

# IEEE IoT Journal Special Issue on Artificial Intelligence-Based Systems for Industrial Internet of Things and Industry 4.0

Industrial Internet of Things (IIoT) and Industry 4.0 enable interconnection among industrial machines, devices, processes, and the people using them across diverse industrial verticals such as manufacturing and its logistical supply chain, transportation, and healthcare. On the other hand, heterogeneous types of sensor nodes are attached to these interconnected machines/devices, which sense and transmit data to the edge nodes or cloud. Typically, the sensed data, which are time-critical in nature, are transmitted to the edge nodes, or directly to the cloud/server. Further, there exist complexity in the storage, processing, and inferencing from the colossal volume of data generated by these resource-constrained sensor nodes per unit time. The application of Artificial Intelligence (AI)-based techniques is required to extract meaningful information from these sensed data. Despite the various advantages of the integration of AI with the different intelligent systems for various industrial applications, the appropriate application of AI poses several challenges with respect to data quality, data volume, integration, and accuracy of the inferences drawn from the collected data. The primary intent of the proposed special issue is to attract, collate, and archive high-quality original research works on the use of AI-based technologies for the development, provisioning, and performance improvement of systems, functions, and processes in diverse industrial scenarios adopting IIoT and Industry 4.0 solutions. The papers of interest to this SI are ideally expected to contain real data obtained from deployed industrial systems (preferably) or lab-scale systems.

## Topics include, but are not limited to, the following:

- Edge-based AI platforms for IIoT and Industry 4.0
- AI-based scalable hybrid systems for IIoT and Industry 4.0
- AI-based trustworthy systems for IIoT and Industry 4.0
- Privacy aware edge-based AI systems for IIoT and Industry 4.0
- AI-based learning methods and algorithms for IIoT and Industry 4.0
- AI-based decision making schemes for IIoT and Industry 4.0
- AI-based platforms for industrial safety using IIoT and Industry 4.0
- AI-based AR/VR platform for IIoT and Industry 4.0
- AI-based platforms to solve the communication, processing, and storage issues in IIoT and Industry 4.0 environment
- Game-theoretic solutions for AI-based systems applicable in the IIoT and Industry 4.0 environment
- Real/Industrial application-based AI systems for IIoT and Industry 4.0

## Important Dates:

Submission Deadline: May 1, 2021  
 First Review Due: July 15, 2021  
 Revision Due: September 1, 2021

Sec. Reviews Due/Notification: October 1, 2021  
 Final Manuscript Due: October 15, 2021  
 Publication Date: 2021.

**Submission Guidelines:** The original manuscripts to be submitted by the authors need to follow the format and allowable number of pages described at: <http://ieeiotj.org/guidelines-for-authors/>. The manuscripts submitted here should not be concurrently submitted for publication in other venues. The expanded versions of conference papers must contain significant amount of new and substantive material. Authors are requested to electronically submit their manuscripts through the IEEE Manuscript Central at: <https://mc.manuscriptcentral.com/iot>.

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