The Challenges and Opportunities for Healthcare Recommendation Systems in a Rapidly Evolving Health Data Ecosystem

Keynote

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ABSTRACT

Existing Electronic Health Record (EHR) systems are rich, and often highly heterogeneous, sources of data. In the last ten years, there has been ample interest in how the growing volume of EHR data may be used to better monitor and support decisions at the bedside, with several of the largest industrial players now entering the arena (Google, Apple Microsoft and Amazon). But EHR systems are designed to mitigate clinical liability and facilitate billing, not to support algorithm development. As the most well-resourced data companies continue their push into healthcare domain, EMR systems will inevitably change to accommodate algorithm designers. In this talk, we will present several case studies that highlight the challenges and opportunities that are available in this rapidly evolving data ecosystem, and the import role that academic researchers can play in forging the future of recommendation systems in health.

CCS CONCEPTS

• **Information systems** → *Information systems applications*; *Recommender systems*; *Information retrieval*; • **Human-centered computing** → *Human computer interaction (HCI)*; • **Applied computing** → *Health care information systems*; *Health informatics*;

KEYWORDS

Recommender systems, Health recommender systems; Multi-criteria rating; Health promotion

BIO

Dr. Mohammad M. Ghassemi is the co-founder and President of the Ghamut Corporation (winner of the 2017 MassChallenge), where he leads the development of tools, datasets, and AI methods for a variety of health and behavioral science problems. He holds a Ph.D from the Massachusetts Institute of Technology in computer science, and will be joining the faculty of Computer Science and Engineering as an Assistant Professor in the Fall of 2019 at Michigan State University (MSU). As a student, Mohammad was the recipient of several academic distinctions including the Gates-Cambridge, and Goldwater Fellowships. He is currently regarded for his work in creating several of the world's largest open access intensive care databases, a wearable A.I. for social coaching, and a platform that intelligently connects university students to improve campus culture. He holds multiple US patents, has published a book on the secondary use of health data (with over 100,000 downloads), and has over 20 peer-reviewed publications in venues including: the Proceedings of the Association for the Advancement of Artificial Intelligence, Nature Scientific Data and Science Translational Medicine. He regularly works with industry (Allstate, Estee Lauder, Thomson Reuters, and Samsung) to guide innovation strategy, and built data-powered technologies.