

Special Issue

Sensors and Responsible Multimodal AI for On-Device Applications

Message from the Guest Editors

Recent advances in low-power processors and compact sensor arrays have moved artificial intelligence from distant cloud servers to everyday devices such as smartphones, wearables, and autonomous robots. These edge systems now combine camera, audio, inertial, and biomedical signals to understand complex real-world contexts in real time. While this shift unlocks faster responses and stronger privacy, it also raises novel challenges in fairness, transparency, and energy use. This Special Issue invites research that unites sensor innovation with lightweight, multimodal machine learning under clear principles of responsible AI. We welcome studies on algorithms, hardware–software co-design, datasets, and case-study deployments that demonstrate how trustworthy intelligence can run locally, conserve resources, and respect user data.

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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.

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