Special Issue

Advanced Applications of Artificial Intelligence and Machine Learning in Biomedical Engineering

Message from the Guest Editors

Artificial intelligence (AI) and its different approaches, from machine learning to deep learning, have become an indispensable tool for the development of new developments in medical signal and image processing and analysis. However, advances in AI have been obtained that affect the field of Biomedical Engineering. In this Special Issue, some important topics are covered, such as the challenges currently open in the mathematical foundations of deep neural networks, the problems derived from data processing, the challenges still open related to clinical trials, smart hospitals, as well as ethical and procedural aspects. Potential topics of interest include: Data Science in Biomedicine; Machine learning-based biosignal processing and analysis; Deep Learning in biosignal processing and analysis; Machine learning-based medical image processing and analysis; Deep Learning in medical image processing and analysis; Mathematical advances and practical applications of spiking neural networks; Challenges in clinical trial methodologies and evaluation; Challenges in models' benchmarking; Challenges in models' interpretability/explainability; Smart hospitals; Ethical considerations.

Guest Editors

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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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