IEEE Transactions on Industrial Informatics

CALL FOR PAPERS

for Special Section on

Internet of Things and Artificial Intelligence for Product Life-cycle Management of Complex Equipment

Theme: Internet of Things (IoT) and Artificial Intelligence (AI) as new emerging and fast growing technology has attracted lots of attention from worldwide recently. Successful applications of IoT and AI have been demonstrated in many fields. However, IoT and AI are still at its infant stage when it comes to the applications for product life-cycle management (PLM) of complex equipment. Subsequently, the implementation of the current PLM of complex equipment lacks a unified reference specification and architecture and a unified description method. Meanwhile, the depth of association and integration between complex equipment design, manufacturing and operation links is not enough. Moreover, product design and manufacturing cannot achieve fast loop iterations while operation status and other information cannot be fed back in real-time. Thus, it is difficult to achieve closed-loop feedback. On the other hand, IoT and AI can make both simulation and testing of products closer to the real situation by an enormous amount of data collection and accurate analysis. As IoT and AI-based schemes for PLM of complex equipment could highly improve production efficiency as well as product quality, facilitate predictive maintenance, and develop of smart supply chains. Thus, this special section theme is expected to provide the primary and emerging research topics about bringing IoT and AI for PLM of complex equipment.

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

- Closed-loop optimization architecture for the life-cycle of complex equipment
- Quality assurances of complex equipment collaboration design processes and product schemes
- Human-machine collaboration technology with intelligent decision-making for PLM of Complex Equipment
- Big data analysis and processing of PLM of complex equipment
- Industrial Internet of Things for PLM of complex equipment
- Construction, running, and optimization of digital twin in PLM of complex equipment
- Digital twin-based PLM of complex equipment and control service
- Blockchain and machine learning technologies for PLM of complex equipment
- New-generation AI technology for PLM of complex equipment
- Knowledge-driven intelligent optimization decision for PLM
- Deep learning based intelligent preventive maintenance of complex equipment
- Digital twin and big data-driven prediction of PLM of complex equipment

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 **Internet of Things and Artificial Intelligence for Product Life-cycle Management of Complex equipment**

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 December 30, 2021

Expected publication date (tentative) August 2022

Guest Editors:

Prof. Jiafu Wan, South China University of Technology, China mejwan@scut.edu.cn
Dr. Min Xia, Lancaster University, UK m.xia3@lancaster.ac.uk
Prof. Andrew Kusiak, The University of Iowa, USA andrew-kusiak@uiowa.edu

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Editor-in-Chief: Prof. Dr.-Ing. Ren C. Luo tii@ira.ee.ntu.edu.tw
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