



Call for Papers

Track 10 – Artificial Intelligence for Cyber Physical Systems in Automation

Track Chairs

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FOCUS

The track focuses on theoretical formulations, technical developments, practical applications, methods, and industrial case studies that leverage Artificial Intelligence (AI), Machine Learning (ML), Data Analytics, and emerging AI and ML-based technologies for the automation and optimization of Cyber-Physical Systems in an industrial context. We are seeking contributions that demonstrate how these methods can address existing challenges in the industry, such as resource optimization (energy, water, compressed air, etc.), the optimization and reconfiguration of technical systems, enabling quicker and more cost-efficient operation, providing necessary assistance in dealing with technical issues, including the detection and diagnosis of anomalies. Additionally, these contributions can assist in the secure maintenance of complex, often heterogeneous systems and the optimization of technical processes.

TOPICS

- ❖ Autonomous Cyber-Physical Systems
- ❖ Deep Learning and Self-Optimizing Cyber-Physical Systems
- ❖ Real-time Implementation of AI in Automation
- ❖ Knowledge Representation and Ontologies
- ❖ Machine Learning for Production
- ❖ Natural Language Processing Applications in Automation
- ❖ Unsupervised Learning and Latent Representations
- ❖ Grey-box Machine Learning
- ❖ Networked Adaptive Systems
- ❖ Algorithms for Diagnosis and Repair
- ❖ Self-Configuration, Self-Adaption and Self-Organization for Cyber-Physical Systems
- ❖ Dependability of Cyber-Physical Systems
- ❖ AI Powered Smart Interfaces
- ❖ Industrial Conversational Agents
- ❖ Smart Cities, Smart Buildings and Smart Energy Systems
- ❖ Generative AI Based Assistance Systems for Better Decision Making
- ❖ AI based Approaches to Support Security in the Cyber Physical System context

AIM

The ETFA 2024 conference brings together professionals from industry and academia to share cutting-edge concepts, recent developments, research results, and practical achievements in industrial and factory automation. The key goal is to foster the enhancement and application of scientific techniques, models, and tools that support the efficient design and operation of industrial and factory automation systems.

SOLICITED PAPERS

- ◆ Original Research (Regular) ◆ Surveys ◆ Industry practice ◆ Work-in-progress

The working language of the conference is English, For submission rules, please refer to the Author's Instruction on the conference website.

PAPER ACCEPTANCE

Accepted, registered, and presented papers will be copyrighted by IEEE and published in the conference proceedings. The proceedings will be available in the IEEE Xplore® Digital Library. The final manuscript must be accompanied by a registration form and a registration fee payment proof and it is mandatory that at least one author attends and presents the paper at the conference. Failure to adhere to these guidelines may result in paper exclusion from post-conference distribution via IEEE Xplore by the ETFA 2024 Organizing Committee. All conference attendees must pay the conference registration fee and cover their own personal expenses for travel and accommodations.

AUTHOR'S SCHEDULE 2024

◆ Regular and special sessions papers

Submission deadline **April 28th**
Acceptance notification **May 31st**
Deadline for final manuscripts **July 1st**

◆ Work-in-progress/ Industry practice papers

Submission deadline **May 26th**
Acceptance notification **June 17th**
Deadline for final manuscripts **July 1st**

TRACK PROGRAM COMMITTEE

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