Call for Papers

AI for the Internet of Manufacturing Things (AI-IoMT) Workshop

The 21ˢᵗ International Conference on Wireless Communications and Mobile Computing

Website: http://iwcmc.org/2025/

Submission Link: https://edas.info/newPaper.php?c=32919

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Scope

The integration of Artificial Intelligence (AI) with manufacturing systems is driving new advancements in the Internet of Manufacturing Things (IoMT). This paradigm emphasizes the deployment of intelligent and interconnected devices and systems that facilitate seamless collaboration between AI algorithms and IoMT applications. Emerging AI technologies such as Machine Learning (ML), Federated Learning (FL), and Reinforcement Learning (RL) are driving IoMT systems toward self-adaptation, self-optimization, and high reliability. Thereby, this paradigm would effectively address these challenges in resource efficiency, system scalability, and dynamic responsiveness.

The workshop on "AI for the Internet of Manufacturing Things" will explore how AI can enhance the design, deployment, and management of IoMT systems, focusing on key areas such as network architecture design, network optimization, resource scheduling, network security and system autonomy. Experts from academia and industry committed to addressing challenges such as dynamism, uncertainty, and heterogeneity in IoMT are welcomed, which aims to achieving efficient interconnection, real-time interaction, and intelligent decision-making between large-scale devices.

Topics

Accepted papers will be published in the IEEE IWCMC 2025 proceedings and will be submitted to the IEEE digital library (IEEE Xplore). Authors are welcome to submit original papers (not published before and/or simultaneously to another venue) with topics that include but are not limited to:

- AI-based IoMT dynamic network topology optimization
- Application of AI in 5G/6G driven industrial real-time communication
- GenAI applications in process simulation, anomaly detection, and predictive modeling
- AI-based resource allocation and intelligent scheduling for IoMT networks
- Communication delay prediction and dynamic adjustment algorithm for IoMT
- AI-based IoMT network security monitoring and management
- AI-based wireless channel optimization and interference management
- AI large model-based fault detection, diagnosis and predictive maintenance strategy for manufacturing systems
- IoMT-oriented network energy management and green communication
- Lightweight Large Language Model (LLM) and quantitative reasoning model for deploying edge

devices
- AI-based multi-protocol convergence and interoperability enhancement techniques
- AI-enhanced autonomy and intelligent self-healing for IoMT networks.

Submitted papers are encouraged to address novel technical challenges or industrial and standard aspects of the key technologies for sustainable and secure cognitive buildings/cities.

Important Dates

Same deadlines as the main conference dates.

Note: Within this workshop, there will be one Best Paper Award.