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IEEE Internet of Things Journal Special Issue on

Efficient, Effective, and Explicable AI Inspired IoT over Non-Terrestrial Networks

Intelligent NTN-enabled IoT brings many innovations towards an evolving, smart, robust, secure, and scalable IoT. For example, sensing, computing, and learning for NTN dynamics with purpose of improving knowledge discovery and environment awareness (e.g., UAV adversary detection, tracking, and classification in NTN), and NTN-enabled multi-altitude distributed data sensing, collecting, and computing support from the sky/space. With this, however, arose new challenges in the intelligent integration of heterogeneous data sensing, caching, communication, computation, mining, and decision-making technology of NTN-enabled IoT, which can no longer be efficiently addressed by the conventional Artificial Neural Networks. For example, how to conduct knowledge extraction, discovery, cognitive association and organization of massive geospatial data, and explore geospatial information to construct a spatial information knowledge graph with highly condensed, standardized, relevance and visual characteristics. Hence, it is urgent to explore efficient, effective, and explicable AI technologies in AI-empowered wireless sensing, communications and edge intelligence and to re-think the possible evolution towards intelligent NTN-enabled IOT.

The special section is devoted to focus on various trends, challenges, and solutions for the Intelligent NTN-enabled IOT. The submitted work should be unpublished technical articles with a substantial novel contribution towards the scope. The topics of interest include, but are not limited to the following:

- Efficient data sensing, collecting, processing, mining, and analysis approaches/algorithms for NTN-enabled IoT
- Spatial-temporal big data mining and analysis for NTN-enabled IoT
- Effective AI-based network architectures, mobility management, and heterogeneous resource managements for NTN-enabled IoT applications
- Dynamic, scalable, and energy-efficient massive access schemes for NTN-enabled IoT
- Efficiently intelligent networks and learning mechanisms in situation-aware decision making for NTN-enabled IoT applications
- Explicable rationales for AI-enabled solutions for NTN-enabled IoT applications
- Privacy, security, data manipulation, and sharing of NTN-enabled IoT services
- Effective optimization approaches for NTN-enabled IoT network
- New related NTN-enabled IoT applications, e.g., UAV

Important Dates:

Submissions Deadline: May 1st, 2024　　　　Second Review Due/Notification: Sep 1st, 2024

First Review Due: June 15th, 2024　　　　　Final Manuscript Due: Sep 15th, 2024

Revision Due: July 15th, 2024　　　　　　　Publication Date: October, 2024

Submission

The original manuscripts to be submitted need to follow the guidelines described at: http://ieeeiotj.org/guidelinesfor-authors/, which should not be concurrently submitted for publication in other venues. Authors should submit their manuscripts through the IEEE Manuscript Central at: https://mc.manuscriptcentral.com/iot. The authors must select as "SI: Efficient, Effective, and Explicable AI Inspired IoT over Non-Terrestrial Networks" when they reach the "Article Type" step in the submission process.

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