

## The Institute for Sensing and Embedded Network Systems Engineering

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### A Sprint Through Medical Image Data Science Research at the National Library of Medicine

A critical need in biomedical research and clinical care is enabling access to high quality information. Also, clinical care solutions developed in the lab need to be successfully adapted to where they can be useful – at the point of care. This is of particular significance in under-resourced settings. At the National Library of Medicine (NLM) imaging data science includes not only data management, but also analytics, informatics, machine learning – and studying challenges toward translating research to practical applications. In this talk I will highlight various R&D efforts in this area underway at NLM today. I will briefly describe OPEN-i® – a multimodal biomedical image retrieval system that provides text and visual search capability to retrieve over 3.7 million images and bottom-line information from approximately 1.2 million Open Access biomedical research articles from NLM's PubMed Central® repository; an automatic screening system for detecting presence of Tuberculosis (TB) and other pulmonary abnormalities in digital chest x-ray images; erythrocyte cell-analysis based screening system for Malaria; and R&D functional brain imaging analytics and informatics. I will also highlight available internships and fellowships, and opportunities for collaboration.

### Speaker

Dr. Sameer Antani leads and directs several scientific and technical research projects at the U.S. National Library of Medicine, part of the National Institutes of Health. He is a versatile innovator, and researcher with expertise in applying computer science and engineering technology, imaging data science, machine learning, artificial intelligence and informatics in life sciences research, education, and clinical care. Dr. Antani is a Senior Member of the International Society of Photonics and Optics (SPIE), and Senior Member of Institute of Electrical and Electronics Engineers (IEEE) where he is also Vice Chair for Computational Medicine on the IEEE Technical Committee on Computational Life Sciences (TCCLS) within IEEE Computer Society. He is also Associate Editor for the IEEE Journal of Biomedical and Health Informatics. In addition to several staff achievement awards, he has been honored with two NIH merit awards (2009, 2013) for contributions in geography-independent cancer research tools, and advancing biomedical information retrieval, and an NIH Director's Award in 2016 for his contributions to the science and engineering of a novel TB screening system for under-resourced regions, respectively. Dr. Antani earned his Ph.D. and M.Eng. from the Pennsylvania State University, USA, and his B.Eng. (with Distinction) from the University of Pune, India.



**Sameer Antani, Ph.D.**

*Staff Scientist  
National Library of Medicine  
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**October 26, 2017**

**11:00 a.m. – 12:00 p.m.**

**FAU Engineering East  
777 Glades Rd, EE 303  
Boca Raton, FL**

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this lecture, please contact:*

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