



Computational and Mathematical Methods in Medicine

Special Issue on

Pattern Recognition in Medical Decision Support

CALL FOR PAPERS

Recent advances in medical data acquisition and modalities have resulted in a growing volume of collected data that clinicians and caregivers can now utilize for a more effective delivery of care. Medical decision support systems help clinicians to best exploit this overwhelming amount of data by providing a computerized platform for integrating evidence-based knowledge and patient-specific information into an enhanced and cost-effective health care. Over the last few decades, various pattern recognition techniques have been applied to biomedical data (including signals and images) for automatic and machine-based clinical diagnostic and therapeutic support. The development of novel pattern recognition methods and algorithms with high performances, in terms of accuracy and/or time complexity, improves the health care outcome by allowing clinicians to make a better informed decision in a more timely fashion.

With this scope in mind, this special issue focuses on recent advances in the applications of pattern recognition for clinical decision support. For this purpose, we solicit high quality, original research articles, as well as review articles related to advancing the design and clinical applications of feature extraction and/or classification of large-scale or high-dimensional biomedical data including biomedical signals and images. In particular, we encourage the submission of the works which undertake a multidisciplinary approach to detect or predict a medical condition or event of interest using signal processing and machine learning techniques.

Potential topics include, but are not limited to:

- ▶ Predictive modeling of the efficacy of treatments for various medical disorders
- ▶ Multiparameter real-time signal processing for the patients in the intensive care units
- ▶ Pattern recognition for telemedicine
- ▶ Machine learning and signal processing for neurorehabilitation
- ▶ Detection of tumors or any other abnormalities in various imaging modalities including X-ray, NMR, CT, PET, and MRI
- ▶ Cytometry and cell analysis
- ▶ Sequence processing in genomic and proteomic data for personalized medicine
- ▶ Automatic processing of physiological signals such as ECG, EMG, EEG, and PPG
- ▶ Human gait analysis and fall detection using pattern recognition techniques

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/cmmm/prmd/>.

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