Electrical Engineering & IDSE Seminar

"Signal Processing for Networked Data"

Professor José M. F. Moura

November 19, 2013
11:00AM
Davis Auditorium

Abstract: In the era of Big Data are traditional analysis tools and concepts drawn from signal processing any useful? In social contexts, or the web, or enterprises, the relations and dependencies among data are often conveniently represented by graphs, with the data becoming functions or signals on a graph–a point of view structurally different from the one traditionally adopted with time series. This talk extends the basic concepts of signal processing to graph signals: filters and filtering, shifting, frequency, low-, high-pass graph signals, frequency response, linear transforms, Fourier and z-transforms. We then illustrate signal processing on graphs with datasets from social networks, a service provider, and the web.

Work with Dr. Aliaksei Sandryhaila and graduate student Stephen Kruzick

BIO: José M. F. Moura is a visiting Professor at NYU with CUSP, the Center for Urban Studies+Progress (2013-14). He is the Philip and Marsha Dowd University Professor at Carnegie Mellon University with interests in statistical signal processing (SP) and distributed SP on graphs. He is an IEEE Board Director, was President of the IEEE Signal Processing Society (SPS), and was Editor in Chief for the Transactions on SP. Awards he received include the IEEE SPS Technical Achievement Award and the IEEE SPS Society Award. He is a Fellow of the IEEE, a Fellow of the American Association for the Advancement of Science, a corresponding member of the Academy of Sciences of Portugal, and a member of the US National Academy of Engineering.

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