

AI/ML/genomics to improve human health

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Abstract:

Our present healthcare system focuses on treating people when they are ill rather than keeping them healthy. We have been using big data and remote monitoring approaches to monitor people while they are healthy to keep them that way and detect disease at its earliest moment presymptomatically. We use advanced multiomics technologies (genomics, immunomics, transcriptomics, proteomics, metabolomics, microbiomics) as well as wearables and microsampling for actively monitoring health. Following a group of 109 individuals for over 13 years revealed numerous major health discoveries covering cardiovascular disease, oncology, metabolic health and infectious disease. We have also found that individuals have distinct aging patterns that can be measured in an actionable period of time. Finally, we have used wearable devices for early detection of infectious disease, including COVID-19 as well as microsampling for monitoring and improving lifestyle. We believe that advanced technologies have the potential to transform healthcare and keep people healthy.