International Journal of Biomedical Imaging

Hindawi

Special Issue on

Generative Artificial Intelligence in Medical Image Analysis

CALL FOR PAPERS

In recent years, generative artificial intelligence (AI) has become increasingly integrated with medical imaging, changing the way we approach healthcare diagnostics. Research is required to investigate to capabilities of generative models in medical imaging, in particular research that applies these models to enhance diagnostic procedures and to tailor treatments to individual patients. There is an urgent need to further our understanding of how generative AI can be used in medical imaging and predictive analytics, to develop better, more detailed methods of analysis.

Generative AI, which includes powerful generative models, has the potential to significantly improve healthcare. It can create new types of data, help with decision-making, and offer new ways to handle complicated clinical tasks. With these large generative models, more precise and personal healthcare is possible. Generative AI can produce medical imaging data that gives a detailed look at human biology, enabling care specific to each patient and more personalized medicine. However, there are challenges to overcome before we can make the most of generative AI, including the trustworthiness of the generative medical images, the safety of medical generative models, interpretability during diagnosis, and the high dependence on computational resources.

This Special Issue seeks to address these challenges by gathering contributions that analyze the impact of generative AI on medical image analysis. We encourage submissions that not only present advances in generative AI technologies but also critically examine their implications for patients, and medical researchers. We welcome contributions investigating generative models in medical imaging and predictive analysis, and how this can be used to enhance diagnostic procedures and personalized treatments. We welcome both original research and review articles.

Potential topics include but are not limited to the following:

- Generative AI in synthesizing medical imaging data for improved diagnosis and treatment planning
- The role of generative AI in advancing precision medicine through the generation of personalized disease models and treatment responses
- Strategies for validating and verifying the outputs of generative AI models in medical imaging
- Research on the safety and trustworthiness of medical generative models,
- Data fidelity and model credibility of generative AI models

Authors can submit their manuscripts through the Manuscript Tracking System at https://review.wiley.com/submit?specialIssue=794515.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Editor
Yi Guo, Fudan University, China
guoyi@fudan.edu.cn

Guest Editors
Jun Zhao, Shanghai Jiao Tong University, Shanghai, China
junzhao@sjtu.edu.cn

Qian Tao, Delft Univ Technol, Netherlands
q.tao@tudelft.nl

Submission Deadline
Friday, 4 October 2024

Publication Date
February 2025