

April 8th (Friday)
11:30 am-1:00 pm
[WebEx \(Click here\)](#)

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From Population Studies to Precision Imaging: Trials and tribulations and the way forward

Abstract

The talk will discuss the spectrum of image analytics, specifically connectomics, spanning population studies to precision imaging. The former involves using sophisticated statistics and deep learning to identify patterns of a disease that can be used to design targeted therapeutics. The latter calls for normative modeling for outlier characterization, by harnessing big data. In the midst of it all, lies the issues of data harmonization, quality control and validation. The talk will span these issues as observed in studies of autism spectrum disorder, brain cancer as well as traumatic brain injury. The endeavor would be to examine the nuances of analytics from the perspective of imaging researchers, as well as clinicians, with the overarching goal of computer to clinic.

About the Speaker

Being a quintessential Indian kid, I collected degrees in math and computer science with a Bachelors and Masters in Math, a second Masters in Computer Applications, and then a PhD in Math and Computer Vision. A desire for a pure math PhD, was serendipitously transformed into a PhD in computer vision. The search for new scientific pastures led me to the INRIA, Sophia-Antipolis, in the French Alps for a postdoc in face detection. It was an introduction to a refreshing style of research, as well as to wine and chocolates. Since the move to the US was unplanned, instead of the easy option of a job in face detection and post 9/11 security industry, I chose a second postdoc in medical imaging. What was supposed to be a year-long experiment, has become a job I am deeply passionate about. A tenured professorship and multiple NIH grants later, it is the notion that the research I do has the potential to change the life of a patient for the better, it is this meaningfulness that keeps me going despite the stressors of academia. I am foremost a researcher, with my area of expertise being diffusion imaging and connectomics, with a deep desire to use imaging to elucidate the mechanisms of diseases, but I find myself continuously juggling many hats of lab director, collaborator, manager, glorified grant writer and a course director.