HiCOMB 2019 Keynote Speaker

Data + AI = Insights in Biology & Medicine

Ajay Royyuru, IBM Thomas J. Watson Research Center

Abstract:
Biology and medicine are transformed into information science, enabling rapid translation from discovery to practice. This talk will present the opportunities and insights from the aggregation of electronic medical records, medical insurance claims, digital phenotype including imaging, medical literature and omics data. Such data coupled with advances in artificial intelligence techniques and detailed mechanistic models of biochemical and physiological phenomena is yielding novel insights across healthcare and life sciences. Examples from recent work in oncology, cardiology, and neuroscience will be discussed.

Bio:
Ajay Royyuru leads Healthcare & Life Sciences research at IBM. His team is actively pursuing high quality science, developing novel technologies and achieving translational insights across this industry, including areas of cancer, cardiac, neurological, mental health, immune system, and infectious diseases. Scientific interests and active projects include genomics, protein science, systems biology, computational neuroscience, health informatics, miniaturizing for medical devices, and nano-biotechnology.
Working with institutions around the world, he is engaged in research that will advance personalized, information-based medicine. Ajay previously led the life sciences research portfolio through the Computational Biology Center. Ajay has authored numerous research publications and several patents in structural and computational biology. His work has featured in The New York Times, The Washington Post, BBC, Forbes, Scientific American, Nature Medicine, and Nature news articles.

After his undergraduate and masters education in human biology and biophysics from All India Institute of Medical Sciences, New Delhi, Ajay obtained his Ph. D. in molecular biology from Tata Institute of Fundamental Research, Mumbai. He had postdoctoral training at Memorial Sloan-Kettering Cancer Center, New York and a brief stint at scientific software development before joining IBM Research.

In 2016 Ajay was named an IBM Fellow, the company's pre-eminent technical distinction. Ajay is a member of International Society for Computational Biology and IBM Academy of Technology.

DOI 10.1109/IPDPSW.2019.00036