Call for Paper

Journal of Medical Imaging and Health Informatics

Special issue on

Machine Learning in Medical Imaging and Health Informatics

Machine learning techniques are speedily advanced over the past few years. Numerous high-impact innovative schemes were reported in the machine learning research domain. For example, in order to process big data, deep learning becomes a hot topic in the prediction and classification. Recently, machine learning plays an essential role in the medical imaging and health informatics domains for computer-aided diagnosis, image segmentation, registration and fusion, image-guided therapy, image annotation, and image database retrieval. Thus, computer experts devote their research toward the advanced machine learning techniques.

Recently, the imaging modalities advancement as well as the growing demand for personalized, the integration of clinical information, molecular and genomic data, imaging results and pathology lead to the increased complexity of the data, and new payment models based on quality and outcomes. Thus, the need for more efficient workflows and more sophisticated analytics become a must. This compulsion direct the researchers to the multidisciplinary medical imaging informatics domain to emphasize the evaluation of original and proficient approaches for extracting and transforming data from medical images, imaging reports and electronic health records to a significant information to improve patient care and patient outcomes. Advances in this field have extensive implications in the diagnosing and tracking of the disease response, optimizing treatment, and predicting outcomes.

The main scope of this special issue is to assist the scientific research within the broad field of machine learning in medical imaging and Health Informatics. This special issue focuses on major trends and challenges in this area through representing outstanding contributions that identify new cutting-edge techniques and their use in medical imaging and health informatics. It offers the opportunity for innovative approaches towards manipulation, aggregation, transfer, analysis and visualization of healthcare and biomedical data in several applications in order to bridge the gaps between basic science, clinical practice and diagnosis and therapeutics and rehabilitation. This special issue supports new technical solutions that can accommodate the needs of all imaging-rich clinical specialties. Furthermore, it will report the state-of-the-art research and development in medical imaging.

Topics of interests include (but are not limited) the following:

- Image processing and analysis
- Image analysis of anatomical structures and lesions
- Computer-aided detection and diagnosis
- Deep learning in medical imaging
- Machine learning based systems analysis and modeling
- Optimization algorithms based machine learning
- Development and applications of medical imaging based on machine learning methods, such as deep learning, artificial neural networks, Support vector machines, Statistical methods, Manifold-space-based methods, and extreme learning machines
- Multi-modality fusion for diagnosis, image analysis and image guided interventions
- Medical image reconstruction
- X-ray/ultrasonic/magnetic resonance imaging (MRI) imaging acquisition, enhancement, and processing
- Emerging image acquisition technologies
- Computational models
- Image-guided therapies
- Visual rendering of complex datasets
- Physiological and functional interpretation of image data
- Clinical and technical evaluation of new technologies
- Medical informatics
- Medical image data management (sharing, storage, retrieval, transmission, big data)
- Healthcare and biomedical data applications
- Cellular image analysis
- Molecular/pathologic image analysis
- Dynamic, functional, and physiologic imaging

Submission

Paper should be written in English. Your paper must be formatted according to the template files. Regular papers are allowed to 8 pages in journal special issue. Authors must mention in their cover letter for each SI manuscript that the particular manuscript is for the theme and name of Guest Editors of SI consideration so that the Guest Editors can be notified separately.
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Important Dates

❖ Submission of full papers:	**December 30th, 2016**
❖ Notification of acceptance:	**May 2017**
❖ Camera ready papers:	**October 2017**
❖ Publication date:	**December 2017**

Guest Editors

NILANJAN DEY, Asst. Prof., Dept. of IT, Techno India College of Technology, Kolkata, W.B., INDIA.
 neelanjan.dey@gmail.com

GIA NHU NGUYEN, PHD, Graduate School, Duy Tan University, Viet Nam
nguyengianhu@duytan.edu.vn

DAC-NHUONG LE, PHD, Deputy-Head of Faculty of Information Technology, Haiphong University,Vietnam: Nhuongld@hus.edu.vn

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