Special Issue

A New Era of Embodiment: Cognitive Breakthroughs and Scene Adaptation in Robot Perception, Decision-Making and Autonomous Control

Message from the Guest Editors

Currently, the intelligence and integration of advanced autonomous robots with multiple sensors are escalating, with remarkable progress in dexterity and task adaptability. Their applications have expanded beyond manufacturing and automation to diverse scenarios such as domestic services, medical care, outdoor farming, and environmental exploration—all of which increasingly require embodied intelligence to bridge environmental perception, physical interaction, and cognitive reasoning. These emerging scenarios pose unprecedented challenges such as those involving embodied systems achieving multimodal perception with context-aware accuracy, the collaboration of heterogeneous robots, and human–robot interaction via embodied common sense. Special Issue centers on embodied intelligence, aiming to construct a cross-domain innovation pathway for exploring the transformative potential of cutting-edge technologies: focusing on machine learning-based dynamic adaptation mechanisms for embodied perception and sensing, large-model-empowered semantic understanding in embodied decision-making, and advanced algorithms that enable robots to learn embodied skills through physical-world interaction

Guest Editors

Dr. Yuanlong Xie

Prof. Dr. Wenlong Li

Prof. Dr. Shuting Wang

Deadline for manuscript submissions

30 July 2026

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/si/252930

Sensors
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sensors@mdpi.com

mdpi.com/journal/sensors

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/journal/sensors

About the Journal

Message from the Editor-in-Chief

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.

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, Ei Compendex, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Instruments and Instrumentation) / CiteScore - Q1 (Instrumentation)