Call for Papers
IEEE Internet of Things Journal Special Issue on
"Aerial Computing for the Internet-of-Things (IoT)"

Aerial access networks have been recognized as a key enabler of various Internet-of-Things (IoT) services and applications in future sixth-generation (6G) wireless systems. An aerial access network can be built based on either low-altitude or high-altitude platforms. These platforms, when connected with satellite and terrestrial infrastructures, enable a comprehensive access network with global coverage and diverse quality-of-service provisioning. In parallel, by shifting the computing and storage resources from the cloud to the edge of the network, edge computing (e.g., fog and mobile edge computing) can better support various computing-intensive and low-latency IoT applications. The integration of aerial access networks and edge computing is anticipated to provide not only traditional communication services, but also computation, caching, sensing, and control services to a massive number of IoT devices at a global scale. For example, a swarm of drones can be deployed at low-altitude to collect and process IoT data cooperatively while high-altitude platform stations can be deployed to collect IoT data across multiple regions of a large-scale area. Meanwhile, aerial computing can leverage artificial intelligence (AI) approaches to provide smart services at the network edge as well as exploit the terrestrial communication infrastructure to improve its operation and performance.

The research and development of aerial computing for the IoT is still in its infancy and much more efforts should be devoted to it. Hence, this special issue aims to provide a venue to exchange recent advances in this topic. In this special issue, we look for original and high-quality research works in the novel area of aerial computing for the IoT. Theoretical, experimental studies, and also case studies are encouraged. Relevant topics include, but are not limited to:

- Novel aerial computing architecture for IoT applications
- Efficient resource allocation strategies for aerial computing
- Aerial computing for large-scale IoT systems
- Orchestration across communication, computation, caching, sensing, and control for aerial computing
- Security and privacy solutions for aerial computing
- AI-enabled scalable designs of aerial computing
- AI-enabled solutions for drone detection, recognition, and classification
- Big data analytics for aerial computing
- Novel multiple access techniques for aerial computing
- Aerial computing as an enabler of 5G IoT services
- 6G-enabled aerial computing for IoT services and applications
- Implementation/testbed/deployment of aerial computing

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. When the authors reach the "Article Type" step in the submission process, they should select "SI: Aerial Computing for the Internet-of-Things." Solicited original submissions must not be currently under consideration for publication in other venues. Author guidelines and submission information can be found at http://ieee-iotj.org/guidelines-for-authors/.

Important Dates

- Submission Deadline: September 1, 2021
- First Review Due: October 15, 2021
- Revision Due: December 1, 2021
- Sec. Reviews Due/Notification: January 1, 2022
- Final Manuscript Due: January 15, 2022
- Publication Date: 2022

Guest Editors:

1) Quoc-Viet Pham, Pusan National University, Busan 46241, Republic of Korea (e-mail: vietpq@pusan.ac.kr)
2) Ming Zeng, Laval University, Quebec G1V 0A6, Canada (e-mail: ming.zeng@gel.ulaval.ca)
3) Octavia A. Dobre, Memorial University, 300 Prince Philip Dr. St. John's, NL, Canada (e-mail: odobre@mun.ca)
4) Zhiguo Ding, The University of Manchester, Manchester M13 9PL, United Kingdom (e-mail: zhiguo.ding@manchester.ac.uk)
5) Lingyang Song, Peking University, Beijing 100871, China (e-mail: lingyang.song@pku.edu.cn)