Special Issue Proposal

Smart Healthcare: Artificial Intelligence with Applications in Biomedicine

Call for Papers

Artificial intelligence techniques have been applied to a wide spectrum of applications such as big data, information retrieval, computational finance, robotics, bioinformatics, computer vision, image processing. With the advancement of computing power, sophisticated computational intelligence methods gained popularity in converting imagination into reality. Conventional statistical and mathematical methods continue to play important roles in healthcare while new emerging technologies such as machine learning and data mining have established their reputations in solving complex and challenging problems. Applying advanced artificial intelligence techniques on biomedical applications provides numerous opportunities for better healthcare delivery.

Biomedical research is a broad topic. Areas such as bioimaging and bioinformatics have a long history of using advanced computational approaches for problem solving. In comparison, it is only of recent that interest in adopting artificial intelligence techniques is heightened in areas such as disease diagnosis and health services research. This special issue aims at reporting the latest development on smart healthcare where artificial intelligence is implemented in biomedicine.

Topics of interest include but are not limited to:

- Artificial intelligence in medical decision making
- Artificial intelligence in applied operational research for healthcare
- Bioinformatics and health informatics
- Biomedical signal processing
- Big data analytics in healthcare
- Clinical decision support systems
- Computational modeling in health services research
- Discrete events simulation, agent based and system dynamics models for healthcare
- Intelligent hospital information system
- Intelligent medical devices and sensors
- Intelligent circuits and systems for healthcare
- Medical image analysis and understanding

Guest Editors

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Nan Liu is currently a Principal Research Scientist in Singapore Health Services and Singapore General Hospital with a joint appointment at Duke-NUS Medical School of National University of
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Badong Chen received the B.S. and M.S. degrees in control theory and engineering from Chongqing University, in 1997 and 2003, respectively, and the PhD degree in computer science and technology from Tsinghua University in 2008. He was a Post-Doctoral Researcher with Tsinghua University from 2008 to 2010, and a Post-Doctoral Associate at the University of Florida Computational NeuroEngineering Laboratory (CNEL) during the period October, 2010 to September, 2012. He visited the Nanyang Technological University (NTU) as a visiting research scientist during July to August 2015. He is currently a professor at the Institute of Artificial Intelligence and Robotics (IAIR), Xi'an Jiaotong University. His research interests are in signal processing, information theory, machine learning, and their applications in cognitive science and engineering. He has published 2 books, 3 chapters, and over 100 papers in various journals and conference proceedings. Dr. Chen is an IEEE senior member and an associate editor of IEEE Transactions on Neural Networks and Learning Systems and Journal of The Franklin Institute, and has been on the editorial board of Entropy.

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Timeline for the Special Issue

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- First reviews completed deadline: June 15, 2018
- Revised manuscripts deadline: July 15, 2018
- Final acceptance deadline: October 15, 2018
- Expected publication date: December, 2018