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Special Issue Reprint

Vision Sensors for Object Detection and Tracking

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Object detection and tracking are fundamental tasks in computer vision and have witnessed remarkable progress in recent years, driven by the surge in deep learning techniques. With the proliferation of cameras and sensors, vision-based systems are increasingly being deployed in a wide range of applications, including surveillance, autonomous driving, robotics, and augmented reality. However, these applications often require robust real-time object detection and tracking, and even action and event recognition, in challenging environments with varying lighting conditions, occlusions, and dynamic backgrounds. This Special Issue focuses on the latest research findings, existing challenges, and future directions in vision-sensor-based object detection and tracking to pave the way for advancements in surveillance, autonomous driving, and other critical application areas.

- Deep-learning-based object detection and tracking in videos;
- Object tracking in low-resolution and low-light conditions;
- Long-tailed object detection and tracking;
- Real-time object detection and tracking;
- Object detection and tracking in 3D videos;
- Multi-object tracking in complex scenes;
- Video object segmentation in complex environments;
- Applications in surveillance, autonomous driving, and robotics.



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