

Special Issue on IEEE Intelligent Informatics Bulletin Data-driven Intelligent Healthcare and Medicine

Abstract

The prospect of Personalized Precision Medicine (PPM), driven by Data Science (machine learning algorithms) and Artificial Intelligence (AI) applications, in tailoring the diagnostics used in individualized treatments to improve patient health and outcomes is very promising. Digital Health, as part of AI and PPM combination, will revolutionize healthcare delivery, optimize personalized and precision medicine, and offer new tools for drug and diagnostic development.

AI solutions can be implemented by using knowledge represented as patterns and rules extracted from data processed via machine learning. PPM approach for disease treatment and prevention include individual variability in genes, environment and lifestyle for each person; linking large scale of genomics, other omics, biomedical imaging with a large scale of electronic patient health care records and e-record creating a big data set. Digital Health applications as biosensors, mobile devices and wearables, mobile health platforms and digital biomarkers are quickly expanding into all areas of patient monitoring and disease management, point-of-care diagnostics, and digital end points in clinical trials. Also, this integrative approach empowers the patients (smart patients) and convert the big amount of raw data into Smart Data by combining volume, velocity, variety, and veracity.

The proposed Special Issue is an effort and a step taken forward to explore PPM, driven by data science and AI applications to improve patient health and outcomes including digital health. The discussions will encompass the theoretical basis and related tools to formally represent, measure, model, and mine meaningful patterns from large-scale medicine datasets related to AI, WWW, and Computational Social Science. Specifically, the objectives of the proposed Special Issue are:

- To discuss on challenging issues in PPM, driven by Data Science and AI applications including Digital Health seeking the related breakthrough for new revolutions in related fields;
- To explore an innovative route to smartly merge technologies in related fields and make online smart data more productive and intelligent to the institutes related with health;
- To provide a forum for researchers to discuss their recent work on the topics mentioned above and facilitate research collaboration and potential research projects and development directions in technologies, methodology, and applications from different countries and regions and for all the Intelligent Informatics Community

Proposed Timeline

Manuscript submission deadline:	28 February 2019
First round notification with reviewer comments:	31 March 2019
Second round submission:	28 April 2019
Final acceptance notification:	19 May 2019

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