



International Conference

IEEE-ICAISET 2026

International Conference on
**Artificial Intelligence, Systems,
and Emerging Technologies**



April 21–23, 2026 • AlShorouk Academy, Cairo, Egypt

Hybrid Conference (Virtual & Physical)

FINAL PROGRAM

<https://icca-conf.info/icaiset25>

ZOOM LINKS

TUESDAY – 21/4/2026

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WEDNESDAY – 22/4/2026

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THURSDAY – 23/4/2026

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Sessions Overview

IEEE-ICAISSET 2026 • April 21–23, 2026 • AIShorouk Academy, Cairo, Egypt

Session	Title	Day	Time	Room	Chair
1A	UAV-Assisted Networking, Deployment Optimization & Aerial Applications	Tuesday, Apr 21	11:30 – 13:00	Room A	Tamer M Nassef
1B	IoT-Based Smart Systems & Environmental Monitoring	Tuesday, Apr 21	11:30 – 13:00	Room B	—
1C	Edge AI, Federated Learning & Distributed Intelligence Architectures	Tuesday, Apr 21	11:30 – 13:00	Room C	Golnaz Shahtahmassebi
1D	Cybersecurity: Threat Detection, Malware & Intrusion Prevention	Tuesday, Apr 21	11:30 – 13:00	Room D	—
1E	Security Frameworks, Critical Infrastructure Protection & Post-Quantum	Tuesday, Apr 21	11:30 – 13:00	Room E	—
2A	Advancements in Intelligent Systems for Image Analysis, Cybersecurity, and Educational Technologies	Tuesday, Apr 21	14:00 – 15:30	Room A	Salah A. Aly
2B	Innovative Approaches in AI-Driven Systems for Cybersecurity, Cloud Optimization, and Healthcare Surveillance	Tuesday, Apr 21	14:00 – 15:30	Room B	Vivek Venkatesan
2C	Deep Reinforcement Learning & Evolutionary Optimization	Tuesday, Apr 21	14:00 – 15:30	Room C	Yogeesh Kunigal Gangaiah
2D	Geospatial Intelligence, Remote Sensing & Environmental Data Analytics	Tuesday, Apr 21	14:00 – 15:30	Room D	—
2E	Accessibility, Assistive Technology & Sign Language AI	Tuesday, Apr 21	14:00 – 15:30	Room E	Moses Mupeta
3A	Frameworks and Innovations in Governance, AI Maturity, and Decision-Making in Complex Systems	Tuesday, Apr 21	16:00 – 18:00	Room A	Tejas Pravinbhai Patel
3B	Innovations in AI Governance, Security, and Testing Frameworks for Cloud and IoT Systems	Tuesday, Apr 21	16:00 – 18:00	Room B	Chaitanya Kulkarni
3C	Advancements in AI for Financial Risk, Healthcare Detection, and Cloud Data Governance	Tuesday, Apr 21	16:00 – 18:00	Room C	Madhushree Kumari
3D	Integrating AI for Fairness, Automation, and Security in Cloud and DevOps Environments	Tuesday, Apr 21	16:00 – 18:00	Room D	Pavan Nutalapati
3E	Innovative Approaches in AI for Quality Assurance, Cybersecurity, and Predictive Analytics	Tuesday, Apr 21	16:00 – 18:00	Room E	Naveen Kolli
4E	Wireless Communication: NOMA, RSMA & Multi-Access Schemes	Wednesday, Apr 22	11:30 – 13:00	Room E	Salah A. Aly
4A	Renewable Energy, Smart Grids & Environmental Sustainability	Wednesday, Apr 22	11:30 – 13:00	Room A	Moses Mupeta
4B	Robotics, Autonomous Systems & Adaptive Control	Wednesday, Apr 22	11:30 – 13:00	Room B	Golnaz Shahtahmassebi
4C	Machine Learning for Disease Detection & Biomedical Classification	Wednesday, Apr 22	11:30 – 13:00	Room C	Dua Weraikat
4D	Explainable AI (XAI): Methods, Interpretability & Trustworthiness	Wednesday, Apr 22	11:30 – 13:00	Room D	Tamer M Nassef
5A	Computer Vision: Object Detection, Recognition & Surveillance	Wednesday, Apr 22	14:00 – 15:30	Room A	Devendra Rajput
5B	Generative AI, Digital Education & Societal Impact	Wednesday, Apr 22	14:00 – 15:30	Room B	Shyalendar Reddy Allala
5C	Large Language Models, RAG & Agentic AI Systems	Wednesday, Apr 22	14:00 – 15:30	Room C	Yogeesh Kunigal Gangaiah
5D	Deepfake, Fake News, Spam & Anti-Phishing Detection	Wednesday, Apr 22	14:00 – 15:30	Room D	Salah A. Aly
5E	AI for Clinical Decision Support & Healthcare Risk Assessment	Wednesday, Apr 22	14:00 – 15:30	Room E	Siva Rama Krishna Varma Bayyavarapu

Session	Title	Day	Time	Room	Chair
6A	Innovations in AI for Secure Identity Verification, Cost Optimization, and Enhanced Analytics	Wednesday, Apr 22	15:45 – 18:00	Room A	Salah A. Aly
6B	Innovative Strategies in AI for Predictive Modeling, Compliance, and System Reliability	Wednesday, Apr 22	15:45 – 18:00	Room B	Venkata Seetarama Raju Dantuluri
6C	Advanced Frameworks for Runtime Verification, AI Workloads, and Intelligent System Orchestration	Wednesday, Apr 22	15:45 – 18:00	Room C	Yogeesh Kunigal Gangaiah
6D	AI-Enhanced Governance, Data Reliability, and Intelligent Systems for Modern Applications	Wednesday, Apr 22	15:45 – 18:00	Room D	Varshitha Manjunath
6E	AI Innovations in Digital Governance, Data Management, and Decision Support Systems	Wednesday, Apr 22	15:45 – 18:00	Room E	Rohit Nimmala
7A	Agricultural, Food Science & Biological Applications of ML	Thursday, Apr 23	09:00 – 11:15	Room A	Tamer M Nassef
7B	NLP, Sentiment Analysis & Domain-Specific AI Applications	Thursday, Apr 23	09:00 – 11:15	Room B	Davor Cafuta
7C	Workforce Analytics, Social Impact & Organizational Decision Support	Thursday, Apr 23	09:00 – 11:15	Room C	—
7D	AI in Education: Learning Analytics, Prediction & Student Success	Thursday, Apr 23	09:00 – 11:15	Room D	Tejas Pravinbhai Patel
7E	Machine Learning for Business Intelligence, Finance & Fraud Detection	Thursday, Apr 23	09:00 – 11:30	Room E	Salah A. Aly
WS	Industrial Workshop from USA: Building Trusted AI-Driven Infrastructure	Thursday, Apr 23	11:15 – 12:15	Main Room	Lakshmi Vidya Peri

TUESDAY, APRIL 21, 2026

SESSION 1A • Room A • 11:30 – 13:00

UAV-Assisted Networking, Deployment Optimization & Aerial Applications

Session Chair(s): Tamer M Nassef (October University of Modern Sciences and Arts (MSA), Egypt)

[11:30] A Preliminary Trajectory-Driven Framework for Queue Length and Control Delay Estimation at Multilane Roundabouts Using Drone Video Analytics

Presenter: Elawady Mohammed

Elawady Mohammed, Khaled Hamad and Lubna Obaid (University of Sharjah, UAE)

11:45

[11:45] Robust Energy-Causal Design for an FSO-Powered UAV SWIPT Relay in Disaster Recovery

Presenter: Aya Teguia

Aya Teguia (De Vinci Higher Education, France); Wafaa Mohammed Ridha Shakir (Al-Furat Al-Awsat Technical University, Iraq); Zeinab Mhanna (Ecole Supérieure d'Ingénieurs Léonard de Vinci, France)

[12:00] Digital-Twin and Ray-Casting-Supervised Surrogate Learning for Accelerated Radio-Map Generation and UAV-BS Placement Optimization in mmWave Campus Networks

Presenter: Karar Hamza Hussein

Karar Hamza Hussein (Al-Furat Al-Awsat Technical University, Iraq); Wasan Kadhim Saad (Engineering Technical College-Najaf, Iraq)

12:15

[12:15] Saving Lives at Sea: Deep Learning-Based Aerial Detection for Search and Rescue Missions

Presenter: Mostafa Rizk

Mostafa Rizk (Lebanese University); Abbas Rammal (Phoenicia University); Amer Baghdadi (IMT Atlantique, France)

[12:30] UAV-Based SDR Signal Warfare: Experimental Constraints and Simulation-Based Evaluation

Presenter: Yousef AlMahmoud

Yousef AlMahmoud, Nabil Litayem, Mustafa Al Samara and Abdelhak Belhi (Joaan Bin Jassim Academy for Defence Studies, Qatar)

12:45

[12:45] Robust-APP: Adversarial-Robust Adaptive Path Planning for Noisy and Congested Curved Highway Environments

Presenter: Ehsan Wadood

Ehsan Wadood (Moscow Institute of Physics and Technology, Russia); Umer Mukhtar Andrabi (HSE, Russia); Ilya Voronkov, Alexander Kharlamov (MIPT); Sanjeev Kumar Ojha, Mahi Sharma (Manipal University, India)

IoT-Based Smart Systems & Environmental Monitoring

[11:30] Edge-AI Driven Coastal Flood Early Warning System Using IoT-Satellite Data Fusion

Presenter: Samir Haddad

Samir Haddad (University of Balamand); Kassem Danach (Al Maaref University); Jinane Sayah (University of Balamand); Khoulood Eledlebi (Abu Dhabi University); Joseph Merhej; Chadi Kallab (LAU)

11:45

[11:45] Design and Implementation of IoT-Based Flood Monitoring System with Web-Based Data Repository

Presenter: Jerry Incierto Teleron

Jerry Incierto Teleron (Technological Institute of the Philippines - Quezon City)

[12:00] Image Processing Model for Pechay and Chinese Pechay Health Detection Using Mobile IoT

Presenter: Jerry Incierto Teleron

Jerry Incierto Teleron (Technological Institute of the Philippines - Quezon City)

12:15

[12:15] IoT-Based Automated Mushroom House with Early-Stage Disease Detection

Presenter: Shivanshi Sharma

Shivanshi Sharma, Tanvi Yadav, Kavneet Kaur and Vikas Upadhyaya (NIIT University, India)

[12:30] Toward Smart IoT-Enabled Marine Observatories: An Enterprise Architecture Modeling Approach

Presenter: Noura Mansour

Noura Mansour (Universidad del País Vasco); Fadi Dornaika (University of the Basque Country); Charbel Geryes Aoun (American University of the Middle East, Kuwait)

12:45

[12:45] IoT-Enabled Smart Medicine Container for Expiration Safety and Refill Alerts Using Weight and RFID/NFC Sensing

Presenter: Karar Hamza Hussein

Karar Hamza Hussein and Mohammed Jalil Mohammed Ali Alhasan (Al-Furat Al-Awsat Technical University, Iraq)

Edge AI, Federated Learning & Distributed Intelligence Architectures

Session Chair(s): Golnaz Shahtahmassebi (Nottingham Trent University, UK)

[11:30] Digital Sovereignty Beyond the Cloud: An Edge AI Framework for Small Island Developing States

Presenter: **Mohamed Shareef**

Mohamed Shareef (Nexia Maldives)

11:45

[11:45] Toward Scalable AIIReduce in AI Data Centers: A Cross-Layer Taxonomy and Survey

Presenter: **Mariam Abdullah**

Mariam Abdullah and Imtiaz Ahmad (Kuwait University); Sa'ed Abed (Kuwait University)

[12:00] KineticID: A Privacy-Preserving IoT Access Control System Utilizing Markerless Gait Biometrics and Edge Computing

Presenter: **Afeera Firdoose**

Afeera Firdoose (Middlesex University, UK); Mervat Madi (American University of Dubai); Judhi Prasetyo (Middlesex University Dubai)

12:15

[12:15] Distributed Power Analytics: Leveraging Federated Harris Hawks Optimization for Confidential Energy Prediction

Presenter: **Nader Bakir**

Nader Bakir (Beirut Arab University); Ahmed M Gawish (Arab Open University, Saudi Arabia); Khawla El Hassan; Vadim Pak; Marcelle Merhy; Abdallah El Chakik

[12:30] Micro-Solutions to Mega-Problems: A Design-Thinking Framework for Affordable Offline AI-IoT Access in Low-Resource Contexts

Presenter: **Constantine Andoniou**

Constantine Andoniou (Abu Dhabi University, UAE)

12:45

[12:45] Resilient Edge Intelligence: Integrating Swarm Logic with Lightweight Agents and Localised SLMs

Presenter: **Antony Lees**

Antony Lees (BPP University, UK)

Cybersecurity: Threat Detection, Malware & Intrusion Prevention

[11:30] Extracting and Interpreting Emerging Cyber Threats from Dark Web Forums Using Transformer-Based NLP Models

Presenter: Moses Mupeta

Moses Mupeta and Lukumba Phiri (University of Zambia); Simon Tembo (University of Lusaka)

11:45

[11:45] Feature-Based Machine Learning for Real-Time Detection of Malicious QR and NFC Content

Presenter: Eisa Mohammed Al-mannai

Eisa Mohammed Al-mannai, Nabil Litayem, Abdelhak Belhi and Mustafa Al Samara (Joaan Bin Jassim Academy for Defence Studies, Qatar)

[12:00] A Lightweight CNN Model for Detecting Industrial Internet of Things (IIoT) Cyber-attacks

Presenter: Wahiba Abakker Mohammed Ismaiel

Wahiba Abakker Mohammed Ismaiel and Dhabia Turki (Taif University); Hind Muidh, Salha Mohammed and Muneera Fayhan (University College of Ranyah); Omer Dawood (Prince Sattam Bin Abdulaziz University)

12:15

[12:15] A Lightweight Approach to Spam Link Identification Using Automated Domain Reputation Scoring

Presenter: Petar Alilović

Petar Alilović, Davor Cafuta, Danijela Pongrac, Brigitta Cafuta and Ivica Dodig (Zagreb University of Applied Sciences, Croatia)

[12:30] Temporal Generalization of Static Malware Detectors: A Large-Scale Empirical Study

Presenter: Sahil Mann

Sahil Mann, Shahroz Abbas and Ajmery Sultana (Algoma University, Canada)

12:45

[12:45] Honeytoken and Honeytrap Systems for IoT Networks: Proof of Concept and Implementation using ESP32-S3

Presenter: Nabil Litayem

Nabil Litayem (Joaan Bin Jassim Academy for Defence Studies, Qatar)

Security Frameworks, Critical Infrastructure Protection & Post-Quantum

[11:30] Post-Quantum Cryptographic Framework for Critical Infrastructure Protection

Presenter: Wael Badawy

Wael Badawy (Egyptian Russian University, Egypt)

11:45

[11:45] National Cyber Shield Platform: A Scalable Cyber Resilience Engineering Framework for Sustainable Digital Governance

Presenter: Huda J. Nael

Huda J. Nael, Mohammed Almulla and Ali Fenjan (American International University, Kuwait)

[12:00] Decentralizing Reputation Scoring Using Blockchain Behavioral Data and Machine Learning

Presenter: Md Shakil Ahmed

Md Shakil Ahmed, Shohan Islam Joy, Nabarun Halder (Independent University, Bangladesh); Ashraful Islam; Sanzar A Alam

12:15

[12:15] An Assessment of Cybersecurity Awareness, Competency Levels, Behavior and Practices among Technical Trainees

Presenter: Sayfuldeen Alsuhaymi

Sayfuldeen Alsuhaymi and Muhammad Asif Khan (Taibah University, Saudi Arabia)

[12:30] Architectural Trust Mediation for Containing IT-OT Escalation in Legacy Critical Infrastructure

Presenter: Cornelius Chipasha

Cornelius Chipasha (University of Zambia); Simon Tembo (University of Lusaka); Shimaponda Mulundumina (University of Zambia)

12:45

[12:45] Latency-Aware Architectural Security for Enterprise-Operational Network Integration in Critical Digital Infrastructure

Presenter: Cornelius Chipasha

Cornelius Chipasha and Shimaponda Mulundumina (University of Zambia); Simon Tembo (University of Lusaka)

TUESDAY, APRIL 21, 2026

SESSION 2A • Room A • 14:00 – 15:30

Advancements in Intelligent Systems for Image Analysis, Cybersecurity, and Educational Technologies

Session Chair(s): Salah A. Aly (Fayoum University, Egypt) & Shrey Tyagi (Salesforce Inc, USA)

[14:00] A Systematic Review of Lightweight Multi-Scale Feature Extraction Models for Medical Image Segmentation

Presenter: **Mina Magdy Kamel**

Mina Magdy Kamel, Mai S. Mabrouk and Ahmed F. Elnokrashy (Nile University, Egypt)

14:15

[14:15] Hierarchical Explainable Risk Scoring for Security Alert Prioritization in Security Operations Centers

Presenter: **Siva Prasad Nandi**

Siva Prasad Nandi (Oracle, USA); Rajesh Purushothaman (Zscaler); Sai Manohar Nethi (Intuit); Pavan Nutalapati (Oracle); Naga Satya Praveen Kumar Yadati (Meta); Anil Kumar Thimmapuram

[14:30] Evaluating the Efficacy of Microsoft Teams as an Online Learning Platform: A Case Study in a Philippine State University

Presenter: **Julius Cesar O. Mamaril**

Julius Cesar O. Mamaril, Jerry C. Diaz and Clark Kim C. Castro (Pangasinan State University, Philippines)

14:45

[14:45] Multivariate Deep Temporal Forecasting of Enterprise Cyber Risk Using Vulnerability and Exploitation Intelligence

Presenter: **Pavan Nutalapati**

Pavan Nutalapati (Oracle); Siva Prasad Nandi (Oracle); Naga Satya Praveen Kumar Yadati (Meta); Rajesh Purushothaman (Zscaler); Sai Manohar Nethi (Intuit); Gayathri Balakumar (Capital One)

[15:00] Detection and Classification of Aedes Aegypti Mosquito Eggs Using Convolutional Neural Networks and Advanced Computer Vision

Presenter: **Arnel C. Fajardo**

Arnel C. Fajardo (Isabela State University, Philippines)

15:15

[15:15] Improved Energy Demand Forecasting in LGU Using Ensemble Learning as Compared to Single Model Machine Learning

Presenter: **Arnel C. Fajardo**

Arnel C. Fajardo, Armald C. Marcos and Genesis Carlo Pangan (Isabela State University, Philippines)

Innovative Approaches in AI-Driven Systems for Cybersecurity, Cloud Optimization, and Healthcare Surveillance

Session Chair(s): Vivek Venkatesan (Vanguard, USA)

[14:00] Deep Learning for Intelligent Healthcare Surveillance: Detection and Classification of Patients and Medical Personnel Using YOLO

Presenter: Mostafa Rizk

Mostafa Rizk (Lebanese University); Abbas Rammal (Phoenicia University); Batoul Cheikh (Lebanese University)

14:15

[14:15] Enhanced AI-Based Disposable Email Detection System

Presenter: Gasser Sayed

Gasser Sayed (Arab Open University, Egypt); Eid Amery; Hala Abbas (Helwan University & Arab Open University)

[14:30] Uncertainty-Aware Intelligent Workload Scheduling for Cloud-Native Systems Under Bursty Demand

Presenter: Venkata Raja Satya Teja Nagavalli

Venkata Raja Satya Teja Nagavalli, Sapan Bharadwaj Bonala and Sharath Chandra Samineni (USA)

14:45

[14:45] Beyond Agent Design: A Systematic Framework for MCP Server Runtime Orchestration

Presenter: Vijayakumar Venganti

Vijayakumar Venganti (Cisco Systems, USA); Deepak Kole (IEEE Senior Member, USA); Siva Prasad Nandi (Oracle, USA)

[15:00] Neural-Heatmap: An Innovative Predictive Data Visualization Technique Using Deep Learning to Strengthen Cybersecurity

Presenter: Nidadavolu Venkat Durga

Nidadavolu Venkat Durga (BITS, India); Nuruzzaman Faruqui (Daffodil International University, Bangladesh); Moutaz Alazab; Olivia-Roxana Alecsioiu

15:15

[15:15] An Agentic Event-Driven Architecture for Compliance Exception Triage in Auditable Regulatory Systems

Presenter: Krishna Kandi

Krishna Kandi (Convoke, USA); Lavi Kumar (Discover Financial Services, USA); Gouri Sankar Dash (TCS, USA)

TUESDAY, APRIL 21, 2026

SESSION 2C • Room C • 14:00 – 15:30

Deep Reinforcement Learning & Evolutionary Optimization

Session Chair(s): Yogeesh Kunigal Gangaiah (Qualitest Group LLC, USA)

[14:00] Bayesian Change Point Detection and Its Applications in Artificial Intelligence

Presenter: Golnaz Shahtahmassebi

Golnaz Shahtahmassebi (Nottingham Trent University, UK); Jose Maria Sarabia (University of Cantabria, Spain)

14:15

[14:15] Entropy-Constrained Hyperheuristics for the Australian Post p-Hub Median Problem

Presenter: Kassem Danach

Kassem Danach (Al Maaref University, Lebanon); Samir Haddad and Jinane Sayah (University of Balamand); Khoulood Eledlebi (Abu Dhabi University); Joseph Merhej; Chadi Kallab (LAU)

[14:30] Contrastive Representation Learning for Cross-Project Software Vulnerability Discovery

Presenter: Rajesh Purushothaman

Rajesh Purushothaman (Zscaler, USA); Naga Satya Praveen Kumar Yadati (Meta); Suresh Dodda; Sai Manohar Nethi (Intuit); Pavan Nutalapati (Oracle); Anil Kumar Thimmapuram

14:45

[14:45] Semantic Transformer-Based Detection of Security Misconfigurations in Cloud Infrastructure-as-Code

Presenter: Naga Satya Praveen Kumar Yadati

Naga Satya Praveen Kumar Yadati (Meta); Sai Manohar Nethi (Intuit); Siva Prasad Nandi (Oracle); Rajesh Purushothaman (Zscaler); Pavan Nutalapati (Oracle); Milan Parikh (IEEE Senior Member)

[15:00] Machine Learning Based Analysis of Global Fisheries Production Consumption and Sustainability Trends

Presenter: Jennie Fernandez

Jennie Fernandez (Pangasinan State University, Philippines)

15:15

[15:15] Comparative Analysis of Organic Matter Dynamics and Coral Reef Condition Using Machine Learning

Presenter: Jennie Fernandez

Jennie Fernandez, Lorena F. Aquino, Nerda C. De Vera, Jackie Millama, Rosalie Belano and Maria Angelica S. Swin (Pangasinan State University, Philippines)

Geospatial Intelligence, Remote Sensing & Environmental Data Analytics

[14:00] Energy-Aware GPU Skinning for Real-Time Skeletal Animation Using glTF 2.0

Presenter: Anas Refaat Sabry

Anas Refaat Sabry and Alaa Adel Zaki (MSA University, Egypt); Tamer M Nassef (MSA University, Egypt)

14:15

[14:15] UAV-based Wildlife Detection using Deep Learning and Resource-Constrained Edge Devices

Presenter: Mohamad Kassem

Mohamad Kassem, Manar Anwer Khaleel Abusirdaneh, Manar Abu Talib, Qassim MH Nasir, Fouad Lamghari, Mohammad AlShabi (University of Sharjah, UAE)

[14:30] ARIA: An Agentic Release Intelligence Architecture for Autonomous End-to-End Mobile DevOps

Presenter: Satyanarayana Gudimetla

Satyanarayana Gudimetla (Nike India); Suresh Gangula (Nike, Inc, USA); Chandrakanth Challa; R Adinarayana (Andhra University); Sudhakar Vunnam

14:45

[14:45] AI Based Air Quality Forecasting in the Gulf Region

Presenter: Mohammed Fakrudeen

Mohammed Fakrudeen, Hatem Tamimi and Jim O Otieno (Higher Colleges of Technology, UAE)

[15:00] Comparative Analysis of LSTM, GRU, Hybrid LSTM-GRU, and XGBoost Models for IoT-Based Flood Forecasting Using Multi-Sensor Environmental Data

Presenter: Jerry Incierto Teleron

Jerry Incierto Teleron (Technological Institute of the Philippines - Quezon City)

15:15

[15:15] Multi-Layer Moisture Content Prediction for Oyster Mushroom Substrate Using Bidirectional LSTM

Presenter: Aileen A Sieras

Aileen A Sieras (Technological Institute of the Philippines)

TUESDAY, APRIL 21, 2026

SESSION 2E • Room E • 14:00 – 15:30

Accessibility, Assistive Technology & Sign Language AI

Session Chair(s): Moses Mupeta (University of Zambia, Zambia)

[14:00] A Vision-Based Deep Learning Framework for Egyptian Sign Language Recognition Using CNN and VGG-16

Presenter: Fatma G. El-megharbel

Fatma G. El-megharbel, Mennatalla T. Elgamal (MSA University); Mazen A. Ebrahim (MSA University & University of Greenwich); Tamer M Nassef (MSA University)

14:15

[14:15] Real-Time Egyptian Currency Recognition for Visually Impaired Users

Presenter: Yehia Samir

Yehia Samir, Eyad Mohamed (MSA University); Abdelrahman Ezzeldin Nagib; Tamer M Nassef (MSA University)

[14:30] Building a Large-Scale Silver Corpus for Modern Standard Arabic Word Segmentation from Kalimat

Presenter: Alaaeddine Ramadan

Alaaeddine Ramadan (American University of Bahrain); Hussein Ali Awdeh, Mai Khalil (University of Paris 8); Omar Saadiyeh; Gilles Bernard; Mohammad Hajjar (Lebanese University)

14:45

[14:45] 3D Alphanumeric Recognition in Arabic Sign Language Using WiLoR-Based 3D Hand Pose Features

Presenter: Yosr Mansour

Yosr Mansour (El Shorouk Academy, Egypt); Asmaa Elsaid (El Shorouk Academy); Mariam Alaa Mohamed (El Shorouk Academy)

[15:00] Attention Modulation of P300 and MMN: A Pilot Study Using a 2-Electrode Oddball Paradigm

Presenter: Ibrahim Rida Kassem

Ibrahim Rida Kassem (Lebanese University); Tarek Hourri (Beirut Arab University); Katia Sawaya (Beirut Arab University)

15:15

[15:15] Implementation of a Smartphone-Based Multi-sensor Counterfeit Currency Detection

Presenter: Anupam Raj

Anupam Raj and Vikas Upadhyaya (NIIT University, India)

TUESDAY, APRIL 21, 2026

SESSION 3A • Room A • 16:00 – 18:00

Frameworks and Innovations in Governance, AI Maturity, and Decision-Making in Complex Systems

Session Chair(s): Tejas Pravinbhai Patel (Amazon, USA)

[16:00] Who Is Next in a Crowded ED? Design of a Medical Triage Stochastic Decision-Making Game for Exploring Policy Trade-offs

Presenter: Adedolapo Kehinde Adebayo

Adedolapo Kehinde Adebayo and Isaac O Osunmakinde (Norfolk State University, USA)

16:15

[16:15] Governance-Aware Agentic Retrieval-Augmented Generation with Evidence Abstention for Reliable AI Policy Question Answering

Presenter: Ashish Hastimal Jain

Ashish Hastimal Jain (University of Central Florida, USA); Suhas Reddy Yarrabothu, Nanda Kishore Kande and Dharmateja Reddy Kethireddy

[16:30] Architecting Multi-Model Agentic AI Systems: A Taxonomy and Reference Architecture for Specialized LLMs in Production Agents

Presenter: Sandeep Shivam

Sandeep Shivam (Tavant, USA); Milan Parikh (IEEE Senior Member); Venkat Notalapati (Walmart); Vinay R Soni; Vijayakumar Venganti (Cisco)

16:45

[16:45] A Responsible GenAI Maturity Model for Delivery Governance: A Five-Level Framework for PMOs, Agile Coaches, and Engineering Leaders

Presenter: Ritesh H Ruparel

Ritesh H Ruparel (CSG International, USA); Sai Mohan Dasari (Univ. of Cumberlands); Vinod Bottu (Microsoft); Vigneshwarr Venkatesan; Suraj Vangala (Charter Communications)

[17:00] Evidence-Based Generative AI for Incident Command Updates: A Practical Method to Prevent Overclaim

Presenter: Ritesh H Ruparel

Ritesh H Ruparel (CSG International); Sai Mohan Dasari (Univ. of Cumberlands); Vigneshwarr Venkatesan; Vinod Bottu (Microsoft); Suraj Vangala

17:15

[17:15] Dependency-Aware Post-Quantum Cryptography Migration Planning: Graph-Based Optimization for Enterprise Infrastructure

Presenter: Saurabh Sharma

Saurabh Sharma (Cisco Systems); Karthik Pappu (Dakota State University); Ankit Parashar and Navin Suvarna (Cisco Systems)

[17:30] Autonomous AI-Powered Resource Management for Apache Flink on Amazon EKS

Presenter: Hari Krishna Pokala

Hari Krishna Pokala (CIGNA, USA); Venkata Pavan Kumar Gummadi (Broadridge, USA)

17:45

[17:45] Uncertainty-Aware Deep Neural Networks for Reliable and Selective Decision-Making in Medical Image Classification

Presenter: Krishna Kishor Tirupati

Innovations in AI Governance, Security, and Testing Frameworks for Cloud and IoT Systems

Session Chair(s): Chaitanya Kulkarni (Oracle America Inc, USA) & Jay Bharat Mehta (Cleveland State University, USA)

[16:00] Future-Proofing Identity Security for Agentic AI Systems: Design, Implementation, and Evaluation of an Identity Fabric

Presenter: Karthik Pappu

Karthik Pappu (Dakota State University); Badal Bhushan (I.E.T. M.J.P. Rohilkhand University, India); Nilesch Jaiswal (Electronic Arts, USA)

16:15

[16:15] Confidence-Aware Adaptive Neural Computation for Energy-Efficient Deep Learning

Presenter: Dharmateja Reddy Kethireddy

Dharmateja Reddy Kethireddy and Nanda Kishore Kande (USA); Ashish Hastimal Jain (Univ. of Central Florida); Suhas Reddy Yarrabothu

[16:30] Governance of Generative AI in the Enterprise: Prompt Lifecycle Management and Secure Middleware Design

Presenter: Subhash Tatavarthi

Subhash Tatavarthi (Kasmo, USA); Saikrishna Tarakampet (CA Correctional Healthcare Services); Venkatasatyaaravikiran Bikkavolu; Raghunath Reddy Koilakonda; Manoj Gudala

16:45

[16:45] A TinyML-Based Out-of-Distribution Security Monitor for Energy-Constrained Industrial and Medical IoT Systems

Presenter: Viswanathan Ranganathan

Viswanathan Ranganathan (Netflix); Arun Kumar Elengovan (Okta); Venkat Nutalapati (Walmart); Deepak Kole (IEEE Senior Member); Milan Parikh (IEEE Senior Member); Nandagopal Seshagiri (Okta)

[17:00] Extending TMMi for FinOps: A Test Maturity Framework for Cloud Cost Governance

Presenter: Lakshmi Vidya Peri

Lakshmi Vidya Peri (TMMI, USA); Deepak Pai; Yogesh S Thanvi (Akamai Technologies)

17:15

[17:15] NVMe Validation Maturity: A TMMi-Aligned Framework for Testing Process Improvement

Presenter: Lakshmi Vidya Peri

Lakshmi Vidya Peri (TMMI, USA)

[17:30] Agentic Dashboard Generation from Natural Language on Lakehouse Platforms

Presenter: Hari Krishna Pokala

Hari Krishna Pokala (CIGNA, USA)

17:45

[17:45] A Secure CI/CD Pipeline using GitHub Actions and Open Policy Agent (OPA) for Kubernetes Applications

Presenter: Hari Krishna Pokala

Hari Krishna Pokala (CIGNA, USA)

Advancements in AI for Financial Risk, Healthcare Detection, and Cloud Data Governance

Session Chair(s): **Madhushree Kumari** (IEEE Senior Member, USA)

[16:00] Zero-Hop Semantic Retrieval on AWS Lambda Using In-Memory Vector Indexing

Presenter: **Mythili Annamalai Sekar**

Mythili Annamalai Sekar (Amazon Inc); Siva Kumar Chintham (LTM); Mayilsamy Palanigounder (NTT Data); Murali Shankar Dulam, Narender Reddy Bitla, Naga Surya Kamala Dattatreya Pasupuleti (JPMorgan Chase); Abhirup Mazumder (Amazon); Anurag Kumar (Cisco)

16:15

[16:15] Detection of COPD-like Breathing Patterns from Non-Invasive Pressure and Flow Data Using Machine Learning and Deep Learning

Presenter: **Sarvina Mutiya Seidu**

Sarvina Mutiya Seidu (Georgia Southern University); Hayden Wimmer (Georgia Southern University); Jie Du (Grand Valley State University)

[16:30] The Yellow Brick Road to AGI: A Detailed Path to Achieving Autonomous General Intelligence with Rapid Testing and Results Management

Presenter: **Gregory David Spehar**

Gregory David Spehar (GiDanc AI LLC, USA); Akshay Mittal (University of the Cumberlands)

16:45

[16:45] Governed Agentic Cloud Data Pipelines with MCP Gateways

Presenter: **Aswathnarayan Muthukrishnan Kirubakaran**

Aswathnarayan Muthukrishnan Kirubakaran (Meta Inc); Vinoth Punniyamoorthy (JPMorgan Chase); Akshay Deshpande (Apple); Adithya Parthasarathy (NYU); Nachiappan Chockalingam (Meta); Mythili Annamalai Sekar (Amazon); Naga Surya Kamala Dattatreya Pasupuleti (JPMorgan Chase); Shiva Kumar Reddy Carimireddy (Fidelity)

[17:00] Transformer-Based Predictive Maintenance for Risk-Aware Instrument Calibration

Presenter: **Adithya Parthasarathy**

Adithya Parthasarathy (NYU); Aswathnarayan Muthukrishnan Kirubakaran (Meta); Akshay Deshpande (Apple); Ram Sekhar Bodala (Amtrak); Suhas Malempati; Nachiappan Chockalingam (Meta); Vinoth Punniyamoorthy (JPMorgan Chase); Seema Gangaiah Aarela

17:15

[17:15] OpsAgent: A Governance-Aware Agentic AI Framework for Autonomous Operational Reliability

Presenter: **Sabitha Muppuri**

Sabitha Muppuri and Chiranjeevisantosh Madugundi (Palo Alto Networks); Ramkinker Singh (Palo Alto Networks)

[17:30] Artificial Intelligence-Based Default Loan Prediction for Financial Risk Assessment in Digital Lending

Presenter: **Sandeep Shivam**

Sandeep Shivam (Tavant, USA)

17:45

[17:45] A Comparative Performance Analysis: Vector Search vs Graph Databases for RAG Applications

Presenter: **Siva Prasad Nandi**

Siva Prasad Nandi (Oracle); Vijayakumar Venganti (Cisco); Vinay R Soni; Venkat Nutalapati (Walmart)

Integrating AI for Fairness, Automation, and Security in Cloud and DevOps Environments

Session Chair(s): Pavan Nutalapati (Oracle Corp, USA) & Sandeep Shivam (Tavant Technologies, USA)

[16:00] Behavioral vs. Demographic Predictors of Customer Purchase Frequency: A Multi-Model Analytical Approach

Presenter: Nabeel M Sheikh

Nabeel M Sheikh (Oracle America, USA); Taranpreet Kaur (Amazon, USA)

16:15

[16:15] SATHOS: Self-Adaptive Trust-Hierarchical Orchestration for Zero-Trust DevSecOps Pipelines

Presenter: Nilesh Jaiswal

Nilesh Jaiswal (Electronic Arts); Karthik Pappu (Dakota State University); Yogeesh Kunigal Gangaiah (Qualitest)

[16:30] GitOps Driven Automation for Federated Learning Infrastructure

Presenter: Vinoth Punniyamoorthy

Vinoth Punniyamoorthy (JPMorgan Chase); Srivenkateswara Reddy Sankiti (Cleveland State); Nachiappan Chockalingam (Meta); Ram Sekhar Bodala (Amtrak); Aswathnarayan Muthukrishnan Kirubakaran (Meta); Balakrishna Pothineni (JPMorgan Chase); Nitin Saxena; Abhirup Mazumder (Amazon)

16:45

[16:45] Carbon-Aware SLO Enforcement for Cloud-Native Microservices Using Adaptive Reliability Policies

Presenter: Jagadish Almaipeta

Jagadish Almaipeta, Subhashchandra Babu Madineni and Usha Rani Sheri (USA)

[17:00] AgentQE-Bench: A Reproducible Evaluation Framework for Agentic AI Reliability, Safety, and ROI in CI/CD Pipelines

Presenter: Yogeesh Kunigal Gangaiah

Yogeesh Kunigal Gangaiah (Qualitest, USA); Lakshmi Vidya Peri (TMMI, USA)

17:15

[17:15] Policy-Driven Shift-Left Security for Hybrid OpenShift CI/CD Pipelines

Presenter: Nilesh Jaiswal

Nilesh Jaiswal (Electronic Arts, USA)

[17:30] AI-Assisted Bias Detection and Fairness Auditing in Engineering Performance Evaluation Systems: A Responsible AI Governance Framework

Presenter: Bhaskar Manchuri

Bhaskar Manchuri (USA)

17:45

[17:45] An Empirical Study of Defect Detectability and Operational Impact of Component vs. End-to-End Testing in Regulated Banking CI/CD Pipelines

Presenter: Bhaskar Manchuri

Bhaskar Manchuri (USA)

TUESDAY, APRIL 21, 2026

SESSION 3E • Room E • 16:00 – 18:00

Innovative Approaches in AI for Quality Assurance, Cybersecurity, and Predictive Analytics

Session Chair(s): Naveen Kolli (Independent Researcher, USA) & Milan Parikh (IETE, SCRS, IEEE Senior Member, USA & Cytel, USA)

[16:00] Shaping QA Coverage with Production Telemetry: Risk-Based Test Selection Under CI Budget Constraints

Presenter: Yogesh S Thanvi

Yogesh S Thanvi (Akamai Technologies); Lakshmi Vidya Peri (TMMI); Yogeesh Kunigal Gangaiah (Qualitest)

16:15

[16:15] Self-Optimizing Cloud Data Analytics Platforms via Closed-Loop AI Control

Presenter: Nabeel M Sheikh

Nabeel M Sheikh (Oracle America); Mohan Krishna Mannava; Srinivas Gadam (SyntageTech); Taranpreet Kaur (Amazon); Vinil Pasupuleti (IBM); Balaji Shesharao Ingole (IEEE Senior)

[16:30] Azure Windows Defender for Enterprise Cybersecurity: Architecture, Automation, and Measured Operational Impact

Presenter: Jagadish Almaipeta

Jagadish Almaipeta (USA)

16:45

[16:45] Predicting Heart Failure Outcomes Using Machine Learning Models on Clinical and Laboratory Data

Presenter: Nabeel M Sheikh

Nabeel M Sheikh (Oracle America); Vansh Agarwal (Amazon); Rucha Deshmukh; Amit Kumar (Nanit)

[17:00] Big Data-Driven Sales Forecasting for Consumer IoT Products: A Machine Learning Approach

Presenter: Nabeel M Sheikh

Nabeel M Sheikh (Oracle America); Amit Kumar (Nanit); Vansh Agarwal (Amazon)

17:15

[17:15] Agentic SDLC Automation for ERP Release Readiness: Design Patterns, Governance Guardrails, and Measurable Operational Outcomes

Presenter: Yogeesh Kunigal Gangaiah

Yogeesh Kunigal Gangaiah (Qualitest Group LLC, USA)

[17:30] Adversarial Attacks on AI Systems and Multi-Layer Defense Mechanisms for User Data Protection

Presenter: Naga Satya Praveen Kumar Yadati

Naga Satya Praveen Kumar Yadati (Meta); Gayathri Balakumar (Capital One); Ramadas Pulapaka; Vinod Bottu (Microsoft); Vidisha Vijay (BITS); Anand Patel (Facebook)

17:45

[17:45] Safety-Gated Continual Learning for Drift-Aware Anomaly Detection in Real-Time Cyber-Physical Systems

Presenter: Pradeep Kumar Chilukury

Pradeep Kumar Chilukury, Krishna Kishor Tirupati and Sai Reddy Busi Reddy (USA); Naresh Kumar Methuku (Fidelity Investments)

Wireless Communication: NOMA, RSMA & Multi-Access Schemes

Session Chair(s): Salah A. Aly (Fayoum University, Egypt)

[11:30] Short-Packet Communication in CDRT Networks with Imperfect CSI Over Nakagami-m Fading Channels: RSMA or NOMA?

Presenter: Kai Wang

Kai Wang, Xiaochen Shen, Zhihua Zhang, Liang Shi, Chao He and Xiang Zhang (Defense Innovation Institute)

11:45

[11:45] Intelligent and Sample-Efficient Handover in High-Speed Rail Networks Using Deep Reinforcement Learning

Presenter: Mariam Abdul-Zahra

Mariam Abdul-Zahra and Asaad S Daghal (Al-Furat Al-Awsat Technical University, Iraq)

[12:00] Slice-Aware AoI Control for UAV-Assisted 5G and Beyond-5G Waste Hotspot Mapping Using Kernel Fused Density Updates

Presenter: Mohammed Jalil Mohammed Ali Alhasan

Mohammed Jalil Mohammed Ali Alhasan and Karar Hamza Hussein (Al-Furat Al-Awsat Technical University, Iraq)

12:15

[12:15] Shielded Primal-Dual Multi-Objective PPO for Energy-Efficient and Fair OFDMA Scheduling in UAV-Enabled 5G/6G Networks

Presenter: Mohammed Jalil Mohammed Ali Alhasan

Mohammed Jalil Mohammed Ali Alhasan, Wafaa Mohammed Ridha Shakir and Asaad S Daghal (Al-Furat Al-Awsat Technical University, Iraq)

[12:30] Dynamic SIC Ordering in Downlink NOMA With User-Dependent CSI Uncertainty

Presenter: Zainab Ulhassan

Zainab Ulhassan, Asaad S Daghal and Wafaa Mohammed Ridha Shakir (Al-Furat Al-Awsat Technical University, Iraq)

12:45

[12:45] Robust SIC Design in Downlink NOMA Under User-Dependent CSI Uncertainty

Presenter: Zainab Ulhassan

Zainab Ulhassan, Asaad S Daghal and Wafaa Mohammed Ridha Shakir (Al-Furat Al-Awsat Technical University, Iraq)

WEDNESDAY, APRIL 22, 2026

SESSION 4A • Room A • 11:30 – 13:00

Renewable Energy, Smart Grids & Environmental Sustainability

Session Chair(s): Moses Mupeta (University of Zambia, Zambia)

[11:30] Random Forest Weight Auditing for Gulf Sustainability Indices: PM2.5 Integration and Structural Heterogeneity in a Six-Country Panel

Presenter: Nahla Nabil Skaik

Nahla Nabil Skaik, Hasan Ali Razzaqi and Mohammad Riyaz Belgaum (Arab Open University - Bahrain); Alyaa Al Aradi

11:45

[11:45] A Multi-Head Neural Network for Simultaneous Prediction of Perovskite Solar Cell Parameters

Presenter: Fatmah AlAwadhi

Fatmah AlAwadhi, Fatemah Lari, Amani Albuloushi, Mariam Hussain, Zainab Sadeq, Khaled Chahine and Mohamad Arnaout (American University of the Middle East, Kuwait); Marc AlAtem

[12:00] Uncertainty-Aware Multi-Horizon Wave Energy Assessment Using Probabilistic Deep Learning

Presenter: Taha Houda

Taha Houda (Prince Mohammad Bin Fahd University); Wafaa Mohammed Ridha Shakir (Al-Furat Al-Awsat); Abdullah Baradaaji (Lebanese International University); Jihad Jaam (Liverpool J. Moores University, UK)

12:15

[12:15] Decentralized Droop Control for Stabilizing DC Bus Voltage in Renewable DC Microgrids

Presenter: Ahmed Ibrahim

Ahmed Ibrahim (The Knowledge Hub Universities, Egypt); Ehab Bayoumi (British University in Egypt); Nathalie Nazih (British University in Egypt)

[12:30] Assessing Green, Resilient Supply Chains Through Sustainable Engineering Innovations

Presenter: Mony Trad

Mony Trad (NDU, Lebanon); Atef Harb and Abdallah Kassem (Notre Dame University, Lebanon)

12:45

[12:45] High-Performance GPU Particle System Editor for VR Environments: Achieving Low-Latency VFX Through Optimized Rendering

Presenter: Yousef Wael

Yousef Wael (MSA University, Egypt); Tamer M Nassef (MSA University, Egypt)

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WEDNESDAY, APRIL 22, 2026

SESSION 4B • Room B • 11:30 – 13:00

Robotics, Autonomous Systems & Adaptive Control

Session Chair(s): Golnaz Shahtahmassebi (Nottingham Trent University, UK)

[11:30] AI-Driven Adaptive Control System for Soft Robotics: Bridging Perception and Actuation in Dynamic Environments

Presenter: Loso Judijanto

Loso Judijanto (IPOSS, Indonesia); Sri Nurhayati (IKIP Siliwangi, Indonesia)

11:45

[11:45] Deep Reinforcement Learning-Based Autonomous Thermal Management of Lithium-Ion Batteries: A Comparative Evaluation of DDPG and TD3

Presenter: Mahmood Alsadoun

Mahmood Alsadoun, Abdulaziz Aljalkhaf, Mohammed Aldakheel, Abdulrahman Al Ali and Taha Houda (Prince Mohammad Bin Fahd University)

[12:00] A survey on formal methods for authentication in self-driving platforms

Presenter: Muhammad Salman Saeed

Muhammad Salman Saeed (ITMO University, Russia); Sergey Bezzateev (State University of Aerospace Instrumentation, Russia); Umer Mukhtar Andrabi (HSE, Russia); Ehsan Wadood (MIPT, Russia)

12:15

[12:15] Machine Learning-Based Predictive Framework for OBD-II Vehicle Fault Detection and Maintenance Forecasting

Presenter: Jerry Incierto Teleron

Jerry Incierto Teleron (Technological Institute of the Philippines - Quezon City)

[12:30] The Integration of Artificial Intelligence Models as a Tool for Justice System Optimization

Presenter: Magda Beruashvili

Magda Beruashvili (Business and Technology University, Georgia)

12:45

[12:45] Deep Comparative Analysis of Six Machine Learning and Deep Learning Models for OBD-II-Based Predictive Maintenance

Presenter: Jerry Incierto Teleron

Jerry Incierto Teleron (Technological Institute of the Philippines - Quezon City)

WEDNESDAY, APRIL 22, 2026

SESSION 4C • Room C • 11:30 – 13:00

Machine Learning for Disease Detection & Biomedical Classification

Session Chair(s): Dua Weraikat (Rochester Institute of Technology, USA)

[11:30] A Machine Learning Pipeline for Early Detection of Autism Spectrum in Children

Presenter: Mariam Mahmoud Dahish

Mariam Mahmoud Dahish and Reem Kadry Montasser (MSA University); Tamer M Nassef (MSA University)

11:45

[11:45] Detection-Guided Deep Learning for Segmentation Free Skin Lesion Diagnosis

Presenter: Hagar Selim

Hagar Selim and Hadeer Elkady (Arab Academy for Science, Technology, and Maritime Transport); Nahla Belal; Mohamed Khedr

[12:00] A lightweight Transfer Learning Framework Based on MobileNetV2 for Automated Brain Tumor Classification from MRI Images

Presenter: Shaimaa Othman

Shaimaa Othman and Mohamed Hussein (El-Shorouk Academy); Alaa Hassan (El-Shorouk Academy); Mrawa Mostafa (Innovation University)

12:15

[12:15] CLIP-DR: Efficient Multi-Grade Diabetic Retinopathy Classification Using SMOTE and Focal Loss with Fine-Tuned Vision Transformers

Presenter: Nesrine Atitallah

Nesrine Atitallah (Arab Open University, Saudi Arabia); Abuelgasim Abusonoun (Arab Open University); Khoulood Samrouth (Lebanese University); Nader Bakir (Beirut Arab University)

[12:30] Early Stage Detection of Chronic Kidney Disease using Machine Learning

Presenter: Himadri Bahuguna

Himadri Bahuguna, Shraddha Mandal, Ishaan Bhairab Sensharma, Vikas Upadhyaya and Neha Tiwari (NIIT University, India)

12:45

[12:45] Multimodal Patient-Level Acute Myeloid Leukemia Subtype Prediction via Single-Cell Cytomorphology and Clinical Features

Presenter: Ranya Khaled Elsawah

Ranya Khaled Elsawah (The Knowledge Hub Universities, Egypt); Gamal A. Ebrahim (Ain Shams University); Hani A. Ghali (British University in Egypt)

Explainable AI (XAI): Methods, Interpretability & Trustworthiness

Session Chair(s): Tamer M Nassef (October University of Modern Sciences and Arts (MSA), Egypt)

[11:30] Explainable and Calibrated Hierarchical Deep Learning for Thermal Infrared PV Fault Diagnosis

Presenter: **Khawla Ould Mansour**

Khawla Ould Mansour and Yousra Chtouki (AI Akhawayn University, Morocco)

11:45

[11:45] Stacked Ensemble Learning and Explainable AI for Dust Storm Prediction in Saudi Arabia

Presenter: **Hager Saleh**

Hager Saleh (South Valley University, Egypt); Mohammad Wajeeh (Midocean University); Michael Mccann (ATU, Ireland); John G. Breslin (University of Galway); Sarah Osama; Priyanka Verma

[12:00] Bayesian Decision Models Under Uncertainty in BPM

Presenter: **Lily Petriashvili**

Lily Petriashvili (Georgian Technical University); Nino Topuria; Tamar Lominadze, Taliko Zhvania and Mzia Kiknadze (GTU); David Kapanadze

12:15

[12:15] The Hidden Complexity of Mental Health: Multi-Entropy Analysis of Response Patterns in Depression Severity Assessment

Presenter: **Ayesha Siddika**

Ayesha Siddika, Ahnaf Atif Rafi and Maria Jahan Noon (Independent University, Bangladesh); Md Junayed Hossain; Ashraful Islam; Sanzar A Alam

[12:30] Explainable AI in Epileptic Seizure Detection

Presenter: **Sakshi Prasad**

Sakshi Prasad, Bhavika Pawar, Sonali Paliwal and Vikas Upadhyaya (NIIT University, India)

12:45

[12:45] Explainable AI for Industrial Robotic Fault Diagnostics: Bridging the Trust Gap

Presenter: **Loso Judijanto**

Loso Judijanto (IPOSS, Indonesia); Sri Nurhayati (IKIP Siliwangi, Indonesia)

Computer Vision: Object Detection, Recognition & Surveillance

Session Chair(s): Devendra Rajput (Accenture, USA)

[14:00] Deep Learning-Based Detection of Cluster Bomb Submunitions Using YOLO

Presenter: Mostafa Rizk

Mostafa Rizk (Lebanese University); Sadek Fakh (Lebanese University); Abbas Rammal (Phoenicia University)

14:15

[14:15] Vision-Based in-Bed Human Pose Estimation Using RGB Images and Pose Estimation Networks

Presenter: Jana Moatazbellah

Jana Moatazbellah (MSA University); Mazen A. Ebrahim (MSA University & University of Greenwich); Mohamed Nagy (MSA University); Tamer M Nassef (MSA University)

[14:30] A Systematic Benchmarking of XAI Methods for Weapon Recognition for Video Surveillance

Presenter: Haya AlMadhloum AlSuwaidi

Haya AlMadhloum AlSuwaidi, Fatih Kurugollu and Abbas Amira (University of Sharjah, UAE); Muhammad Shahroz Nadeem (University of Suffolk, UK)

14:45

[14:45] Early Detection of Acute Myeloid Leukemia (AML) Using YOLOv12 Deep Learning Model

Presenter: Enas Emad

Enas Emad (Cairo University); Salah A. Aly (Fayoum University); Mayar Moner (Cairo University)

[15:00] Cross-Domain Vulnerability Analysis of YOLOv5 to Physical Adversarial Patches in Safety-Critical Object Detection

Presenter: Mashari AlRowaili

Mashari AlRowaili, Abdelhak Belhi, Mustafa Al Samara and Nabil Litayem (Joaan Bin Jassim Academy for Defence Studies, Qatar)

15:15

[15:15] AI-Powered Financial Fraud Detection Using Machine Learning: A Multi-Algorithm Approach

Presenter: Ekereuke Udoh

Ekereuke Udoh (QA Higher Education, UK)

WEDNESDAY, APRIL 22, 2026

SESSION 5B • Room B • 14:00 – 15:30

Generative AI, Digital Education & Societal Impact

Session Chair(s): Shyalar Reddy Allala (Global Atlantic Financial Company, USA)

[14:00] Transforming Environmental Literacy with AI: The AIEC Model for University-Industry Sustainability Alignment

Presenter: **Constantine Andoniou**

Constantine Andoniou (Abu Dhabi University, UAE)

14:15

[14:15] The impact of data analytics on decision making: Evidence based practices

Presenter: **Mahmoud Allahham**

Mahmoud Allahham (Amman Arab University); Bashar Khaled Almagharbeh; Jawad Hasan AlKhateeb and Taha Houda (Prince Mohammad Bin Fahd University); Jihad Jaam (Liverpool J. Moores University, UK)

[14:30] AI Governance for Assessment and Academic Integrity in Higher Education: An Institutional Illustrative Case

Presenter: **Omar Al-Jarrah**

Omar Al-Jarrah (Vice President for Planning and Development & CIO, Kuwait); AWS Ismail Abueid (Arab Open University - Kuwait)

14:45

[14:45] The Effect of Generative AI Use on Programming Self-Efficacy in Computer Engineering Students

Presenter: **A.M. Mutawa**

A.M. Mutawa, Shouq Alsubaihi and Sai Sruthi (Kuwait University)

[15:00] The Role of Generative AI in Audiovisual Production: Opportunities, Limitations and Emerging Workflows

Presenter: **Sónia Almeida Ferreira**

Sónia Almeida Ferreira (Polytechnic of Viseu, Portugal & School of Education, CI&DEI); Vanessa Reis Campos

15:15

[15:15] Topic Modeling of Student Perspectives on Generative AI for Academic Research Writing

Presenter: **Lauro Aspiras**

Lauro Aspiras (Quirino State University, Philippines)

WEDNESDAY, APRIL 22, 2026

SESSION 5C • Room C • 14:00 – 15:30

Large Language Models, RAG & Agentic AI Systems

Session Chair(s): Yogeesh Kunigal Gangaiah (Qualitest Group LLC, USA)

[14:00] Domain-Specific Legal AI Assistant with Retrieval-Augmented Generation (RAG)

Presenter: **Ekereuke Udoh**

Ekereuke Udoh (QA Higher Education, UK)

14:15

[14:15] Prompt-as-Heuristic: A Hyperheuristic Framework for Meta-Reasoning in Large Language Models

Presenter: **Kassem Danach**

Kassem Danach (Al Maaref University, Lebanon); Samir Haddad and Jinane Sayah (University of Balamand); Khoulood Eledlebi (Abu Dhabi University); Joseph Merhej; Chadi Kallab (LAU)

[14:30] Federated Large Language Models for Distributed Cyber Attack Classification

Presenter: **Shahroz Abbas**

Shahroz Abbas and Ajmery Sultana (Algoma University, Canada)

14:45

[14:45] RAG-Enhanced Healthcare Integration LLM Framework

Presenter: **Omer Dawood**

Omer Dawood (Prince Sattam Bin Abdulaziz University); Hamada Nayel (Benha University & Prince Sattam Bin Abdulaziz University); Wahiba Abakker Mohammed Ismaiel (Taif University); Yousra Elhakeem (SUST)

[15:00] An Agentic Approach to Faithful and Transparent Islamic Question Answering

Presenter: **Hind Al-owais**

Hind Al-owais, Ibrahim Hashem and Ashraf Elnagar (University of Sharjah, UAE)

15:15

[15:15] Multimodal and Vision Language Few Shot Learning: A Survey

Presenter: **Amna Salim Humaid Alkinde**

Amna Salim Humaid Alkinde (University of Sharjah, UAE)

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WEDNESDAY, APRIL 22, 2026

SESSION 5D • Room D • 14:00 – 15:30

Deepfake, Fake News, Spam & Anti-Phishing Detection

Session Chair(s): Salah A. Aly (Fayoum University, Egypt)

[14:00] Cross-Dialect Arabic Audio Deepfake Detection via One-Class Learning and Outlier Exposure

Presenter: Mariam Khalid AlAli

Mariam Khalid AlAli, Ayad Turky and Saad Harous (University of Sharjah, UAE)

14:15

[14:15] AI-Based Detection of Synthetic Video and Audio Media

Presenter: Omar Assem

Omar Assem, Zahwa K. Kesa and Eman E. Hamd (MSA University, Egypt); Tamer M Nassef (MSA University)

[14:30] PRNU-CNN Fusion for Video Deepfake Detection

Presenter: Waleed Al-Ali

Waleed Al-Ali and Ahmed Bouridane (University of Sharjah, UAE); Kais Belwafi (University of Sharjah)

14:45

[14:45] A Hybrid Transformer Architecture for Phishing Email Detection Using Lexical and Statistical Features

Presenter: Omar Abdelrahim

Omar Abdelrahim (Arab Academy for Science, Technology and Maritime Transport); Radwa Fathalla; Yasser El-Sonbaty (Arab Academy, Egypt)

[15:00] Multi-Modal Fake News Classification: A Hybrid Deep Learning Approach

Presenter: Mina Eskander

Mina Eskander, Mostafa Magdy Karam, Nahla Belal, Mohamed Khedr, Ahmed Hamdy Abdallah and Ahmed Karem Farouk (Arab Academy, Egypt)

15:15

[15:15] Spam Email Detection Using a Custom Multi-Head DistilBERT

Presenter: Wadaq Tarek

Wadaq Tarek (Arab Open University, Egypt); Eid Amery; Hala Abbas (Helwan University & Arab Open University)

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WEDNESDAY, APRIL 22, 2026

SESSION 5E • Room E • 14:00 – 15:30

AI for Clinical Decision Support & Healthcare Risk Assessment

Session Chair(s): Siva Rama Krishna Varma Bayyavarapu (Senior IEEE Member, USA)

[14:00] Emergency Department Triage Classification: A Comparative Study with Explainable AI for Small-Data Environments

Presenter: **Ahmad Saad**

Ahmad Saad and Taha Houda (Prince Mohammad Bin Fahd University); Saad Houda (King Faisal Specialist Hospital)

14:15

[14:15] Lightweight Carbon-Conscious Machine Learning Framework for Lung Cancer Risk Assessment

Presenter: **Hifsah Nasir**

Hifsah Nasir (HITEC University); Wajahat Riaz (Pak-Austria Fachhochschule); Ihtisham Ali; Khalil Khan (Qassim University); Maqbool Khan (American University of Bahrain)

[14:30] AI-Driven Pseudo-3D Mesh Reconstruction from 2D Fetal Ultrasound for Accessible Prenatal Visualization

Presenter: **Omar Mohamed Waheed**

Omar Mohamed Waheed and Karim Mohamed Abo Alazm (MSA University); Mazen A. Ebrahim (MSA University & University of Greenwich); Tamer M Nassef (MSA University)

14:45

[14:45] Integrating Artificial Intelligence into Healthcare: Predictive Analytics for Early and Equitable Diagnosis

Presenter: **Ekereuke Udoh**

Ekereuke Udoh (QA Higher Education, UK)

[15:00] Beyond Benchmark Accuracy: Toward Clinically Trustworthy AI for Biomedical Signals

Presenter: **Jinan Charafeddine**

Jinan Charafeddine (ESILV, France); Taha Houda (Prince Mohammad Bin Fahd University); Nada Salman (Université Paris-Saclay); Jihad Jaam (Liverpool J. Moores University, UK)

15:15

[15:15] Harnessing Deep Computational Intelligence for Smart Healthcare Decision-Making

Presenter: **Dina Darwish**

Dina Darwish, Reham Adel Ali, Nehal Khaled Ahmed and Soha Mohamed Abd Allah (Ahram Canadian University, Egypt)

WEDNESDAY, APRIL 22, 2026

SESSION 6A • Room A • 15:45 – 18:00

Innovations in AI for Secure Identity Verification, Cost Optimization, and Enhanced Analytics

Session Chair(s): Salah A. Aly (Fayoum University, Egypt) & Tejas Pravinbhai Patel (Amazon, USA)

[15:45] TBIVL: A Unified Identity Verification Layer for Secure Agent-to-Service Context Exchange

Presenter: Siva Rama Krishna Varma Bayyavarapu

Siva Rama Krishna Varma Bayyavarapu (Senior IEEE Member); Siva Prasad Nandi (Oracle); Srinivasateja Songa (The Home Depot)

16:00

[16:00] Autonomous Workload Right-Sizing for Multi-Cloud Cost Optimization

Presenter: Jay Bharat Mehta

Jay Bharat Mehta (Cleveland State University, USA)

[16:15] Autonomous Data Agents for End-to-End Analytics Pipelines: From Data Discovery to Insight Generation

Presenter: Naveen Kolli

Naveen Kolli (Independent Researcher, USA); Santhosh Kumar Veeramalla, Abhishek Palakurthi and Ram Prasad Belde

16:30

[16:30] Responsible AI Horizons: A Multi-Dimensional Framework for Verifiable AI Behavioral Assessment with Cryptographic Verification

Presenter: Gregory David Spehar

Gregory David Spehar (GiDanc AI LLC, USA); Akshay Mittal (University of the Cumberland)

[16:45] Architecture Patterns for Microservices in AI Ecosystems

Presenter: Shravya Bussari

Shravya Bussari (HCLTech, USA); Naveen Kumar Puppala (Optum); Akshay Mittal (University of the Cumberland)

17:00

[17:00] Serverless Architectures for Real-Time AI Model Deployment

Presenter: Shravya Bussari

Shravya Bussari (HCLTech, USA); Akshay Mittal (University of the Cumberland); Akhilesh Bollam (Amazon)

[17:15] AI-Enabled Remote Proctoring: Architecture and Implementation for Digital Examinations

Presenter: Vishal Shukla

Vishal Shukla (Harvard Business School & LTIMindtree); Surbhi Ghai and Aatam Prakash Sharma (Lovely Professional University); Ashwath Suresh Hegde; Lalit Rupani; Pradnya Harshad Desai (Salesforce)

17:30

[17:30] Self-Supervised Cross-Modal Representation Learning for Fine-Grained Image-Text Knowledge Fusion

Presenter: Sai Reddy Busi Reddy

Sai Reddy Busi Reddy and Pradeep Kumar Chilukury (USA); Naresh Kumar Methuku (Fidelity Investments); Krishna Kishor Tirupati

[17:45] A Survey on Recent Federated Learning Techniques in Healthcare: Challenges and Future Trends

Presenter: Nader Bakir

WEDNESDAY, APRIL 22, 2026

SESSION 6B • Room B • 15:45 – 18:00

Innovative Strategies in AI for Predictive Modeling, Compliance, and System Reliability

Session Chair(s): Venkata Seetarama Raju Dantuluri (Capital One, USA) & Milan Parikh (IETE, SCRS, IEEE Senior Member, USA & Cytel, USA)

[15:45] Vector Databases Under Realistic Workloads: Filtered Search, Churn, and Warm-Restart Behavior

Presenter: Vinay R Soni

Vinay R Soni and Neha Agrawal (USA); Gajendra Babu Thokala (IEEE Independent Researcher); Amit Kumar Padhy (UIUC & Adobe); Chandrashekhara Medicherla (Salesforce); Tejas Pravinbhai Patel (Amazon)

16:00

[16:00] Causal Inference Models for Workforce Attrition Prediction using Hybrid Workday-HCM and External Behavioral Signals

Presenter: Naveen Kolli

Naveen Kolli (Independent Researcher); Santhosh Kumar Veeramalla, Abhishek Palakurthi and Ram Prasad Belde

[16:15] Artificial Intelligence for Integrated Pain and Delirium Prediction in Cardiac Care: A Joint Modeling Trajectories

Presenter: Jafar A. Wreikat

Jafar A. Wreikat (Al-Ahliyya Amman University); Dua Weraikat (Rochester Institute of Technology); Manal Al Satari (Al-Ahliyya Amman University)

16:30

[16:30] A Failure Taxonomy and Trace-Driven Debugging Toolkit for Reliable Agentic LLM Systems

Presenter: Nikita Kothari

Nikita Kothari (Salesforce Inc); Ankush Agarwal (OpenAI Inc); Varun Joshi (Amazon); Lav Kumar (Salesforce)

[16:45] Compliance-Aware Generative AI for Life Insurance Document Synthesis: A Reference Architecture

Presenter: Harpreet Singh Siddhu

Harpreet Singh Siddhu (University of Illinois, Urbana-Champaign); Karthik Pappu (Dakota State University); Yogesh S Thanvi (Akamai Technologies)

17:00

[17:00] AI in Requirements Engineering, Software Design, and Software Architecture: A Systematic Mapping Study (2020-2026)

Presenter: Ritesh H Ruparel

Ritesh H Ruparel (CSG International); Vigneshwarr Venkatesan; Suraj Vangala (Charter Communications); Vinod Bottu (Microsoft); Sai Mohan Dasari (Univ. of Cumberlands)

[17:15] Student Dropout Prediction in East African Secondary Schools: Performance, Interpretability, and Fairness

Presenter: Deepak Pai

Deepak Pai (USA); Karthik Pappu (Dakota State University); Yogesh S Thanvi (Akamai Technologies)

17:30

[17:30] Reusable, Secure, and Compliance-First CI/CD Pipeline Architectures for Regulated Enterprise Environments

Presenter: Sameena Begam Savukath Ali

[17:45] AdaptiRAG: Adaptive Retrieval-Augmented Generation with Co-Trained Domain-Specific Fine-Tuned LLMs for Question Answering

Presenter: **Vijayakumar Venganti**

Vijayakumar Venganti (Cisco Systems, USA); Seetaram Rao Rayarao (JP Morgan, USA)

WEDNESDAY, APRIL 22, 2026

SESSION 6C • Room C • 15:45 – 18:00

Advanced Frameworks for Runtime Verification, AI Workloads, and Intelligent System Orchestration

Session Chair(s): Yogeesh Kunigal Gangaiah (Qualitest Group LLC, USA) & Vasanth rao Jadav (EPAM Systems, USA)

[15:45] SOP-Driven Knowledge Base Construction for Intelligent Insurance Workflow Orchestration

Presenter: Shyalendar Reddy Allala

Shyalendar Reddy Allala (Global Atlantic Financial); Vinil Pasupuleti (IBM); Shrey Tyagi (Salesforce); Srinivasateja Songa (The Home Depot); Siva Rama Krishna Varma Bayyavarapu (Senior IEEE Member)

16:00

[16:00] Native MCP Server in Oracle Autonomous AI Database — Enabling High Performance Agentic AI Workloads

Presenter: Chaitanya Kulkarni

Chaitanya Kulkarni (Oracle America); Chandrashekhar Medicherla (Salesforce); Tejas Pravinbhai Patel (Amazon); Bharadwaj Vulugundam (Oracle); Rajesh Purushothaman (Zscaler); Isan Sahoo (IEEE Senior Member); Milan Parikh (IEEE Senior Member); Rakesh Keshava (IEEE Senior Member)

[16:15] Performance Analysis of AI-Powered Analytics in Oracle Autonomous AI Lakehouse — Vector Search and Data Lake Acceleration on Apache Iceberg

Presenter: Chaitanya Kulkarni

Chaitanya Kulkarni (Oracle America); Chandrashekhar Medicherla (Salesforce); Tejas Pravinbhai Patel (Amazon); Bharadwaj Vulugundam (Oracle); Rajesh Purushothaman (Zscaler); Isan Sahoo (IEEE Senior Member); Milan Parikh (IEEE Senior Member); Rakesh Keshava (IEEE Senior Member)

16:30

[16:30] GraphEvoPR: Reviewing Pull Requests with Path-based Network Portrait Divergence and Tests

Presenter: Vasim Shaikh

Vasim Shaikh (ADP, USA); Vijay Walunj (Teladoc Health, USA); Amarnath Hanumantharaya (USA)

[16:45] Agentic AI-Driven Workflow Orchestration in Loan Trading Platforms: A Microservices and Hybrid Cloud Architecture Perspective

Presenter: Vinay R Soni

Vinay R Soni and Girish A Gajwani (USA)

17:00

[17:00] Runtime Verification of Cyber-Physical Systems Using Weighted Deep Sequence Models

Presenter: Naresh Kumar Methuku

Naresh Kumar Methuku (Fidelity Investments); Krishna Kishor Tirupati, Sai Reddy Busi Reddy and Pradeep Kumar Chilukury

[17:15] DynaGNN-3D: Dynamic Graph Neural Networks with Velocity-Aware Edge Reconfiguration for Real-Time LiDAR-Based 3D Object Detection in Autonomous Vehicles

Presenter: Vijayakumar Venganti

Vijayakumar Venganti (Cisco Systems, USA); Seetaram Rao Rayarao (JP Morgan, USA)

17:30

[17:30] Trust-Aware Runtime Verification for Autonomous LLM Agent Systems

Presenter: Tejas Pravinbhai Patel

Tejas Pravinbhai Patel (Amazon, USA)

[17:45] MambaMon: Linear-Time State Space Models for Large-Scale Distributed System Monitoring

Presenter: Tejas Pravinbhai Patel

Tejas Pravinbhai Patel (Amazon); Chandrashekhar Medicherla (Salesforce); Arun Kumar Elengovan (Okta & IEEE Senior Member); Chaitanya Kulkarni (Oracle America)

WEDNESDAY, APRIL 22, 2026

SESSION 6D • Room D • 15:45 – 18:00

AI-Enhanced Governance, Data Reliability, and Intelligent Systems for Modern Applications

Session Chair(s): Varshitha Manjunath (Lasell University, USA) & Karthik Pappu (Dakota State University, USA)

[15:45] Autonomous Policy Enforcement Using AI Agents in Digital Governance Systems

Presenter: Tejas Pravinbhai Patel

Tejas Pravinbhai Patel (Amazon); Chaitanya Kulkarni (Oracle America)

16:00

[16:00] Feature Platforms as Reliability Systems: A Taxonomy, Control Matrix, and SLI/SLO Playbook

Presenter: Vinay R Soni

Vinay R Soni and Neha Agrawal (USA); Siva Rama Krishna Varma Bayyavarapu (Senior IEEE Member); Sandeep Shivam (Tavant); Gajendra Babu Thokala (IEEE Independent Researcher)

[16:15] Risk-Aware Human-AI Collaboration Framework for High-Stakes Decision Systems

Presenter: Tejas Pravinbhai Patel

Tejas Pravinbhai Patel (Amazon); Madhushree Kumari (IEEE Senior Member); Milan Parikh (IEEE Senior Member)

16:30

[16:30] Data-Grounded LLM Framework for Intelligent Travel Planning

Presenter: Hayam Reda Seireg

Hayam Reda Seireg (El Shorouk Academy, Egypt); Amr Omar (El Shorouk Academy); Fares Ashraf Eraky, Omar Mahmoud AbdelQader, Youssef Atef Mousa, Fabio Ibrahim Sedik, Tasneem Abdelrahman (El Shorouk Academy)

[16:45] Performance-Driven Database Distribution: Evaluating Replication, Partitioning, and Sharding for OLAP Using an Adaptive Cross-Platform Framework

Presenter: Siva Prasad Nandi

Siva Prasad Nandi (Oracle); Milan Parikh (IEEE Senior Member); Viswanathan Ranganathan (Netflix); Vivek Venkatesan (Vanguard); Vijayakumar Venganti (Cisco)

17:00

[17:00] Evaluating Vitalsource Bookshelf As A Digital Library Platform In A Philippine State University

Presenter: Julius Cesar O. Mamaril

Julius Cesar O. Mamaril (Pangasinan State University, Philippines)

[17:15] LLM-Augmented Mutation Testing: Intelligent Generation and Triage of Mutants

Presenter: Sanjay Bajaj

Sanjay Bajaj (Owens-Minor, USA); Venkata Seetarama Raju Dantuluri (Capital One); Devendra Rajput (Accenture); Anil Kolhe (Yodlee)

17:30

[17:30] AI-Driven Big Data Analytics and Data Integration on Cloud Platforms

Presenter: Balakrishna Pothineni

Balakrishna Pothineni and Prema K Veerapaneni (JPMorgan Chase); Ravi Kiran Kodali (Cognizant); Bikesh Kumar (Apple); Durgaraman Maruthavanan (TCS); Mayilsamy Palanigounder (NTT Data); Sumit Saha; Kabilan Kannan (AMD)

[17:45] Evaluating Demand-Side Flexibility in District Heating Substations via Offline Reinforcement Learning

Presenter: Gideon Mbiydenyuy

WEDNESDAY, APRIL 22, 2026

SESSION 6E • Room E • 15:45 – 18:00

AI Innovations in Digital Governance, Data Management, and Decision Support Systems

Session Chair(s): Rohit Nimmala (Bank of America, USA) & Vivek Venkatesan (Vanguard, USA)

[15:45] Knowledge Graph-Enhanced LLMs for Unified Climate-Aware Risk Management in Banking: The Cognitive Bank Architecture

Presenter: Rohit Nimmala

Rohit Nimmala (Bank of America); Gajendra Babu Thokala (IEEE Independent Researcher); Jagrut Nimmala (Lowes Companies); Milan Parikh (IEEE Senior Member)

16:00

[16:00] Deep Learning NER Pipeline for Automated Basel III / IFRS 9 Risk Parameter Extraction from Climate Narratives

Presenter: Rohit Nimmala

Rohit Nimmala (Bank of America); Jagrut Nimmala (Lowes Companies); Milan Parikh (IEEE Senior Member)

[16:15] Safe and Policy-Compliant Multi-Agent Orchestration for Enterprise AI

Presenter: Vinil Pasupuleti

Vinil Pasupuleti (IBM); Shyalendar Reddy Allala (Global Atlantic Financial); Siva Rama Krishna Varma Bayyavarapu (Senior IEEE Member); Shrey Tyagi (Salesforce)

16:30

[16:30] Real-Time Colon Cancer Detection Using Deep Learning: A Comparative Analysis of EfficientNet Architectures

Presenter: Sumaiya Thaseen

Sumaiya Thaseen (DMU, UAE); Vanitha M (VIT Vellore, India); Geetha Mohan (Future Education University College, UAE); Benita Kalistus Jimci Veronica (Curtin University Dubai)

[16:45] TASH-Net: A Novel Deep CNN for Brain Tumor Classification from MRI Images

Presenter: Hussein Alkatout

Hussein Alkatout and Taha Houda (Prince Mohammad Bin Fahd University); Muhammad Attique Khan; Jinan Charafeddine (ESILV, France); Jihad Jaam (Liverpool J. Moores University, UK)

17:00

[17:00] From AI Drag to AI Boost: A Preceptorship Framework for Developing Software Engineering Expertise in the Agentic Era

Presenter: Satyanarayana Gudimetla

Satyanarayana Gudimetla (Nike India); Suresh Gangula (Nike, Inc); Chandrakanth Challa; R Adinarayana (Andhra University); Sudhakar Vunnam

[17:15] Informative Feature-Based Data Imputation: Exploring Smart Video Surveillance as a Case Study

Presenter: Mahmoud M Eid

Mahmoud M Eid (Egyptian Chinese University); Kamal EIDahshan; Abdelatif H. Aboualy and Hassan Mistareehi (Murray State University)

17:30

[17:30] Detecting Glioma, Meningioma, and Pituitary Tumors, and Normal Brain Tissues based on Yolov11 and Yolov8 Deep Learning Models

Presenter: Ahmd M Taha

Ahmd M Taha (Egypt University of Informatics); Salah A. Aly (Fayoum University)

[17:45] GAPI: Graph-Aware Prefill Interleaving for Knowledge Graph-Augmented LLM Inference in Explainable Education Policy Analysis

Presenter: Milan Parikh

Milan Parikh (IETE, SCRS, IEEE Senior Member & Cytel, USA)

<https://icca-conf.info/icaiset25> | IEEE-ICAISSET 2026 | AlShorouk Academy, Cairo, Egypt

THURSDAY, APRIL 23, 2026

SESSION 7A • Room A • 09:00 – 11:15

Agricultural, Food Science & Biological Applications of ML

Session Chair(s): Tamer M Nassef (October University of Modern Sciences and Arts (MSA), Egypt)

[09:00] Development of a Web-Based Interactive 3D Orbit and Ground-Track Visualization Tool for Orbital Mechanics Education

Presenter: **Raed Kafafy**

Raed Kafafy (HCT, UAE); Ossama Abdelkhalik (Iowa State University); Mohamed Okasha (UAE University)

09:15

[09:15] LLM-Assisted Software Development in Aerospace Engineering Education: A Structured Workflow

Presenter: **Raed Kafafy**

Raed Kafafy (HCT, UAE); Mohamed Okasha (UAE University); Ossama Abdelkhalik (Iowa State University)

[09:30] Performance Evaluation of a ResNet50 CNN for Corn Leaf Disease Classification

Presenter: **Rhowel M. Delloso**

Rhowel M. Delloso (Pangasinan State University, Philippines)

09:45

[09:45] Analysis of Physicochemical Factors Affecting the Quality of Cacao Wine-Based Beverages using Random Forest Algorithm

Presenter: **Martina Penalber**

Martina Penalber (Isabela State University, Philippines)

[10:00] A Machine Learning Driven Analysis of Employment Outcomes and Curriculum Relevance in a State University in the Philippines vs. Global Graduate Employability

Presenter: **Liezl Joy L. Quilang**

Liezl Joy L. Quilang (Isabela State University, Philippines)

10:15

[10:15] Cost-Aware LLM Orchestration via Contextual Bandit Learning

Presenter: **Vasanth rao Jadav**

Vasanth rao Jadav (EPAM Systems, USA); Shalini Sudarsan (KinderCare Learning Companies); Vikram Isanaka (UBS)

[10:30] Predictors of Licensure Examination Performance Among BEEd Graduates Toward a Random Forest Predictive Framework

Presenter: **Jocelyn Sagun-De Vera**

Jocelyn Sagun-De Vera (Pangasinan State University, Philippines)

10:45

[10:45] Audit-Ready Fraud Detection: Aligning Gradient Boosting and SHAP with GDPR and SOX Compliance

Presenter: **Deepak Pai**

Deepak Pai (USA); Karthik Pappu (Dakota State University); Yogeesh Kunigal Gangaiah (Qualitest)

[11:00] TowerTrace: Scalable Detection of Telecom Infrastructure via Multimodal VLMs

Presenter: **Mohamed Tharwat**

Mohamed Tharwat (ESLSCA University, Egypt); Ayman Gaber, Mohamed Abdelhakeem and Islam Ashraf (Vodafone Egypt); Magy Hossam

THURSDAY, APRIL 23, 2026

SESSION 7B • Room B • 09:00 – 11:15

NLP, Sentiment Analysis & Domain-Specific AI Applications

Session Chair(s): Davor Cafuta (Zagreb University of Applied Sciences, Croatia)

[09:00] Automated Pancreas Segmentation in 2D CT Scans: A Comparison of Prompt-Based SAM and Classical U-Net

Presenter: **Mina Awad**

Mina Awad, Ahmed F. Elnokrashy and Mai S. Mabrouk (Nile University, Egypt)

09:15

[09:15] Towards Automated Grading of Hand Drawings: A Dataset and Classification Framework

Presenter: **Alaa Abdulfattah Sayed**

Alaa Abdulfattah Sayed and Khaled F. Hussain (Assiut University); Majid Askar (Assiut University)

[09:30] Implementation of Sentiment Prescriptive Analytics in a Web-Based Library User Satisfaction System Using Deep Learning

Presenter: **Jerry Incierto Teleron**

Jerry Incierto Teleron (Technological Institute of the Philippines - Quezon City)

09:45

[09:45] Toward Trustworthy Audit Automation: Explainable Meta-Learning for Financial Fraud Detection

Presenter: **Nancy Chendeb**

Nancy Chendeb (De Vinci Higher Education & De Vinci Research Center, France); Antonin Chevalier krempfer; Abdallah Mustapha Ziade (Lebanese University, Zaca International); Malak Mohamad Daher (Jinan University)

[10:00] Swin Transformer Architectures for Breast Histopathology Image Classification in Cancer Detection

Presenter: **Mahmoud Adel Nour**

Mahmoud Adel Nour, Mai S. Mabrouk and Ahmed F. Elnokrashy (Nile University, Egypt)

10:15

[10:15] A Smart Mobile System Using Deep Learning for Business Tourism Demand Prediction in Palawan

Presenter: **Jerry Incierto Teleron**

Jerry Incierto Teleron (Technological Institute of the Philippines - Quezon City)

[10:30] Prediction of Digital Literacy in Agricultural and Rural Areas Using Machine Learning to Enhance Digital Literacy Education

Presenter: **Celeste Mercado**

Celeste Mercado (Pangasinan State University, Philippines)

10:45

[10:45] Predicting College Students' Academic Performance Using Machine Learning

Presenter: **Julius Cesar O. Mamaril**

Julius Cesar O. Mamaril, Rhowel M. Delloso, Celeste Mercado and Jennie Fernandez (Pangasinan State University); Jerry I. Teleron (TIP - Quezon City); and others

[11:00] Adaptive Multi-Modal Routing for Cost-Aware Presentation Summarization

Presenter: **Vasanth rao Jadav**

Vasanth rao Jadav (EPAM Systems, USA); Anshul Garg (Amazon); Vikram Isanaka (UBS)

Workforce Analytics, Social Impact & Organizational Decision Support

[09:00] A multilingual GAT-based model for product search in an E-commerce platform**Presenter:** Cherine Mohamed*Cherine Mohamed (British University in Egypt); Abeer Hamdy (The British University in Egypt)*

09:15

[09:15] AI Food Scanner — AI-Powered Dish Nutrition Scanner App**Presenter:** Ekereuke Udoh*Ekereuke Udoh (QA Higher Education, UK)***[09:30] Data-Driven Analysis of Factors Influencing Employee Performance in the Lebanese Construction Industry****Presenter:** Fawziah Kassar*Fawziah Kassar (Lebanese University); Nader Bakir (Beirut Arab University); Khoulood Samrouth; Layla Akkoume (Jinan University); Nesrine Atitallah; Hussein Krayani; Lina Kemayel*

09:45

[09:45] A Hybrid CNN-Vision Transformer Architecture for Enhanced Document Understanding in Higher Education Archiving**Presenter:** Yousuf Nasser Al Husaini*Yousuf Nasser Al Husaini and Mohammed Abdullah Salim Al Husaini (Arab Open University Oman); Rahma Mohammed Al Kharusi and Abdul Rahman Al Abri***[10:00] Securing APIs in Government Clouds and Runtime Fabric Using FIPS-Enabled MuleSoft****Presenter:** Venkata Pavan Kumar Gummadi*Venkata Pavan Kumar Gummadi (Broadridge); Lakshmi Sujatha Chilamkurthi (Cigna); Srikanth Kavuri (Iconsoft)*

10:15

[10:15] Service Level Objective (SLO) Observability with Splunk and Dynatrace in Microservices**Presenter:** Venkata Pavan Kumar Gummadi*Venkata Pavan Kumar Gummadi (Broadridge); Lakshmi Sujatha Chilamkurthi (Cigna); Srikanth Kavuri (Iconsoft)***[10:30] A Random Forest and Logistic Regression Analysis of Faculty Development Programs, Satisfaction, and Career Mobility in a State University****Presenter:** Annalene Grace E. Co*Annalene Grace E. Co (Quirino State University, Philippines)*

10:45

[10:45] A Random Forest-Based Analysis of Factors Affecting the Income of Carpenters in Selected Barangays of Kayapa, Nueva Vizcaya, Philippines**Presenter:** Ayson D. Paclit*Ayson D. Paclit (Nueva Vizcaya State University, Philippines)***[11:00] CostAgent: Self-Improving Autonomous LLM-Based Orchestration for Cost-Optimal Cloud Data Processing at Scale****Presenter:** Naga Krishna Reddy Muppidi*Naga Krishna Reddy Muppidi, Veera Ravindra Divi and Sneha Gullapalli (USA); Sruthi Rachamalla (Southern Illinois University); Subhash Tatavarthi (Kasmo)*

THURSDAY, APRIL 23, 2026

SESSION 7D • Room D • 09:00 – 11:15

AI in Education: Learning Analytics, Prediction & Student Success

Session Chair(s): Tejas Pravinbhai Patel (Amazon, USA)

[09:00] Synchronized 360° VR Classroom Using Locally Hosted Open Infrastructure and Meta Quest 3 Headsets

Presenter: **Brigitta Cafuta**

Brigitta Cafuta, Danijela Pongrac and Lidija Tepes Golubic (Zagreb University of Applied Sciences, Croatia)

09:15

[09:15] PMFSNet from Scratch: Evaluating Lightweight Backbone Efficiency for Medical Image Segmentation

Presenter: **Mina Magdy Kamel**

Mina Magdy Kamel, Ahmed F. Elnokrashy and Mai S. Mabrouk (Nile University, Egypt)

[09:30] Design and Evaluation of a Fairness-Aware Student Success Prediction System Using Learning Analytics Data (OULAD)

Presenter: **Ekereuke Udoh**

Ekereuke Udoh (QA Higher Education); Betty Nkem Okwedadi (Ulster University); Edita Gashi (QA Higher Education)

09:45

[09:45] An Optimized Resource Allocation and Recommendation Algorithm for Classroom Occupancy Management: A Case Study at Alioune Diop University of Bambey

Presenter: **Youssou Kassé**

Youssou Kassé (Université Alioune Diop); Fatoumata Baldé (Université Alioune Diop de Bambey); Ndeye Penda Mbaye

[10:00] Comparative Study of Machine Learning Algorithms for Predictive Analytics in Web Applications

Presenter: **Raju Dandigam**

Raju Dandigam (Navan, USA); Chirag Agrawal (Amazon, USA)

10:15

[10:15] An Immersive Virtual Tour Framework for Educational Institutions Using 360° VR and AI-Based Chatbot

Presenter: **Mahmoud Rehan Morgan**

Mahmoud Rehan Morgan (El Shorouk Academy); Alaa M Nagy (El Shorouk Academy); Ahmed Radi (Technical Research Center, Egypt)

[10:30] Application of Machine Learning to Predict Student Academic Outcomes in Higher Education

Presenter: **Armando D. Junio**

Armando D. Junio (Pangasinan State University, Philippines)

10:45

[10:45] DocSync: Agentic Documentation Maintenance via Critic-Guided Reflexion

Presenter: **Sidhesh Badrinarayan**

Sidhesh Badrinarayan (Google, USA); Adithya Parthasarathy (New York University, USA)

[11:00] Distributed Platform Architecture and API-Led Integration

Presenter: **Lakshmi Sujatha Chilamkurthi**

Lakshmi Sujatha Chilamkurthi (Cigna, USA); Venkata Pavan Kumar Gummadi (Broadridge, USA); Srikanth Kavuri (Iconsoft, USA)

THURSDAY, APRIL 23, 2026

SESSION 7E • Room E • 09:00 – 11:30

Machine Learning for Business Intelligence, Finance & Fraud Detection

Session Chair(s): Salah A. Aly (Fayoum University, Egypt)

[09:00] Behavioral Customer Segmentation for Fixed Broadband: A Machine Learning Approach

Presenter: Mohamed Tharwat

Mohamed Tharwat (ESLSCA University, Egypt); Eshraq Saeed Awwad (Vodafone Egypt)

09:15

[09:15] Defensive Intelligent Traffic Management using Secure AI Intersection Control, Resilient Sensor Fusion, and Crisis-Aware Autonomous Routing

Presenter: Wael Badawy

Wael Badawy (Egyptian Russian University, Egypt)

[09:30] (RDSF-SSL) Robust Dynamic graph and Soft-label Fusion for Semi-Supervised Learning

Presenter: Abdullah Baradaaji

Abdullah Baradaaji (Lebanese International University); Fadi Dornaika (University of the Basque Country); Taha Houda (Prince Mohammad Bin Fahd University); Jihad Jaam (Liverpool J. Moores University, UK)

09:45

[09:45] Efficient Voice Identification System Utilizing Wav2Vec2.0 and HuBERT Based on the Quran Reciters Dataset

Presenter: Aly Moustafa

Aly Moustafa (Helwan University, Egypt); Salah A. Aly (Fayoum University, Egypt)

[10:00] Improving Safety Deep Learning-Based Vulnerability Detection

Presenter: Samir Haddad

Samir Haddad (University of Balamand); Kassem Hamze (Islamic University of Lebanon); Jinane Sayah (University of Balamand); Rafi Srayoui; Joseph Merhej; Chadi Kallab (LAU)

10:15

[10:15] AI-Driven Detection of Misclassified Imports: A Machine Learning and LangChain-Based RAG Approach for Customs Fraud

Presenter: Adnane El Amrani

Adnane El Amrani, Aya Ismaili and Yousra Chtouki (Al Akhawayn University, Morocco); Hind Lamharhar

[10:30] Cooperative Evolutionary Hyper-Heuristics with Informed Energy Constraints for Fair and Robust Spiking Neural Networks

Presenter: Ali Sajwani

Ali Sajwani and Ayad Turkey (University of Sharjah, UAE); Nasser Saber (La Trobe University, Australia)

10:45

[10:45] A Hybrid Asset Scoring Framework Combining Deterministic Quantitative Screening with RAG-Informed LLM Qualitative Evaluation for Portfolio Universe Reduction

Presenter: Joude Azzam

Joude Azzam, Saber Elsayed and Saad Harous (University of Sharjah, UAE)

[11:00] An Intelligent Decision Support Framework for Relevant and Responsive Capacity-Building in Start-Up Cooperatives

Presenter: Dahlee S. Pascua

Dahlee S. Pascua (Isabela State University, Philippines)

11:15

[11:15] Quantifying Attribute-Level Elliptic Curve Cryptography Encryption Costs with Decision Modelling for Data-Intensive Applications

Presenter: **Anxhela Baraj**

Anxhela Baraj (University of Rijeka & Canadian Institute of Technology, Albania); Jonatan Lerga (University of Rijeka)

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THURSDAY, APRIL 23, 2026

SESSION WS • Main Room • 11:15 – 12:15

Industrial Workshop from USA: Building Trusted AI-Driven Infrastructure

Session Chair(s): **Lakshmi Vidya Peri (TMMI, USA)**

This workshop features industry leaders from the USA sharing insights on building trusted AI-driven infrastructure.

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