

Special Issue on
Machine Learning in Disease Diagnosis and Prediction

CALL FOR PAPERS

Analysis and interpretation of disease data sets is an essential part of public health activities and programs. The design, development, and successful operation of any new intervention or outreach program is highly dependent on the quality and precision of the analyses and information discovered over the course of the preliminary and in situ investigations. However, due to the intimidating size and complexity of these datasets, comprehensive analysis is costly in terms of both human resources and time spent. The use of properly designed and trained neural networks, machine learning models, and other high-throughput algorithmic tools 'AI' in the sifting of these datasets can greatly reduce the difficulty and time expense of these investigations.

The challenges apparent in the analysis and interpretation of disease datasets include the intimidating size and complexity of existing data and the rapid influx of new reports; the laborious and time-consuming nature of linear human interpretation and analysis of vast datasets; and the dearth of qualified personnel to work in these fields. Machine learning and AI tools can aid in all three of these challenges: They are capable of providing a concise human-interpretable output from a complex input; they act as exponential divisors of time, greatly increasing the throughput of analysis; and they can compensate for the lack of workforce by increasing the efficiency and ease of work of the existing workforce.

This Special Issue aims to collect several cutting-edge research articles in the fields of machine learning and AI from various institutes and laboratories both in India and abroad, focussing on the use of these tools in disease dataset analysis. We encourage the submission of original research articles and novel design and development protocols for new models and tools. This Special Issue will focus on the use and function of machine learning and other AI tools as analytic aids in disease datasets and other public health research.

Potential topics include but are not limited to the following:

- ▶ Machine learning for disease interventions and therapeutics
- ▶ Machine learning and artificial intelligence for diagnostics, prognostics and prediction of disease risks using EHR or Omics data
- ▶ AI to analyze large volumes of EHR data to identify patterns, trends, and correlations in health behaviors and outcomes
- ▶ Personalized health interventions and predict disease risks
- ▶ AI-based mobile applications and chatbots to collect real-time data on physical activity, medication adherence, diet, and mental well-being to provide personalized recommendations and insights into health behaviors and outcomes.
- ▶ AI to analyse medical images and voice recordings to detect patterns and markers related to disease progression

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.wiley.com/submit?specialIssue=572539>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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