# Special Issue

# Sensor Fusion Techniques for Enhanced Robotic Perception and Control

## Message from the Guest Editor

Robotic systems are increasingly deployed in complex, dynamic environments where accurate perception and reliable control are critical. Sensor fusion—the integration of data from multiple, heterogeneous sensors such as cameras, LiDAR, IMUs, and tactile arrays—can significantly enhance our situational awareness by compensating for the limitations of individual sensors. This Special Issue welcomes the submission of original research and review articles on advanced sensor fusion methods that enable robust robotic perception, state estimation, parameter estimation, and system identification. We are particularly interested in contributions that combine classical techniques—such as Kalman filtering, particle filters, and Bayesian inference—with modern machine learning (ML) approaches, including deep learning, probabilistic models, and neural networks. We especially welcome submissions that apply these methods to sensor fusion and/or ML-driven solutions in a broad range of robotic applications, such as autonomous navigation, SLAM, object tracking, adaptive manipulation, and safe human–robot interaction.

## Guest Editor

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## Deadline for manuscript submissions

closed (20 January 2026)

**Sensors**

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**CiteScore 8.2**
**Indexed in PubMed**

mdpi.com/si/242034

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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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