Joint Special Issue

Advances in SLAM and Data Fusion for UAVs/Drones

Message from the Guest Editors

Unmanned aerial vehicles (UAVs) equipped with a variety of sensors can safely acquire real-time, high-resolution sensory data of the environment. This data can be applied in various fields, such as construction, agriculture, entertainment, and transportation. For many of these applications, the autonomy of the drone is of critical importance. UAVs need to be equipped with reliable localization, navigation, and exploration capabilities in order to make sense of complex environments by themselves with little/no interventions from operators. The users of UAV technologies are also inundated with overwhelming amounts of data (e.g., large volumes of imagery). Therefore, intelligent algorithms are needed to control the overflow of data by fusing and transforming disparate data into useful and concise information. Contributions may be from, but not limited to, the following topics:

- unmanned aerial vehicles
- mapping and navigation
- computer vision, photogrammetry, and remote sensing
- control systems
- signal processing
- GNSS, IMU, UWB, BLE, Sonar, Radar, LiDAR and cameras
- 2D/3D image and point cloud processing

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Deadline for manuscript submissions

closed (31 December 2021)