J-BHI Special Issue on "Machine Learning Technologies for Biomedical Signal Processing"

Biomedical signal processing integrates the evaluation of health measures for the purpose of delivering significant factor diagnostic information. Real-time monitoring features enabled by biomedical signal processing can lead to better chronic condition control and timely identification of hazardous occurrences. The use of a remote database for cloud computing in biomedical signal processing has significant implications for healthcare applications. To guarantee effective analysis, optimal data presentation, and product quality, innovative research and ideas need to be implemented.

One of the areas of attention for scholars in biomedical engineering is the application of machine learning in signal processing applications to gather, analyze, and categorize diverse signals or pictures for disease recognition. By modifying its internal parameters, this network learns to represent the abstract concept of a future value based on the past one. Signals could be examined by development tools utilizing sophisticated biomedical analytic methods, providing clinicians with more information to assist them in making better therapeutic decisions. Machine learning applications in healthcare, biomedicine and medical technology are gaining popularity these days. Recent improvements in machine learning (ML) and biomedical signal processing (BSP) have streamlined the development of a wide range of analyses of signals and computational domains, such as fingerprint recognition and healthcare information computation. Machine learning methods aid in the development of requisition and information-based biomedical signal assessment and computational platforms, which also contribute to the innovation of intelligent approaches. This special issue topic will highlight new breakthroughs in machine learning technologies for biomedical signal processing. We invite researchers and academicians to contribute their original research efforts on this subject, including scientific concepts, methods, implementation details, and functionalities for signal and data analytics.

Topics of interest include, but are not limited to, the following:

- ML algorithms in medical image analysis and processing systems and applications
- Design and implementation of signal processing systems in time-frequency and nonstationary bio-signal analysis
- Advanced biomedical signal and image processing techniques with application in medicine, e-health, and neuroscience
- ML and Modelling in cardiovascular and respiratory systems engineering
- Image and multidimensional signal processing for the reinforcement learning and planning of data-driven adaptive systems
- Biomedical signal processing and bioinformatics in the distributed file systems for big data
- Information forensics and security utilizing machine learning algorithms and techniques in biomedical applications
- Statistical pattern recognition in the therapeutic diagnostic systems and technologies using ML approach
- Advanced ML for biomedical data and signal processing applications
- Multichannel adaptive signal processing for network analysis and intrusion detection in image segmentation

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Key Dates

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First Reviews Due: 5 Dec, 2023
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