Special Issue

AI-Based Object Detection and Tracking in UAVs: Challenges and Research Directions

Message from the Guest Editors

Combining autonomous unmanned aerial vehicles (UAVs) and AI-based object detection and tracking could significantly improve efficiency, reduce cost, and lower risks for various applications. With fast developments in UAV platform design, cameras, micro-computers, and image-processing algorithms, autonomous UAVs have become a promising sensing platform for various applications such as environment monitoring and infrastructure inspection. The key aim of this Special Issue is to bring together innovative research that uses off-the-shelf or custom-made platforms to extend autonomous aerial sensing capabilities. Contributions from all fields related to UAVs and aerial-image processing techniques are of interest, particularly including, but not limited to, the following topics:

- Unmanned aerial vehicle (UAV) system;
- Machine learning;
- AI-based data processing;
- Object detection;
- Object tracking;
- Localization and mapping;
- Path planning;
- Obstacle avoidance;
- Multi-agent collaboration.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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