Special Issue

Al-Driven Sensor Technologies for Next-Generation Electric Vehicles

Message from the Guest Editor

Sensor technology innovations drive the rapid advancement of electric vehicles (EVs), which is crucial for enhancing performance, safety, and sustainability. This Special Issue invites cutting-edge research and reviews on developing, integrating, and applying sensors in EV systems. Key topics include:

- Battery management sensors (e.g., state-of-charge estimation, thermal monitoring);
- Motor control and energy efficiency optimization;
- Environmental perception (LiDAR, radar, cameras) for autonomous driving;
- Novel sensor materials, fault detection algorithms, and cybersecurity solutions for EV ecosystems;
- Multi-sensor fusion, real-time data processing, and Al/ML-driven improvements in sensor accuracy, reliability, and decision-making;
- Vehicle-to-everything (V2X) communication and scalability challenges.

We emphasize interdisciplinary research addressing technical barriers, cost-effectiveness, and Al-driven innovations to bridge academia-industry gaps. Contributions advancing sensor technologies for next-generation EVs are particularly encouraged.

Guest Editor

Prof. Dr. Cheng Siong Chin

Intelligent Systems Design, Newcastle University, Singapore 038986, Singapore

Deadline for manuscript submissions

closed (31 October 2025)



Sensors

an Open Access Journal by MDPI

Impact Factor 3.5 CiteScore 8.2 Indexed in PubMed



mdpi.com/si/233235

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



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)

