

CALL FOR PAPERS



IEEE CS



34th International Conference on Tools with Artificial Intelligence

October 31 - November 02, 2022, WDC, USA or **(VIRTUALLY)**

ICTAI Steering Committee

Nikolaos Bourbakis (Founder)
Maria Virvou, UNIPI, GR
Jeff Tsai, Asia U, Taiwan
Anna Esposito UC, Italy
Miltos Alamaniotis, UTSA, USA
Despina Kavrakli, BAIF, USA

General Chair

Zhang Du, Macau U of S.T., China

Program Chairs

Marek Reformat, UofA, Canada
Wang Wenmin, Macau U of S.T., China

Financial-Registration Chairs

Cai Zhan-Chuan, Macau U of S.T., China

Local Web Chairs

Nikolaos Gkorgkolis, WSU, USA
Thanh Kim Phan, WSU, USA

Publicity Chairs

Marcin Pietrasik, UofA, Canada
Yujia Zhang, UofA, Canada
Ben Ye, Macau U of S.T., China
Ting Lan, Macau U of S.T., China

ICTAI Program Areas Chairs

Amos Azaria, Ariel University, Israel
Shuichiro Yamamoto, Nagoya U. Japan
Hironori Washizaki, Waseda U., Japan
Miltiadis Alamaniotis, UTSA, USA
Marina L. Gavrilova, U. of Calgary, CA
George Tshirintzis, UNIPI, Greece
Anna Esposito, Univ Campania, Italy
Carlos Enrique Montenegro Marin,
Bogota, Colombia
Vicente Garcia Diaz, U. Oriedo, Spain
Murillo G. Ganiero, FUU, Brazil
Jianhui Lv, Tsinghua Univ. China
Alan Liu, Asia University, Taiwan
Ching-Hsien Hsu, Asia Univ., Taiwan
Taghi Koshgoftaar, FAU, USA
Soon Chung, WSU, USA
Alex Brodsky, GMU, USA
Alessio Gaspar, USF, USA
Y.-K. Dennis Ng, Brigham Young U, USA
Michail Alexiou, GIT, GA, USA
Ming Yang, GA, USA

The IEEE International Conference on Tools with Artificial Intelligence (ICTAI) is 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. The 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 and Neural Networks
Decision/Utility Theory and Decision Optimization
Search, SAT, and CSP
Description Logic and Ontologies

AI in Domain-specific Applications

AI in Computational Biology, Medicine and Biomedical Applications
AI in WWW, Communication, Social Networking, Recommender Systems, Games and E-Commerce
AI in Finance and Risk Management

AI in Computer Systems

AI in Robotics, Computer Vision and Games
AI in Natural Language Processing
AI in Software Engineering, Real-Time and Embedded Applications, and Sensor Networks
AI in Cloud Computing, Data-Intensive Applications and Online/Streaming and Multimedia Systems
AI in Web Search and Information Retrieval
AI in Computer 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
Cloud/Grid/Stream Data Mining for Big Velocity Data
Semantic-based Big Data Mining

AI in Smart Cities

Healthcare, Traffic, Transportation, Environment, etc.

AI Synergistic Models

Machine 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, 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
Optimization-based Recommender Systems
Group, Distributed, and Collaborative Decisions
Crowd-sourcing and Collective Intelligence Decision-making
Strategic, Tactical and Operational-level Decisions
Decision-making in Social and Mobile Networks

Uncertainty in AI

Uncertainty and Fuzziness Representation and Reasoning
Approximate/Exact Probabilistic Inference
Knowledge Discovery and Data Mining for Uncertain Data

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, not submitted or published elsewhere work. Papers should be submitted electronically (through ICTAI 2022 web site) in pdf format 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 will be included in proceedings of ICTAI 2022 that 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:

Zhang Du; email: duzhang@must.edu.mo

ICTAI Program Chairs:

Marek Reformat, email: reformat@ualberta.ca
Wang Wenmin, email: wmwang@must.edu.mo

Paper submission: July 20, 2022

Paper notification: Aug. 20, 2022

Camera ready paper: Sept. 20, 2022

