DroNet19

5th ACM Workshop on Micro Aerial Vehicle Networks, Systems, and Applications

co-located with the ACM MobiSys 2019 Conference

June 21, 2019
Seoul, South Korea

Robot vehicle platforms, often called "drones", offer exciting new opportunities for mobile computing. Traditional communication systems consider the device mobility (such as smartphones). Autonomous cooperative systems, made of intelligent devices (such as drones), may deploy and optimize the network to improve its coverage, build routes and fix network partition to ensure the best communication performance, reduce energy consumption, and dynamically respond to detected network problems. The benefits are limited only by imagination. The recent and fast advances in technology has made the design and development drone applications cost-effective and appealing to a wide range of mission-critical situations, including search and rescue, surveillance, 3D-mapping, farmland and construction monitoring, delivery of light-weight objects and products, and video production.

DroNet welcomes contributions dealing with all facets of drones as mobile computing platforms, including system aspects, theoretical studies, algorithm and protocol design, as well as requirements, constraints, dependability, and regulations. We are particularly looking for papers reporting on experimental results of deployed systems, summaries of challenges or advancements, measurements, and innovative applications. We welcome in particular also contributions from interdisciplinary teams to present robotic work or applications focusing on the communication networks enabling the efficient control and context-awareness of teams of unmanned autonomous vehicles/systems with an emphasis on civilian and aerial applications, while related work on unmanned systems working underwater, in space or on the ground is also invited.

Topics of interest include, but are not limited to:

Novel applications of drones	Drone system design and deployment
Drone ad-hoc networks	Micro flying systems
Aerial communication protocol design	Drone operating systems
Programming systems	MAC and routing protocols for drone fleets
Theoretical analysis and models for drone networks	Solutions for sparse and dense fleets of drones
Spectrum and regulatory issues	Mission and context-aware solutions
Drone coordination	Mobility-aware and 3D communication
Delay-tolerant networks and ferrying	Energy-efficient operation and harvesting
Integration of drones with backend systems	Drone-based sensor networks
Positioning and passive/active localization	Swarm movement, coordination, and behavior
Autonomous flight	Artificial intelligence techniques for drones
Vision and object tracking	Human drone interaction
Cooperative surveillance, smart cameras and sensors	Acceptance, security, and privacy aspects
Experimental results of aerial communication	Results from prototypes, test-beds and demonstrations

DroNet invites submission of original work not previously published or under review at another conference or journal. Accepted papers will be published by ACM and considered for the Best Paper Award. A Best Presentation Award will be decided at the workshop.

Selected authors will be invited to submit an extended version of their works to the MDPI Special Issue on « UAV-Based Applications in the Internet of Things (IoT) », submission deadline July 15th, 2019.

Important dates:

Paper submission due: April, 3rd, 2019
Camera-ready papers due: May 1th, 2019
Workshop date: June 21, 2019

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