

MedPRAI

**7th Mediterranean Conference on Pattern
Recognition and Artificial Intelligence
January 23-24, 2025
Istinye University, Turkey**

Conference Program

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Dr. Mehmet Alper Tunga



Dr. Alaa Ali Hameed

Dear Colleagues and Researchers,

It is with great pleasure and anticipation that we extend our warm welcome to you all for the 7th edition of the Mediterranean Conference on Pattern Recognition and Artificial Intelligence (MedPRAI-26), scheduled to take place at Istinye University, Istanbul, Turkey, on January 23–24, 2026.

On behalf of the organizing committee, we invite you to be part of MedPRAI 2026, contributing your expertise and insights to make this conference another resounding success. We eagerly await your presence and participation in what promises to be a memorable and intellectually stimulating event.

Warm regards,

General Chair,

Dr. Mehmet Alper Tunga

Dr. Alaa Ali Hameed

MedPRAI 2026

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About Istinye University



Istinye University was established in 2015 by the 21st Century Anatolian Foundation as the continuation of over 30 years of knowledge and experience of the MLP Care Group which has brought three different hospital brands, namely, "Liv Hospital", "Medical Park" and "VM Medical Park" under one roof. With its academic staff successfully committed to education and research to make a difference, Istinye University aims to take a place among Turkey and the world's most prestigious universities by contributing to producing new knowledge through its education and research performance while helping its students become well-equipped in their fields by sharing existing knowledge with them. It directs its graduates to working environments where they can use these skills, especially to Liv Hospital, Medical Park and VM Medical Park gathered under the umbrella of MLP Care Group. By elevating the competent, creative and forward-looking individuals of the future, Istinye University aims at contributing to the progress of humankind and playing a significant role in the social, cultural, economic, scientific and technological development of our society.

Keynote Speakers

DAY-1: January 23, 2026 Time: 09:00 - 09:30

Keynote: Dr. Piotr Pietrzak

Professor, Management Institute of the Warsaw University of Life Sciences, Poland

Title: Enhancing Organizational Sustainability through a Systems Approach: An Example from Higher Education



Biography: Dr. Piotr Pietrzak is an adjunct professor at the Management Institute of the Warsaw University of Life Sciences (WULS). He received his Ph.D. in economics from the Faculty of Economic Sciences in 2016. He currently serves as the Chairman of the Rector’s Committee on Rankings. He organizes international conferences and reviews scientific articles for national and international journals. His main areas of interest include public management, strategic management, process management, sustainable organizational development, and the use of artificial intelligence in management. He is the author of over 130 articles and six books.

DAY-1: January 23, 2026. Time: 9:30 - 10:00

Keynote: Dr. Georgia Fargetta

Researcher, University of Catania, Italy

Title: Understanding and Defending Against Adversarial Attacks in Machine Learning



Biography: Georgia Fargetta is a researcher at the University of Catania (Italy), within the Department of Mathematics and Computer Science, and a member of the Image Processing Laboratory (IPLab). Her research lies in the area of artificial intelligence and computer vision, with interests spanning visual understanding, pattern recognition, and multimodal learning. Her work focuses on the analysis of complex and unconstrained visual data, addressing challenges related to reliability, robustness, and interpretability of learning-based models, with applications to security-sensitive and real-world scenarios.

In parallel, she investigates optimization and game-theoretic models for complex systems, with contributions to supply chain networks, variational inequalities, and multi-agent equilibrium problems, applied to sustainability, emergency management, and resource optimization. In 2021, she received the Young Women in Operational Research Award. She obtained her Ph.D. in 2023, and her doctoral thesis was subsequently recognized with a doctoral thesis award, acknowledging its scientific quality and impact.

Georgia Fargetta publishes regularly in international journals and conferences and serves as reviewer and program committee member for venues in computer vision, multimedia, and artificial intelligence. She is also involved in undergraduate and graduate teaching in computer science and artificial intelligence.

DAY-2: January 24, 2026 Time: 11:30 - 12:00

Keynote: Dr. Muhammad Ajmal Azad

Associate Professor, Department of Computer Science,
Birmingham City University, UK

Title: Trusted Privacy-preserving Collaboration



Biography: Muhammad Ajmal Azad is an Associate Professor of Cyber Security in the Department of Computer Science at Birmingham City University. His research interests broadly covers the areas of network security and privacy. In the past few years, he designed systems and methods for securing the telecommunication users from the telemarketers, robo-callers, scammers, and spammers using behavioral modeling and social network analysis. He has also explored ways for protecting the privacy of telephone users in a collaborative environment. Currently, he is involved in projects like Identity spoofing, secure reputation systems, collaborative security, security of VoIP and Next-generation Network security.

Day-1: Online Sessions Summary
January 23, 2026

Time Zone:(GMT+03:00) Turkish Standard Time

	Google Meet Link-1	Google Meet Link-2
08:50 - 09:00	Conference Opening	
09:00 - 09:30	Keynote: Dr. Piotr Pietrzak	
09:30 - 10:00	Keynote: Dr. Georgia Fargetta	
10:00 - 12:00	Technical Session – 1	Technical Session – 2
12:00 - 14:00	Technical Session – 3	Technical Session – 4

Day-2: Online Sessions Summary
January 24, 2026

	Google Meet Link-1	Google Meet Link-2
09:30 - 11:30	Technical Session-5	Technical Session-6
11:30 - 12:00	Keynote: Dr. Muhammad Ajmal Azad	
12:00 - 14:00	Technical Session-7	Technical Session-8

Online Sessions
DAY-1: January 23, 2026

Technical Session-1
Session Chairs: Dr. Georgia Fargetta, Dr. Rida Zia-ul-Mustafa

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18	AUTHNET++: Extending Neural Authentication to Multimodal and Context-Aware Deep Learning Models Venkatachalam, Prakasam
3	Between Insight and Influence: Ethical Constraints of AI-Generated Crime Scene Scenarios Dimitar Rangelov, Sierd Waanders, Kars Waanders, Evgeni Genchev, Jaap Knotter
10	DFG Edge Filtering for Business Process Anomaly Detection Ayaz, Teoman Berkay; Akbulut, Akhan
5	ReCoST: A Recurrent Convolutional Spatiotemporal Framework for Deepfake Detection. Mouhcine, Kaoutar; Zrira, Nabila; Elafi, Issam; Benmiloud, Ibtissam
60	Design of a Geothermal Power Plant with Forecasting and Fault Detection for Bangladesh Md Mehedi Hassain, Gonga Sutradhar, Md. Nayeem Ibna Harun, Abdur Rahman
68	MoonStar Algorithm: Performance Optimization for Large-Scale Multiplication Bucak, Ihsan; Ayyıldız, Mücahit
47	Generative Adversarial Networks for Historical photo Restoration: A Comparative Study Marem H. Abdulabas, Alaa Jamal Jabbar, Ashwan A. Abdulmunem
64	Survey of Development and Maintenance for Software Engineering Operations Based on Artificial Intelligence Rana M. Abdullah, Ibrahim Ahmed Saleh

Technical Session-2
Session Chairs: Dr. Marwa Ben Ali

78	Previous Token Prediction: Enabling Reverse Generation in Autoregressive Language Models Beshar Alkurdi, Himmet Toprak Kesgin, Muzaffer Kaan Yuce, Mehmet Fatih Amasyal
33	Exploring Semantic Segmentation for Complex Document Layout Analysis Aziz M. Qaroush, Mohammad Jubran, Feras Maali, Sajeda Mura, and Waleed Swaileh
7	Daily Offshore Solar Radiation Forecasting Using Reanalysis Driven ANN and CNN-LSTM Models Elhussein Iz Elislam Soukeur , Khalid Amarouche

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76	Renewable Energy Waste in India: Can AI-Enabled Business Intelligence Forecast It? Jaiswal, Bhuwan; Sarkar, Sobhan; Djeddi, Chawki
75	Enhancing Mathematical Reasoning in Turkish Large Language Models with Search-Based Inference and Model Merging Ahmed Zeer, Osama SHBIB, Muzaffer Kaan Yuce, Himmet Toprak Kesgin, Mehmet Fatih Amasyali
77	Enhancing Turkish Reasoning Capabilities in Large Language Models Huseyin Emre Seyrek, Eren Dogan, Muzaffer Kaan Yuce, Himmet Toprak Kesgin, Mehmet Fatih Amasyali
102	A Comprehensive Review of Toxicity Detection Methods in Social Media Duaa Chaseb Sharad, Asia Mahdi Naser Alzubaidi
65	Deep Learning Algorithms for Speaker Recognition in Noisy Environments: A Survey Kawther Meitham Mohammed Jawad, Ashwan A. Abdulmunem

Technical Session-3
Session Chairs: Dr. Ezgi Demir

104	AI-Driven Snow-Covered Road Classification for Enhanced Safety Zaman, ANK; Sehra, Sukhjit
9	Cross Domain Benchmarking of LLMs in Text Summarization Applications Gülsoy, Muhammed; Akbulut, Akhan
54	Cross-Chain Behavioral Modeling for Sybil Attack Detection in Blockchain Networks Berke Güneş, C. Okan Sakar
19	Advanced Deep Learning Frameworks for DDoS Attack Forecasting with Neurosymbolic Reasoning Venkatachalam, Prakasam
62	A Knowledge-Distilled Vision Transformer Framework with CNN Student and Transfer Learning for Efficient and Accurate Pulmonary Disease Detection Oueldji, Khaoula; Hariri, Walid; Djafri, Hadjer; Arioui, Hichem
149	Core-Sets and Beyond: Uncertainty and Unlearning in Responsible NLP Saad, Sadia; Jamil, Akhtar; Beg, Omer; Ali Hameed, Alaa
119	Application of Advanced Statistical Models in Big Data Analysis: Modern Methodologies and Techniques Mushtaq K. Abdalrahem, Maryam Sadiq
145	Low Cost Medical Image Generation: A Comparative Study Imran, Laiba; Jamil, Akhtar; Iqbal, Uzair

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Session Chairs: Dr. Marwa Ben Ali**

6	External Validation of Tree-Based Models for Early Sepsis Prediction using Real-World Clinical Data from an Algerian University Hospital ELMERAH, Hadj Ali; Atmani, Baghdad; Barigou, Fatiha ; Khemliche, Belarbi ; Errouane, Badreddine ; Bousmaha, Mohammed
110	A Computer Vision Hybrid Approach: CNN and Transformer Models for Accurate Alzheimer’s Detection from Brain MRI Scans Md Mahmudul Hoque, Shuvo Karmaker, Md. Hadi Al-Amin, Md Modabberul Islam, Jisun Junayed, Farha Ulfat Mahi
26	Cash flows shift through tax-avoidance activities: How organizational capital moderates it? Iqbal, Muhammad; Farnoudkia, Hajar
32	Rotation Invariant Trace Transform Convolution Neural Network Mohammad Faizul Nasrudin, Remon Redika, Azizi Abdullah, Hadi Affendy Dahlan, Anton Heryanto
69	Fingerprint-Based Blood Group Classification Muhammad Kashif Iqbal, Arif Ur Rahman, Faryal Nosheen, Muhammad Shoaib Arshad
148	Explainable Deep Learning Based Ensemble Model for Multi Class Congenital Heart Disease Screening Using Chest X-Rays Maqbool, Momina; Jamil, Akhtar; Shahid, Ahmad Raza; Noor, Nouman; Hameed, Alaa Ali
63	Hand Sign Language Recognition Using Ensemble Deep Learning Techniques: A Survey Hussain Salih Mahdi, Ashwan A. Abdulmunem
41	A Review of Human-centric Video Anomaly Detection Hiba Mohsin Abdulameer, Ali Mohsin Al-juboori

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Session Chairs: Dr. Waleed M. Ead**

98	Evaluating AI-Based Speech Recognition Systems for Hearing Support Applications Nongbzanga Ariane Fabiola Ouedraogo, Yasser Alginahi
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73	Flow-Based IoT Intrusion Detection under Extreme Class Imbalance on the CIC IoT-DIAD 2024 Dataset Muhammed İkbal Karadeli, Nihan Kahraman
15	A GNN Model That Improves And Develops The Dijkstra Algorithm in Computing Optimum Paths Of Autonomous Vehicles Ali. Alyasin, Eyad I. Abbas, Jabbar K. Mohammed
114	Knowledge Distillation for Data-Free Incremental Learning: A YOLO-based Approach for Object Detection Ahmed Yassin Mohammad, Abdulmir Abdullah Karim
88	A Hybrid Approach for Underwater Image Enhancement Based on DCP and LUCY Algorithms Anwar S. Redha , Hana H. kareem
14	Consensus-Driven Optimization Algorithms for Inverse Fractal Problems Mushtaq K. Abdalrahem

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Session Chairs: Dr. Wadhah Zeyad Tareq

2	Ethical Considerations in AI-Based Cervical Cancer Screening Dimitar Rangelov , Radoslav Miltchev, Georgi Prandzhev
4	Performance Analysis and Clustering of Playing Styles in Football Using Machine Learning and Generative Artificial Intelligence C.Semih Yazici, C.Okan Şakar
44	Comparative Analysis of Hackathon Submissions and GitHub Repositories Gaurab Baral, Prasanna Dhungana
11	Neural Gating Strategies for Improving Sensitivity in Ethereum-Based Loyalty Fraud Detection Ayaz, Teoman Berkay; Özara, Muhammed Furkan; Akbulut, Akhan

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38	The influence of green accounting data analysis on the enhancement of sustainable and financial performance Zina Qahtan Abbas , Wurqa Khalid Abdul-Jabbar

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59	Fiber Dosimetry and Simulation of Optical Response under X-Ray Irradiation of Rare Earth Element Enriched Silica Nedaa Monther Salman, Hana H. Kareem, Hazim G. Daway
40	Effect of MAF Process Parameters on the Material Removal Rate and Surface Roughness of Stainless Steel AISI420 Mohammed M. Meteab, Saad K. Shather, Muna K. Abbass
93	Energy-Efficient Q-Learning Routing with Dynamic K-Means Clustering for Wireless Sensor Networks Nour Al-Huda Salih Abd, Asaad. S. Daghah, and Ahmed Al-Hilli
28	The Impact of Hydraulic Pressure in Fracture Size and Location During Hydraulic Forming Process Othman Diyaa Al-Jubouri, Amer Yahya Al-Jarjees
67	Underwater Image Enhancement Based on Sigmoid Mapping and Entropy Information Fidelity Anwar S. Redha, Hana H. kareem
120	Bayesian MAP Estimation for Multilevel Logistic Regression via Newton-Raphson Ekhlal Al-Ameri, Mushtaq K. Abdalrahem, Enas A. Mohammed
103	Systematic Literature Review for YouTube Popularity Prediction Using Machine Learning Hamsa Hameed Yousif, Ayad Hameed Mousa

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Session Chairs: Dr. Abdullah Saad Alzahrani, Dr. Ganesh Kumar

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61	Outperforming EKF in Extreme Nonlinearities: A KamanNet Framework for Complex Vehicle Dynamics Sakina Hassan Saeed , Mohanad Al-Ibadi
74	Quantum-Neural Double Deep Q-Learning for Seamless Handover Optimization in High-Speed Railway Communication Systems Mariam Abdul-Zahra Raheem, Asaad S. Daghah
31	Hybrid Deep Learning with Attention Mechanisms for Network Intrusion Detection System Noor Al-Huda H. Olewy, Ameer K. Hadi
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