

Special Issue

Medical Image Processing and Analysis Based on Sensor Technology

Message from the Guest Editors

Advances in sensor technology are revolutionizing medical imaging, enabling the acquisition of multi-modal, high-resolution, and real-time data from modalities such as MRI, CT, ultrasound, and wearable biosensors. This Special Issue focuses on cutting-edge research integrating artificial intelligence with sensor-based medical image processing and analysis. Emerging foundation models trained on large-scale multi-domain datasets offer unprecedented generalization, while few-shot learning and context learning provide solutions to the scarcity of labeled data in rare disease diagnosis. Innovative image enhancement techniques, including physics-informed super-resolution, low-dose denoising, and adaptive contrast optimization, aim to improve diagnostic reliability while minimizing patient exposure. Contributions exploring multimodal sensor fusion, explainable AI, and edge/cloud-based real-time inference are particularly welcome. By bringing together these advancements, this Special Issue aims to promote equitable, accurate, and efficient medical image analysis systems, bridging the gap between sensing technology and intelligent healthcare solutions.

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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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