Special Issue

AI for Medical Systems: Algorithms, Applications, and Challenges

Message from the Guest Editors

Recent advances in artificial intelligence (AI) are rapidly transforming medical systems, reshaping clinical workflows, diagnostics, prognostics, personalized therapies, and remote healthcare. The integration of machine learning, deep learning, data mining, and multimodal data analysis enables intelligent support tools that enhance decision-making, treatment accuracy, and patient safety. However, AI-based systems face challenges including data quality, interpretability, real-world integration, ethics, cybersecurity, and regulations. This Special Issue aims to gather high-quality research on the development, validation, and clinical implementation of AI algorithms in medicine. We welcome submissions addressing breakthrough computational methods, novel AI applications in diagnostics and therapeutics, telemedicine solutions, bio-signal and imaging analysis, explainable AI, and multidisciplinary approaches linking engineering and healthcare. Both original research articles and comprehensive reviews are encouraged. The goal is to promote cross-institutional cooperation and highlight emerging trends defining the future of intelligent medical systems.

Guest Editors

Dr. Rafał J. Doniec
Department of Materials Science and Artificial Intelligence in Dental Medical Sciences, Silesian Medical University, Poniatowskiego 15, 40-055 Katowice, Poland

Dr. Katarzyna Mocny-Pachońska
Department of Materials Science and Artificial Intelligence in Dental Medical Sciences, Silesian Medical University, Poniatowskiego 15, 40-055 Katowice, Poland

Deadline for manuscript submissions

20 June 2026

Applied Sciences

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/journal/
applsci

About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

Author Benefits

Open Access:
free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:
indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:
JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)