Advanced Computing and Blockchain Applications for Critical Industrial IoT

Theme: The fourth industrial revolution, or Industry 4.0, brings together digital and physical technologies to create responsive and interconnected operations. Companies use AI, robotics, edge computing, and the cloud to make informed and timely decisions from the supply chain to the smart factory. Solutions designed for the Industrial Internet of Things (IIoT) use connected sensors and edge devices to help improve product quality and operational efficiency in factories in real-time. While the benefits are numerous, there are several challenges posed on IIoT before the formal adoption of IIoT across various industrial sectors. Among them, data storage, data analytics, energy saving, security and privacy preservation on IIoT data are the most crucial concerns. Advanced computing and blockchain have great potential to create new foundations for most distributed systems by efficiently establishing trust among nodes. It is a fundamental technology to enable decentralization and play an essential role in critical Industrial IoT Applications. This special issue will explore how advanced computing and blockchain technology has the potential to overcome the challenges mentioned above.

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

- Use-cases of advanced computing and blockchain for IIoT applications
- Blockchain-based applications for IIoT
- Blockchain for Industrial Internet of Things applications
- Blockchain-based Technology for Industrial Control System
- Blockchain for Smart Transport application
- Blockchain in Supply Chain
- Blockchains in Smart Grids
- Blockchains in SCADA
- Blockchain technology for Smart Cities
- Blockchain for securing cyberinfrastructure
- Blockchain-based security solutions of critical infrastructures
- Quantum cryptography for IIoT
- Quantum algorithms for IIoT
- Service-oriented blockchains in IIoT
- Blockchain for cybersecurity in IIoT
- Lightweight protocols and algorithms for blockchains in IIoT
- Blockchain for multiaccess edge computing (MEC)
- Blockchain for Industry 4.0 cybersecurity applications
- Blockchain for securing cyberinfrastructure and IIoT
- Blockchain-based security solutions of critical infrastructures

Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transactions 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 computing and Blockchain Applications for Critical Industrial IoT**

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.

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