IEEE Internet of Things Journal Special Issue on
Graph-powered Machine Learning for Internet of Things

Internet of Things (IoT) refers to an ecosystem where applications and services are driven by data collected from devices interacting with each other and the physical world. Although IoT has already brought spectacular benefits to the human society, the progress is actually not as fast as expected. From network structure to control flow graph, IoT naturally generates an unprecedented volume of graph data continuously, which stimulates fertilization of making use of advanced graph-powered methods on the diverse, dynamic, and large-scale graph IoT data. A variety of graph-powered learning techniques, such as graph embedding, graph neural network, and graph convolutional network, improve the performance of data management, knowledge discovery, information fusion, etc. Making graph-powered learning to promote IoT services is a nontrivial task, imposing unique challenges from the cyber world and physical world that are yet to be well addressed. Although an enormous amount of sincere effort has been made in both academia and industry, the investigation of how to fully utilize IoT and graph-powered learning to renovate business models and people's living styles on the aspects of scalability, reliability, adaptability, security and privacy, and usability is still at the very early stage. The diverse, dynamic, and large-scale graph IoT data require different sophisticated graph-powered learning methods, data mining techniques, advanced machine learning algorithms, etc., to be involved. How to utilize graph-powered learning methods to meet the demand of IoT design and management in a highly reliable, highly efficient, low-latent and secure way is extremely urgent yet intractable to be extensively investigated. The goal of the special issue is to solicit high-quality original papers aiming at demonstrating effective and efficient graph-powered learning methods on data analysis, resource allocation, privacy preservation, architecture design, etc. for IoT.

This special issue solicits the following topics, but not limited to:
- Graph representation learning in IoT
- Knowledge graph modeling and management for IoT
- Graph-powered learning methods on scheduling theory in IoT
- Graph-powered learning methods on resource management for IoT
- Graph-powered learning methods on vulnerabilities, threat models and risk management for IoT
- Graph-powered learning methods on anomaly detection for IoT
- Graph-powered learning methods on privacy enhancing and anonymization techniques in IoT
- Graph classification, clustering, link prediction for IoT
- Graph machine learning in distributed systems
- Data management, big data processing and analytics in social IoT
- Parallel and distributed algorithms for graph data in IoT
- Software and Hardware level acceleration for graph-powered methods in IoT
- Graph-powered methods for real/industry applications and systems for IoT

Important dates

Submissions Deadline: April 1, 2021	First Reviews Due: June 15, 2021
Revision Due: August 1, 2021	Second Reviews Due/Notification: August 31, 2021
Final Manuscript Due: September 15, 2021	Publication Date: 2021

Submission Guidelines
Authors need to follow the manuscript format and allowable number of pages described at: http://ieee-iotj.org/guidelines-for-authors/. To submit a manuscript for consideration for the special issue, please visit the journal submission website at: https://mc.manuscriptcentral.com/iot.

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