

Special Issue on  
**Big Data Intelligence in Healthcare Applications Based  
on Physiological Signals**

# CALL FOR PAPERS

Medical data is projected to double in volume every two years. This rapid increase in the generation of physiological data, alongside the development of big data intelligence, has enabled us to extract new insights from massive physiological signals. These include bioelectrical signals (e.g., EEG and ECG), biomagnetic signals (e.g., MRI and CT), biochemical signals (e.g., pressure of oxygen and carbon dioxide in respiration), and bioacoustic signals (e.g., speech and ultrasound).

Applications that utilize big data intelligence in healthcare have the potential to help reduce treatment costs, avoid preventable diseases, and improve quality of life. However, when compared with other types of sensor-based big data, physiological data contains numerous artefacts and large variances in signal quality. Intraindividual variability, data inconsistency, and inhomogeneity also impede its usage in healthcare applications. In addition, how to integrate big data intelligence into clinical practice remains a problem open for discussion. These challenges must be overcome to realize the full potential and benefits that big data intelligence can bring to the realm of healthcare.

The purpose of this special issue is to collect original research articles and review articles that present state-of-the-art research on the latest developments within big data intelligence in healthcare applications, including reviews, algorithms, platforms, and applications.

Potential topics include but are not limited to the following:

- ▶ Machine learning for physiological signal analysis
- ▶ Ensemble learning (including classification and clustering) for physiological signals
- ▶ Transfer learning for physiological signals
- ▶ Reinforcement learning for physiological signals
- ▶ Multimodal data fusion for physiological signals
- ▶ Deep learning for physiological signal processing
- ▶ Design and modelling of intelligent medical systems
- ▶ Cloud computing for physiological signals
- ▶ Signal processing for biomedical big data
- ▶ Machine learning for health informatics and bioinformatics

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jhe/bdia/>.

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

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