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AI & IOT FOR SMART INDUSTRY

MILOVAN MEDOJEVIĆ[1,2], ALEKSANDAR RIKALOVIĆ[1,3]

[1] The Institute for Artificial Intelligence R&D of Serbia
[2] EnergyPulse DOO Novi Sad, Novi Sad, Serbia
3 Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia
Email: milovan.medojevic@ivi.ac.rs, aleksandar.rikalovic@ivi.ac.rs

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ABSTRACT

The mutually beneficial relationship between the internet of things (IoT) and Artificial Intelligence (AI) enables disruptive innovations in industry worldwide where the fusion of AI and IoT enables the systems to be predictive, prescriptive, and autonomous. This convergence of AI and IoT is evolving while its continuum impacts variety of industries ranging from manufacturing, retail, healthcare, telecommunication, and transportation, etc. In this context, IoT solutions and real-time data processing can empower a massive amount of data captured from interconnected devices, while Big Data Analytics and AI-based solutions can help tackle many concerns and achieve intelligent prediction, evaluation, optimization, and decision-making. However, various challenges like interoperability, decentralization, distributed control, real-time process control, service orientation, and maintenance optimization are being addressed also.

Additionally, numerous challenges exist in implementing such systems that include algorithmic and design innovations to meet Quality of Service requirements (latency, bandwidth, delay, etc); mechanisms to preserve IoT data privacy and provide secure services for interconnected users; achieving high performance systems that can process both high volume and fast speed IoT data leveraging Edge AI.

For the aforementioned reasons, this research topic aims to solicit the submissions of original and unpublished research articles that present in-depth fundamental research contributions either from theoretical or methodological/application perspective containing novel architectures, algorithms, systems, techniques or applications offering new insights and findings in the field of AI-powered IoT for smart industry of tomorrow.

We seek high-quality submissions related to (but not limited to) one or more of the following topics:

- Big Data Analytics for Industry 4.0
- Artificial Intelligence and Evolutionary Techniques for Industry 4.0
- AIoT for Industry 5.0
- Intelligent Monitoring & Control Systems
- Data-driven Modelling and Optimization

- Machine & Deep Learning for Intelligent Systems
- Data Analytics for Scheduling Industry Processes
- Data Analytics for Monitoring and Control of Industry Operations
- Computational Intelligence Technologies for Industry
- Cyber-physical systems
- Real-time condition monitoring in manufacturing
- Machine learning and deep for fault diagnosis
- Planning and scheduling in Industry 4.0
- Advances in smart manufacturing
- IoT systems for smart manufacturing
- Digital twin for smart manufacturing
- Industrial big data and data analytics
- Manufacturing cyber security
- IoT and AI techniques
- Potential of AI-Based Automation for IoT-Enabled Smart industries
- Machine learning and AI for IoT data processing and analysis
- Edge AI for industry-centric IoT systems and human-machine interaction
- New Applications for smart IoT Services
- Exploring the Role of AIoT in Smart Energy Management
- Small to Large-scale AIoT pilots
- IoT testbeds and testing tools
- Predictive Maintenance and AIoT
- Smart Manufacturing, Energy, Environment & Water Management and IoT
- Smart Security and AIoT
- Smart Metering and AIoT
- Smart Analytics and AIoT
- AI for Financial systems
- Smart Logistics and AIoT