinics 35
Omar H. Khater, Basem Almadani, Farouq Aliyu, Esam Al-Nahari

AI-Driven Multimodal Health Care Wearables for Value-Based Healthcare Monitoring and Financing 42
Vrinda Sharma, Navleen Kaur, Smriti Sethi, Rabbani Kaur Grover, Mehpreet Kaur, Bhavika Suneja

A Model-Free Approach to Control for Systems with Irregular Sampling Periods Using Fuzzy Rules Emulated Networks 49
Leonardo Cañamar Amaya, Chidentree Treesatayapun

Autoda+: A Modular Agent-Based Framework for Integrated Data Analysis and Automated Machine Learning 55
Rishabh Upadhyay, Sofia Singh, Dipti Theng, Madhuri Hiwale

Wearable Sensor Fusion for IoT Healthcare Applications 61
Ronish Balvantbhai Patel

AI-Enabled Circular Supply Chains: A Deep-Dive into Closed-Loop Decision Intelligence Systems 67
Navita Mahajan, Navleen Kaur, Apoorva Singh, Varalika Azad, Aashi Jain, Ishita Goel, Piyush Jindal

Physically Informed Anomaly Detection and Diagnosis for Wastewater Network Asset Management 72
Rostyslav Pietukhov, Amrinder Rai, Mckenzie Howells, Trevor Giannetti

AIMS: An Agentic AI-Powered Incident Management Suite on Oracle APEX for Enterprise Operational Resilience 78
Ashraf Syed, Ranganath Nangineni

Democratizing Cloud Management: A Self-Service Oracle APEX Portal for Adaptive OCI Scheduling, and Cost Optimization 86
Ashraf Syed, Ranganath Nangineni

Cost-Effective AI-Driven Quality Infrastructure: An Industrial Case Study on Replacing Enterprise Saas with Agentic Open-Source Frameworks 93
Somasundaraprabhu Suryanarayanan

Evaluating Service Mocking Strategies in Mobile UI Testing: An Empirical Study on Performance and Test Quality 99
Prasenjit Sinha

LLM Fact-Checking Under No-Retrieval Constraints: A Five-Model Comparative Evaluation and Ensemble Approach 105
Xinrui Chen, Andrés G. Fortino

Optimization Ssd Using Mobilenetv3-Cbam-Fpn to Improve Chili Plant Disease Classification 109
Nurhadiansyah, Indrabayu

Short-Circuit Fault Detection & Classification in Distribution Networks Using Wavelet Transform 115
Fredrick Owusu, Emmanuel Wiafe, Charles Ofori, Edmund Azundow Dasori, Isaac Owusu Kyere Clifford Kwame Botwe

The Epistemic Engine: A Deterministic Structural Auditor for Institutional Discourse 121
Yenesey Concepcion, Andres Fortino

Central Bank Digital Currency & the Indian Consumer: Mapping the Journey from Awareness to Adoption 128
Navleen Kaur, Smriti Sethi, Madhvi Sharma, Harshaan Singh, Mehpreet Kaur

Impact of Capital Structure on Firm Profitability: Evidence from Emerging Markets 134
Bhadrappa Haralayya, P Sripalreddy, Rashmi Hunnur, Shruti Modi, Amarnath Kushnoor Sharanbasappa Shetkar, Anubhav Goel, Sangappa K, Neelambika Kolla

AdaptFlow: A Self-Optimizing AI-Driven Data Pipeline Architecture for Real-Time Inference at Scale 140
Sunil Kumar Mudusu, Sreepal Reddy Bolla, Sunil Gentyala

Toward Cost-Efficient Ai Integration in Large-Scale Data Pipelines: A Comparative Framework Analysis 147
Sunil Kumar Mudusu, Sreepal Reddy Bolla

An Improved CTO-Based Interleaved Luo Converter for PV Frameworks 152
Purnachander Rao Perala, K. Prakash, M.Surya Kalavathi

An AI-Driven Multi-Source Predictive Maintenance Framework Integrating Sensor Data, SAP S/4HANA EAM, and MES for Adaptive Maintenance Scheduling 158
Vaibhav Mishra, Prasad Nagella, Manish Kumar Garg, Maheshkumar Patil

Graph Neural Network Models for Money Laundering Detection 165
Suchith Goud Arella, Shashi Kiran Chandrappa, Utpalendu Chakroborty

Deep Reinforcement Learning for Adaptive Asset Allocation in Uncertain Markets 171
Deepak Kumar Giri, Amit Mishra, Praveen Kumar Sharma

Human-in-the-Loop Learning Systems for High-Risk Decision Domains 177
Selvaraj Durairaj, Vivek Kumar, Elango Kumanan Padmavathy

Zero-Knowledge Compliance Architectures for Privacy-Preserving DeFi Systems 183
Palash Bansal, Rajat Shrivastava, Rethish Nair Rajendran, Suchismita Chatterjee

EMG-Based Control of a Mobile Robot for Upper Limb Rehabilitation 189
Pérez-Díaz Gilberto, Sarmiento-Tito Mateo, Zeas-Puga Ana, Mora-Tola Esteban

Deep Learning-Driven Emotion Recognition Using Heart Rate Variability with BLE GATT-Based Measurement Framework 197
Prashant P Baste, Swati Shekapure, Lakshmi Narasimhan Krishnamoorthy

AI Driven Workload Management for Multi-Cloud and Edge Computing Environments 203
S. K. Sonkar, Sivaneasan Bala Krishnan, P. William, Prasun Chakrabarti, Koyel Roy
Lakshmi Narasimhan Krishnamoorthy

Ai-Based Optimization of Nanostructured Materials for Solar Energy Harvesting 209
Makrand V. Kulkarni, Sivaneasan Bala Krishnan, P. William, Prasun Chakrabarti, Ashima Varghese
Sumit Banerjee

Anomaly Detection in Fog Computing Systems Using Optimization-Based Machine Learning Algorithm 214
Shashikant Raghunathrao Deshmukh, Sivaneasan Bala Krishnan, P. William, Prasun Chakrabarti
Smita Nirkhi, Sumit Banerjee

Chaotic Metaheuristic-Driven Optimization of Scalable Deep Learning Models for Big Data Intelligence 219
Anilkumar Vishwanath Brahmane, Sivaneasan Bala Krishnan, P. William, Prasun Chakrabarti, Kirti Nayal
Sagar Bharat Shah

Multimodal Deep Learning Framework for Context-Aware AR/VR Systems 224
Bhagyashree Ashok Tingare, Sivaneasan Bala Krishnan, P. William, Prasun Chakrabarti, Hetal Gaglani
Sagar Bharat Shah

Agentic AI-Based Threat Hunting in Autonomous Security Networks 229
Hamza Afzal, Malik Huzaifa, Shashank Bharadwaj

A Biometric Voice Security System Enhanced with Emotional State Recognition 235
Rashmi Bhel, Harsh Chaudhary, Aryan Tyagi, Subarna Saha, Kire Jakimoski

Enhancing Network Intrusion Detection System Using a Honeypot-Based Intrusion Logger 241
Raj Bhati, Kshitij Negi, Jeetesh Maurya, Paurush Bhulania, Anant K Jayswal, Prakhar Chandra

AI-Based Analysis of Factors Affecting Unemployment in the UK: A Regularised Regression Approach 245
Shreya Kathuria, Anant K. Jayswal

Predicting Winter-Induced Disruption in London's Urban Road Network Using Ensemble Classification and LSTM-Based Congestion Forecasting 252
Aishwarya Singh, Anant K Jayswal

Effect of AI-Based Recommendation Systems on Impulse Buying Behavior in E-Commerce 259
Aastha Anand, Meghna Sharma, Gurinder Singh, Kavya Arora, Yuvika Srivastav, Mridul Krishna Gaur
Karandeep Singh Soin, Nilarghya Gorai

Conscious Consumption in the Age of AI: A Study of Urban Consumers 264
Aastha Anand, Meghna Sharma, Sharad Khattar, Jimnee Deka, Sanskriti Mishra, Prashasti Arya
Shrit Sharma, Kartik Singla, Shivam Gupta

Impact of E-Commerce Business on the Growth of Country's Economy 270
Bhadrappa Haralayya, P Sripalreddy, Shruti Modi, Amarnath Kushnoor, Rashmi Hunnur Sharanbasappa Shetkar, Anubhav Goel, Sangappa K, Kotmad Vaijayanti

Multi-Agent AI Systems for Adaptive Business Forecasting and Optimization 275
Devtosh Dubey

IoT-Enabled Real-Time Workplace Safety Risk Classification Using Ensemble Machine Learning and SHAP Explainability 281
Lavanya Arora, Anant Kumar Jayswal

Understanding the Impact of Artificial Intelligence on Job Satisfaction: A Machine Learning Approach 287
Prasad Mali, Arjun Baisla, Ayushi Augustina Frank, Simran Mittal, Gurinder Singh, Meghna Sharma Shikha Kapoor, Amrish Kr Choubey, Seema Garg, Ritu Sharma

Working Hours, Workplace Communication, and Productivity in the Age of Artificial Intelligence: A Cross-National Industry Perspective 293
Sumita Mukherjee, Kavita Thapliyal, Satyam Anand, Anubhav Rajora, Rocky Rao, Shreya Tomar

Mapping Cryptographic Transition Pathways in Post-Quantum Blockchain Systems: A Multistage Mixed-Method Investigation of Structural Dependencies 299
Nithesh Gudipuri, Tarun Vallabhaneni, Neeraj Aggarwal, Aakash, Abhishek Bhushan Singhal

Federated Learning with Explainable AI (XAI) for Natural Language Processing in Large-Scale Distributed Systems 305
Venkata Raman Immidisetti, Raghu Praneeth Akula, Manish Kumar, Ravneet Singh Bhandari, Vivek Kumar Gurinder Singh

AI-Driven Cyber Threats and the Force Majeure Clause: A Quantitative Study of Professional Perspectives 312
Gaganmeet Singh Sachdeva, Aqueeda Khan

The Use of AI and the Concept of Force Majeure: Empirical Research of the Professional View 318
Gaganmeet Singh Sachdeva, Aqueeda Khan

Graph Neural Networks (GNNs) with Causal Inference for Intelligent Network Security and Wireless Systems 324
Surya Lokesh Bhargav Pentakota, Chakradhar Vadlamudi, Harveer Singh, Ravneet Singh Bhandari Vivek Kumar

Beyond Wellness: Investigating the Dark Side of Health Apps and Its Effects on User Well-Being 331
Samarth Sharma, Ved Prakash, Anubhav Goel, Vineet Senger, Manikant Dubey, Vandana Gupta

Reinforcement Learning with Causal Modeling for Adaptive Decision-Making in Autonomous and Intelligent Systems 337
Pramod Baddam, Bhavinkumar Jayswal, Nitin Mukhi, Vivek Kumar, Ravneet Singh Bhandari

Decoding Systemic Interdependencies in Secure and Energy-Aware Smart Healthcare IoT Ecosystems: A Mixed-Method Study Using MCDM Approach 343
Bhargavi Mitra Kondiparthi, Rajender Pellreddy, Ronish Balvantbhai Patel, Aakash Abhishek Bhushan Singhal

Causal Structuring of Energy-Efficient Edge Intelligence for IIoT Anomaly Detection: A Multi-Method Decision Modeling Approach 349
Ram Reddy Jonnalagadda, Kalam Kiran Kumar Reddy, Ronish Balvantbhai Patel, Aakash Abhishek Bhushan Singhal

Modelling Interdependent Drivers of Robust AI Deployment: An Analysis Using MCDM Integrated Framework 355
Xiaochao Pu, Ishita Deshmukh, Nitin Mukhi, Aakash, Abhishek Bhushan Singhal

Gender-Based UTAUT2 Determinants of AI Travel App Adoption in India -An Emprical Study 361
Shruti Traymbak, Anshul Agrawal, Ruchi Rayat, Mili Dutta, Sanjeev Kadam, Anubhav Goel

Reliability and Safety-Driven Zero Trust Network Access Enforcement Using RADIUS and PostgreSQL: A MAC-Based Authentication Framework for Distributed Retail Environments 366
Srinivas Thotakura

A Synergistic Model for Lithium-Ion Battery Cycle Life Prognosis: Integrating Physics-Based Principles with Attention Mechanisms 372
Saketh Merugu

Leveraging Reservoir Computing at the Edge for a Chaos-Based Framework in Wireless Security and Control 378
Andre Slonopas, Harry Cooper, Elliott Lynn