

Special Issue

Sensor-Based Image Processing and Sensing Techniques for Enhanced Object Detection

Message from the Guest Editor

Object detection is a fundamental task in computer vision and image understanding, playing a critical role in a wide range of applications such as autonomous driving, intelligent surveillance, medical imaging, robotics, remote sensing, and industrial inspection. In recent years, rapid advances in image processing techniques—together with deep learning, multimodal data fusion, and edge intelligence—have significantly improved the accuracy, robustness, and efficiency of object detection systems. Despite these advances, object detection in complex real-world environments remains challenging due to factors such as occlusion, illumination variation, background clutter, scale variation, noise, and limited computational resources. Advanced image processing methods continue to be essential for enhancing detection performance, improving generalization, and enabling real-time and resource-efficient deployment. This Special Issue aims to bring together high-quality research contributions that explore novel image processing techniques and frameworks for enhanced object detection, from theoretical foundations to practical applications.

Guest Editor

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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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