

IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS

J-BHI Special Issue on “Revolutionizing Healthcare Informatics with Generative AI: Innovations and Implications”

Generative AI has the potential to revolutionize healthcare informatics across multiple areas, such as data synthesis, image enhancement, disease prediction and diagnosis, drug discovery, medical documentation, and personalized healthcare. It offers opportunities to overcome data scarcity and privacy concerns through synthetic data generation and supports accurate disease interpretation and diagnosis through image quality enhancement. Generative AI models also enable disease likelihood prediction, early condition detection, precise diagnoses, and personalized treatment plans for improved patient care. Additionally, it facilitates drug development through simulated interactions and automates medical documentation to reduce administrative burdens. While the potential impacts are promising, ethical considerations, patient privacy, and regulatory approval for AI-centric approaches must be carefully addressed. This special issue seeks to publish novel research in generative AI for healthcare, highlighting advancements in healthcare informatics.

This Special Issue will focus on research targeting the development of Generative AI systems for Healthcare Informatics. We invite original research contributions for publication, focusing on the following topics in healthcare informatics (and is/are not limited to):

- Generative AI for medical image analysis
- Natural language processing (NLP) and generative AI in healthcare informatics
- Generative AI for personalized medicine and drug discovery
- Ethical considerations and challenges in generative AI for healthcare informatics
- Real-world implementations with case studies
- Privacy and security challenges
- User experience, human-computer interaction, and design considerations
- Generative AI for public health initiatives, population health management, and healthcare interventions
- Ethical considerations, legal frameworks, and policy Generative AI in Health Informatics

Guest Editors

Ashutosh Kumar Singh, Indian Institute of Information Technology Bhopal, India (ashutoshkumarsingh@ieee.org)

Jitendra Kumar, National Institute of Technology Tiruchirappalli, India (jitendra@nitt.edu)

Deepika Saxena, University of Aizu, Japan (deepkia@u-aizu.ac.jp)

KC Santosh, University of South Dakota, United States of America (santosh.kc@usd.edu)

Key Dates

Deadline for Submission: 30 Oct, 2024

First Reviews Due: 15 Nov, 2024

Revised Manuscript Due: 10 Dec, 2024

Final Decision: 10 Jan, 2025

