

Special Issue

Artificial Intelligence and Foundation Models in Biomedical Sensing and Medical Imaging Applications

Message from the Guest Editor

The rapid advancement of artificial intelligence (AI) and foundation models is redefining the landscape of biomedical sensing and medical imaging. These technologies are enabling breakthroughs in clinical diagnosis, treatment planning, and personalized healthcare, while also driving innovations in large-scale data integration and translational medicine. This Special Issue invites contributions that highlight both methodological advancements and transformative applications that are reshaping the biomedical ecosystem. We invite original research articles, reviews, and technical notes addressing theoretical innovations, algorithmic developments, and real-world implementations. **Topics of interest include but are not limited to the following:**

- Foundation models for medical imaging and biomedical sensing;
- Multimodal learning integrating imaging, sensing, and clinical data;
- Self-supervised, weakly-supervised, and zero-shot learning in healthcare;
- AI for disease diagnosis, prognosis, and treatment planning;
- Biomedical signal processing with deep learning;
- Edge, cloud, and federated AI for medical sensing and imaging;

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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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