

TENTATIVE CALL FOR PAPERS



IEEE CS



37th International Conference on Tools with Artificial Intelligence

November 03-05, 2025, Athens, GREECE

General Chair

Nikolaos Bourbakis, Purdue University, USA & Technical University of Crete, Greece

Co-Program Chairs

Arnaud Lallouet, Huawei Technologies Ltd, France

Michail Alexiou, Kennesaw State University, USA

Financial-Registration Chair

Garrett Goodman, Miami University, USA

Local-Web Chair

Nikolaos Gkorgkolis, University of Crete, Greece

Publicity Chairs

Sachin Sharma, Kennesaw State University, USA

Special Tracks:

1. AI and Maritime Applications

Rahul Dubey, Missouri State University, USA

2. AI and Software Engineering

Maria Virvou & George Tsihrintzis, University of Piraeus, USA

3. AI and Assistive Technologies for People in Need

Despina Kavrakli, BAIF USA

ICTAI Program Area Chairs

Anna Esposito, University of Campania, Italy

Lefteri Tsoukalas, Purdue University, USA

Taghi Khoshgoftaar, Florida Atlantic University, USA

Miltos Alamaniotis, University of Texas at San Antonio, USA

Amos Azaria, Ariel University, Israel

Euripidis Petrakis, Technical University of Crete, Greece

Chen Zhao, Kennesaw State University, USA

Ming Li, Nanjing University, China

Xiaoping Lu, Macau University of Science and Technology, China

Gregory Smits, IRISA, University of Rennes, France

Kang Zhang, Hong Kong University of Science and Technology, China

James Ghawaly, Louisiana State University, USA

George Magoulas, Birkbeck University of London, UK

Pierre Flener, Uppsala University, Sweden

Yi-Ching (Angel) Liu, National Taiwan University, Taiwan

Benoit Rottembourg, IINRIA, France

Damien Pellier, Université Grenoble Alpes, France

The IEEE International Conference on Tools with Artificial Intelligence (ICTAI) has been a leading IEEE-CS annual scientific meeting for three decades. It provides a major international forum where the creation and exchange of ideas related to artificial intelligence are fostered among academia, industry, and government agencies. The conference facilitates the cross-fertilization of these ideas and promotes their transfer into practical tools, for developing intelligent systems and pursuing artificial intelligence applications. ICTAI encompasses all technical aspects of specifying, developing and evaluating the theoretical underpinnings and applied mechanisms of the AI-based components of computer tools such as algorithms, architectures and languages.

Topics (but not limited to)

AI Foundations

Evolutionary computing, Bayesian vs Fuzzy Neural Networks
Decision Theory and Decision Optimization
Search, SAT, and CSP
Logics and Ontologies

AI in Domain-specific Applications

Computational Biology, Medicine & Biomedicine
Web, Communication, Social Networking
Games and E-Commerce
Finance and Risk Management

AI in Methodologies and Systems

Intelligent Robotics, Computer Vision and Patterns Analysis-
Association & Understanding, Text Deep Analysis/Interpretation
Intelligent Software Engineering
Security, Data Privacy, and Information Assurance

AI in Data Analytics, Data Mining and Big Data

Visual Analytics for Big Data
Computational Modeling for Big Data
Large-scale Recommendation and Social Media Systems
Semantic-based Big Data Mining & Games

AI in Smart Cities

Healthcare, Traffic lights, Transportation, Environment, Energy.
Smart homes, Smart Neighborhoods, Smart Cities

AI in Large Scale Energy Systems

Nuclear, Wind, Water, other

AI Synergistic Models

Bridging AI Models for Advanced AI
Synergies of AI Tools

Machine Learning & Deep Learning

Dimension Reduction and Feature Selection
Learning Graphical Models and Complex Networks
Active, Cost-Sensitive, Semi-Supervised, Multi-Instance, Multi-
Label and Multi-Task Learning
Transfer/Adaptive, Rational and Structured Learning
Preference/Ranking, Ensemble, and Reinforcement Learning
Learn continuous-Incremental Learning

Knowledge Representation, Reasoning, Cognition

Knowledge Representation and Reasoning
Knowledge Extraction, Management and Sharing
Case-based Reasoning and Knowledge-based Systems
Cognitive Modelling and Semantic Web

AI and Decision Systems

Decision Guidance and Support Systems
Systems AI based Optimization
Group, Distributed, and Collaborative Decisions
Crowd-sourcing and Collective Intelligence Decision-making
Strategic, Tactical and Operational-level Decisions

Uncertainty in AI

Uncertainty and Fuzziness Representation and Reasoning
Approximate/Exact Probabilistic Inference

Natural Language Processing

Natural Language Processing/Understanding
Large Language Models, Sentiment Analysis
Dialogue systems and digital assistants/chatbots

AI and Societal Impact

AI Fairness, Accountability and Transparency
AI interpretability and explainability Ethical and Trustworthy AI

Papers Submission

The submissions should contain original, high quality work, not submitted or published elsewhere. Papers should be submitted electronically in pdf format (through the ICTAI 2025 web site) and should conform to IEEE specifications (single-spaced, double-column, 10-point font size, up to 8 pages).

Papers Presentation

Each accepted paper should be presented by one of the authors and accompanied by at least one full registration fee payment to guarantee publication in the proceedings. All accepted papers (with payment) will be included in proceedings of ICTAI 2025, which will be published by the IEEE Computer Society.

Special Issues in IEEE & Int. Journals

Extended versions of selected papers from the conference will be reviewed and published in special issues in various IEEE and Int. Journals

Best ICTAI Papers Recognition Awards

ICTAI provide several financial awards to the top-5 best student papers and to the ICTAI Best Paper Award.

Additional & Contact Information

ICTAI General Chair:

Nikolaos Bourbakis nbourbak@purdue.edu

ICTAI Co-Program Chairs:

Arnaud Lallouet arnaud.lallouet@huawei.com

Michail Alexiou malexiou@kennesaw.edu

Paper submission: July 15, 2025

Paper notification: Aug. 30, 2025

Camera ready paper: Sept. 20, 2025