Special Issue

Applications of Machine Learning and Medical Image Analysis

Message from the Guest Editor

Machine learning and medical image analysis are transforming healthcare by enabling accurate, efficient, and personalized diagnosis and treatment. The integration of advanced algorithms with medical imaging enables the early diagnosis of diseases, the optimization of treatment strategies, and the improvement of patient outcomes. This Special Issue seeks original contributions that demonstrate how machine learning can revolutionize medical image analysis, offering innovative solutions to real-world challenges. The scope of this Special Issue includes, but is not limited to, the following topics:

- New methods in medical image computing;
- Integration of imaging and non-imaging data;
- Image formation and reconstruction;
- Foundation models in medical imaging;
- Generalizable machine learning in medical imaging;
- Federated learning in medical imaging;
- Trustworthy AI in medical imaging;
- Accessible medical imaging solutions;
- Image segmentation, registration, and classification methods;
- Explainable and interpretable AI in medical image analysis;
- Novel datasets and benchmarking in medical image analysis.

Guest Editor

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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