ICTAI

IEEE CS

IEEE

B AI FOUNDATION

36ᵗʰ International Conference on Tools with Artificial Intelligence

October 30 to November 01, 2024, Herndon VA, USA **(only in Person)**

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.

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TBA

Topics (but not limited to)

AI Foundations
Evolutionary computing, Bayesian and Neural Networks
Decision/Utility Theory and Decision Optimization
Search, SAT, and CSP
Logics and Ontologies

AI in Domain-specific Applications
AI in Computational Biology, Medicine & Biomedical Applications
AI in the Web, 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
Bridging AI Models for Advanced AI

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 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
Optimization-based Recommender Systems
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
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, not submitted or published elsewhere work. Papers should be submitted electronically (through the ICTAI 2024 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 2024 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-3 best student papers and to the ICTAI Best Paper Award.

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Paper submission: **July 01, 2024**
Paper notification: Aug. 16, 2024
Camera ready paper: Sept. 16, 2024
*Herndon city is next to Dulles Int. Airport, 30 mils from WDC