IEEE Internet of Things Journal Special Issue on
Blockchain and Edge Computing Techniques for Emerging IoT Applications

With the emergence of 5G, wireless sensor networks, and so on, the term 'Internet of Things' (IoT) has come to the fore, which is an emerging paradigm to meet the demands of flexibility, agility, and ubiquitous accessibility of the cyberspace. However, the current centralized IoT architecture is heavily restricted with the problem of single point of failure, data privacy, security, robustness, etc. Recently blockchain has become an open, cryptographic, and decentralized database, maintaining immutable ledgers accessible but tamper-proof for everyone. In addition, the rapid development of edge computing has enabled a large range of IoT applications. Edge computing pushes cloud services from the network core to the network edges which are in closer proximity to IoT devices. Thus, blockchain and edge computing are attractive technologies to fill these gaps by enabling new ways of IoT applications and services through secure, reliable, flexible and powerful devices and systems along with related digital value and economics. Blockchain and edge computing assisted IoT can provide attractive solutions to address many challenges, such as decentralization services schemes, service virtualization and flexibility, reliable management and maintenance, rapid resources optimization, and so on. In this special issue, we are looking for cutting edge technologies, novel studies, and promising developments, which can realize and elevate the effectiveness and advantages of blockchain and edge computing assisted IoT applications. Topics of interests include, but are not limited to:

- The new architecture of IoT with edge and blockchain
- Virtualization and management of edge and IoT
- Distributed ledger technologies in edge and IoT
- The advances of consensus protocols in IoT
- The improved smart contracts in edge and IoT
- The decentralization modeling in edge and IoT
- Security analysis and enhancement in edge and IoT

- Modeling and optimization of edge and IoT system
- IoT resource management with blockchain and edge
- Edge artificial intelligence solutions in IoT
- The incentive mechanism for providers in IoT
- The privacy solutions for edge computing in IoT
- Social-aware IoT services by blockchain and edge
- 5G-enabled IoT service by blockchain and edge

Important Dates

Submissions Deadline: April 1, 2020
Revision Due: August 1, 2020
Final Manuscript Due: September 15, 2020

First Reviews Due: June 15, 2020
Second Reviews Due/Notification: September 1, 2020
Publication Date: 2020

Submission Guidelines

All original manuscripts or revisions to the IEEE IoT Journal must be submitted electronically through IEEE Manuscript Central, http://mc.manuscriptcentral.com/iot. Solicited original submissions must not be currently under consideration for publication in other venues. Author guidelines are at http://ieee-iotj.org/guidelines-for-authors/.

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