TENTATIVE CALL FOR PAPERS

36th International Conference on Tools with Artificial Intelligence
October 28 to October 30, 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.

Topics (but not limited to)

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### 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, Dataverse 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

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### 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/Preference Ranking, Ensemble, and Reinforcement Learning
- Learning continuous-Incremental Learning

### Knowledge Representation, Reasoning, Cognition
- Knowledge Representation and Reasoning
- Knowledge Extraction, Management and Sharing
- Case-based Reasoning and Knowledge-based Systems
- Cognitive Modeling 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

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**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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**Additional & Contact Information**

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**Paper submission:** July 15, 2024
**Paper notification:** Aug. 25, 2024
**Camera ready paper:** Sept. 23, 2024

*Herndon city is next to Dulles Int. Airport, 30 miles from WDC*