Special Issue

Artificial Intelligence-Based Object Detection and Tracking: Theory and Applications

Message from the Guest Editors

This Special Issue explores the symbiotic relationship between artificial intelligence (AI) and object tracking and detection technologies, delving into practical applications and theoretical foundations propelling innovation in computer vision. Object tracking and detection, driven by AI, are pivotal research domains aiming for automatic localization and recognition in images or videos. Applied in surveillance cameras, they enable real-time monitoring, security alerts, and behavior analysis for pedestrians, vehicles, and other objects. In autonomous driving, AI-based tracking and detection contribute to tasks like environment perception, detecting vehicles, pedestrians, and traffic lights. Facial recognition relies on AI-driven object detection and tracking for identity verification in access control and security monitoring. This Special Issue spotlights exceptional research in AI-driven object tracking and detection, emphasizing cutting-edge advances, developments, and emerging trends. We welcome high-quality papers addressing both theoretical and practical dimensions of AI-based object tracking and detection.

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Deadline for manuscript submissions

closed (30 June 2025)

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