IEEE JOURNAL OF

BIOMEDICAL AND HEALTH INFORMATICS

J-B HI Special Issue on "Advanced machine learning algorithms for biomedical data and imaging"

Researchers in machine learning including those working in computer vision, image processing, biomedical analysis, and related fields when tied with experienced clinicians can play a significant role in understanding and working on complex medical data which ultimately improves patient care. Developing a novel machine-learning algorithm specific to medical data is a challenge and need of the hour. Healthcare and biomedical sciences have become data-intensive fields, with a strong need for sophisticated data mining methods to extract the knowledge from the available information. Biomedical data contains several challenges in data analysis, including high dimensionality, class imbalance, and low numbers of samples. Although the current research in this field has shown promising results, several research issues need to be explored as follows. There is a need to explore novel feature selection methods to improve predictive performance along with interpretation and to explore large-scale data in biomedical sciences.

This special issue aims to bring together the current research progress (from both academia and industry) on novel machine learning methods to address the challenges to biomedical complex data. *Special attention will be devoted to handling feature selection, class imbalance, and data fusion in biomedical and machine learning applications.* It will attract medical experts who have access to interesting sources of data but lack the expertise in using machine learning techniques effectively.

The topics relevant to the special issue include (but are not limited to) the following topics:

- Computer-aided detection and diagnosis
- Interpretable Artificial Intelligence for biomedical data understanding
- Machine learning methods applied to biomedical data
- Deep learning for medical image analysis
- Biomedical image classification
- Evolutionary computing in bioinformatics
- Pattern recognition for imaging and genomics
- Big data analytics on biomedical applications

Authors are encouraged to provide data sets and implementations used for their studies as a part of the paper submission.

Guest Editors

M. Tanveer, IIT Indore, India, mtanveer@iiti.ac.in
Chin-Teng Lin, University of Technology Sydney, Australia, chin-teng.lin@uts.edu.au
Amit Kumar Singh, NIT Patna, India, amit.singh@nitp.ac.in

Key Dates
Submission Deadline: January 31, 2022
First Reviews Due: March 10, 2022
Revised Manuscript Due: April 20, 2022
Final Decision: May 31, 2022