



## Ekanath Srihari Rangan

Postdoctoral Research Fellow, Genetics

### Bio

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#### BIO

Dr. Ekanath Rangan received his MBBS from Amrita School of Medicine, a top-5 ranked University in India, winning Gold Medals for highest scores in general medicine and surgery. He has remarkable level of initiative and innovation in the synergistic intersection of medicine, wearable sensors, and artificial intelligence. He has co-authored numerous papers in reputed international journals and conferences and holds two US patents which propose novel systems for IoT based remote monitoring, smart and connected m-health, and techniques for data to decisions so as to deliver the 3P's of modern medicine: precision, personalization, and prevention. Particularly noteworthy, are his deep learning LSTM techniques for non-invasive single sensor based sleep apnea diagnosis. In addition to architecting a COVID remote patient monitoring system for risk stratification and severity prediction, he is also a co-PI on Indian Government funded Indo-US project for discovery of early warning biomarkers of COVID-19.

Ekanath is a recipient of US NSF fellowship (2015) and excellence award for a talk titled "Rapid Health Alerts Using Multiple Sensors" delivered at University of California-San Francisco Bioengineering symposium (2016). At Amrita, he organized the first of its kind Research Synergy Meet, bringing together more than 50 researchers in medicine, engineering, and computer science from five different campuses, to deliberate on clinical problems and digital solutions.

#### HONORS AND AWARDS

- Chancellor's Medal for the best all-round performance, Amrita University (November 2020)
- University Gold Medal for the top academic performance in the Faculty of Medicine, Amrita University (August 2020)
- Institute Medal of Excellence in General Medicine, Amrita Institute of Medical Sciences and Research (March 2020)
- Institute Medals of Excellence in General Surgery, Amrita Institute of Medical Sciences and Research (March 2020)
- Institute Medal for Excellence in Research, Amrita Institute of Medical Sciences and Research (March 2020)
- Invited speaker, talk titled "Critical Role of Telehealth in the Pandemic Era", Stanford University (October 2020)
- Award for excellent presentation, "Rapid Health Alerts Using Multiple Sensors", University of California at San Francisco Bioengineering Symposium (June 2016)
- Undergraduate Research Fellowship at UC San Diego, US National Science Foundation (August 2015)
- Indo-US Bilateral Grant Award: Biomolecular Knowledge Network for COVID-19: Genome and Exposome, Indo-US Science and Technology Forum (July 2020)
- First Prize in Research Paper Presentation, SPASHT National Medical Summit (September 2019)
- Institute Medal for Excellence in Arts and Music, Amrita University (March 2020)

#### PROFESSIONAL EDUCATION

- M.B.B.S., Amrita Institute of Medical Sciences and Research , Medicine and Surgery (2020)

#### STANFORD ADVISORS

- Michael Snyder, Postdoctoral Faculty Sponsor

## **Research & Scholarship**

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### **CURRENT RESEARCH AND SCHOLARLY INTERESTS**

My research interests span: Wearable medical systems for non-invasive and pervasive health monitoring in cardiovascular and critical care contexts; Correlation of genomic aspects of disease with phenotypic data from electronic health records; Informatics and machine learning for precise detection and early warning of infectious diseases; Preemptive protocols for managing disease severity trajectories; And IoT based Telemedicine.

My current work in Snyder Lab involves large scale study of resting heart rate, clinical symptoms and daily activities as they relate to COVID-19, as well as their time series big data analysis for risk stratification.

### **LAB AFFILIATIONS**

- Michael Snyder, Stanford Healthcare Innovation Lab (11/4/2020)