

**Special Issue on**  
**Machine Learning for Physiological Data**  
**Call for Papers (Submission Due: Oct 15, 2019)**

Physiological measurement is a quantitative measurement in a clinical research and practice, which predominantly focuses on assessing the function of major organ systems. Physiological data is electrical signals recorded during the physiological measurement from human body as a time series such as EEG, EMG, ECG, skin conductance and blood pressure. These data can provide the information about physical health conditions of a person and his/her cognitive state using computational data analytics. During the last decade, machine learning methods in the data analytics have been attempting to model the physiological data to infer the conditions of a certain organ and mental status. In particular, the development of deep neural network and probabilistic generative model have dramatically increased. There is no doubt that a machine learning approach have played key roles in data analytics on physiological measurement data.

Prospective authors are invited to submit original technical articles as well as review articles. Potential topics include new computational algorithms on machine learning, signal processing, various physiological data application and its mathematical models. With this special issue, we hope to contribute in solving problems in terms of computational sciences with developing novel machine learning algorithms. Furthermore, this would be a great chance to discuss the current state-of-the-art emerging interdisciplinary research fields. More detailed potential topics include, but are not limited to:

- Machine learning algorithms and models for physiological measurement data
  - Artificial intelligence technologies
  - Deep learning technologies
  - Probabilistic generative model algorithms
  - Reinforcement learning algorithms
- Signal processing techniques for physiological measurement data
  - Methods for processing physiological signals (EEG, ECG, EMG, EOG, blood pressure, etc.)
  - Applied statistics for physiological measurement data
  - Pattern recognition and analysis
  - Network analysis of structural and functional connectivity and computational anatomy
  - Solutions to inverse problems
- Applications of machine learning models
  - Applied physiology in illness and health and clinical engineering
  - Electrical bioimpedance, optical and acoustic measurement
  - In-patient and ambulatory monitoring and point-of-care technologies
  - Novel machine learning methods for the analysis of cardiovascular, neurological, and musculoskeletal systems
  - Novel machine learning methods for the analysis of flows and pressures in lung, heart and blood vessels

Before submission authors should carefully read over the journal's Author Guidelines, which are located at <https://www.springer.com/engineering/biomedical+engineering/journal/13534>.

Prospective authors should submit an electronic copy of their complete manuscript through the journal Manuscript Tracking System at <https://www.editorialmanager.com/bmel> according to the following timetable:

Manuscript submission open:	Sep 15, 2019
Manuscript submission due:	Oct 15, 2019
Acceptance/rejection notification:	Nov 15, 2019
Revised manuscripts due:	Dec 15, 2019

Publication:

Feb 2020 (Tentative)

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