IEEE Transactions on Industrial Informatics

CALL FOR PAPERS

for Special Section on

Advanced Deep Learning Algorithms for Industrial Internet of Things

Theme: Nowadays the Industrial Internet of Things (IIoT) has been widely utilized in various fields (e.g., smart transportation, smart home, smart manufacturing). However, there are still some challenges, which hinder the further large-scale application of IIoT. Specifically, the data in IIoT is with a certain redundancy, while transmitting and processing these redundant data consume energy unnecessarily. Therefore, these redundant data should be compressed or removed. Conventionally, machine learning algorithms are used to process these redundant data in IIoT. However, with the growing diversity of IIoT and complexity of mobile network architectures, as well as increasing volume of data with increased dimensions and dynamics, they have made monitoring and managing a multitude of IIoT elements extremely difficult using machine learning algorithms. As we all know, deep learning algorithms can solve more complicated problems, unsolvable by machine learning algorithms, and produce high accurate results. Thus, machine learning algorithms are being replaced by deep learning algorithms in IIoT. However, general deep learning algorithms like DBN, CNN, RNN and LSTM, etc require massive training data, time and expensive device. As a result, advanced deep learning algorithms like deep reinforcement learning, deep transfer learning and other mutated deep learning algorithms are very emergent. Incorporating advanced deep learning algorithms into IIoT can provide radical innovations in data analysis and pathbreaking industry applications. At present, advanced deep learning algorithms are revolutionizing industry and providing the best solution in IIoT.

This special section provides a perfect platform to submit manuscripts which discuss about the prospective developments and innovative ideas in advanced deep learning algorithms for IIoT.

This special section will focus on (but not limited to) the following topics:

1). Advanced deep learning for image processing in IIoT
2). Advanced deep learning for efficient manufacture inspection system in IIoT
3). Advanced deep learning for big data and streaming analytics in IIoT
4). Advanced deep learning for smart transportation system.
5). Advanced deep learning for smart home system.
6). Advanced deep learning for smart manufacturing.
7). Advanced deep learning for computer vision in IIoT
8). Advanced deep learning-based privacy and security methods for data transmission in IIoT
9). Advanced deep learning for resource allocation in IIoT
10). Advanced deep learning for data mining in IIoT
11). Advanced deep learning for distributed attack detection in IIoT
12). Advanced deep learning for complex and large scale cloud systems.
13). Advanced deep learning for predictive maintenance of industrial machines using IIoT
14). Advanced deep learning for reliability and energy consumption in IIoT
15). Novel applications by advanced deep learning for IIoT

Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transaction on Industrial Informatics http://www.ieee-ies.org/pubs/transactions-on-industrial-informatics . Please submit your manuscript in electronic form through Manuscript Central web site: https://mc.manuscriptcentral.com/tii . On the submitting page #1 in popup menu of manuscript type, select: SS on **Advanced Deep Learning Algorithms for Industrial Internet of Things**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Regular manuscript length is 8 pages.

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable: Deadline for manuscript submissions **April 10, 2020**
Expected publication date (tentative) October 2020

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