Call for Papers

Industrial Informatics & Internet

Track Co-Chairs

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Scope and Motivation

Industrial Informatics and the Industrial Internet bridge traditional industrial systems with modern computing, communication, and data analytics. This integration enables smart manufacturing, real-time monitoring, predictive maintenance, and autonomous operations. As industries face increasing demands for efficiency, customization, and sustainability, these technologies provide the tools to optimize performance, reduce downtime, and enhance decision-making. The rise of Industry 4.0 further emphasizes the need for interconnected devices, secure data exchange, and intelligent automation. By leveraging IIoT, AI, and edge computing, Industrial Informatics is transforming how industries operate—making them more agile, intelligent, and environmentally responsible.

Topics of Interest

Our track seeks original contributions in the following topical areas, plus others that are not explicitly listed but are closely related:

➢ Multimodal Large Models for Industrial Applications

Leveraging foundation models that integrate vision, language, sensor, and control data to enhance perception, diagnostics, and automation in industrial environments.

➢ Multi-Agent Collaboration in Industrial Systems

Design and deployment of intelligent agents for distributed decision-making, task allocation, and autonomous coordination in smart factories.

➢ Model–Context–Protocol (MCP) Frameworks

Structured integration of system models, operational context, and communication protocols for robust, adaptive, and explainable industrial intelligence.

➢ Industrial Internet of Things (IIoT) and Edge Computing

Real-time data collection, processing, and control at the edge to support latency-sensitive and mission-critical industrial operations.

➢ Cyber-Physical Systems and Digital Twins

Synchronization between physical assets and their digital replicas to enable simulation, optimization, and predictive maintenance.

➢ Trustworthy and Explainable AI in Industrial Informatics

Techniques to ensure reliability, safety, and transparency of AI-driven systems in high-stakes industrial applications.

➢ Secure Communication and Protocols for Industrial Networks

Development of resilient, encrypted, and standards-compliant communication frameworks to protect industrial data and infrastructure.

➢ Human–Machine Interaction in Intelligent Environments

Designing intuitive interfaces and collaborative workflows between humans and machines for enhanced productivity and safety.

Important Dates

Paper Submission: 2025-08-15
Notification: 2025-10-01
Camera Ready and Registration: 2025-10-15

How to Submit a Paper

Each submission should include the authors' names, affiliations, an abstract, and 5–10 keywords. Papers are limited to 8 pages, including figures and references. Up to two additional pages may be included with an overlength charge. Full instructions on how to submit papers are provided on the IEEE ICPADS 2025 website: http://ieee-icpads.org.cn/CFP-research-paper.html