The 1st International Workshop on Computing-Centric Drone Networks

In Conjunction with IEEE ICC 2019

20-24 May 2019, Shanghai, China

Scope

This workshop is focused on the new designs and developments to enable a flying computing platform over the emerging drone networks. More specifically, the workshop is to explore the challenges, technologies, and applications in the area of computing-centric drone networks.

Due to the high mobility and simple operationality, drones, or unmanned aerial vehicles (UAVs), have attracted significant interests in academia and industry because of the high potential in various civilian applications spanning from emergency response to precision agriculture. In the last decade, advancement in drone technologies makes it possible for everyone to operate drones without tremendous training and practice. It also expands researchers' venue from 2-D to 3-D which introduces both opportunities and challenges. Recently, there are two trends in the drone community: one is to make drone smart, leveraged by the recent progress of machine learning and artificial intelligent; the other is to develop the drone networks, with recent progress in the fifth-generation cellular network (5G) and Internet of things (IoT). The goal of this workshop is to bring together stakeholders from academia, industry, and federal agencies to share their recent progress and explore roadmap and new directions in computing-centric drone networks.

Topics include (but not limited to):

- Channel measurement and modeling for aerial communication
- Wireless communication for drone networks
- Smart antenna design for drones
- Programmable medium access control of UAV networks
- QoS and performance for drone networks
- Integration of 5G and IoT with drone networks
- Software defined networks and applications in UAV networks
- Network function virtualization and resource allocation
- Airborne edge computing
- Machine learning for drone networks
- UAV control and navigation
- Modeling of UAV mobility, path planning, and trajectory optimization
- UAV swarm and cooperative control
- Simultaneous localization and mapping (SLAM) for drone networks
- Joint design of control and communication
- Applications of drone networks
- UAV testbeds
- The Cyber-physical system (CPS) foundation for drone networks
- Security and privacy in drone networks

Deadlines:

- Paper Submission Deadline: Jan. 1, 2019
- Acceptance Notification: Feb. 15, 2019
- Final Paper Submission: Mar. 5, 2019

Workshop Organizer

- Co-Chairs:

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- Organizing Committee

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