

For favour of posting



DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

50th Anniversary Seminar Series

Dr. Dong XIA

Department of Statistics
Columbia University
USA

will give a talk
entitled

**COMPUTATIONALLY EFFICIENT TENSOR COMPLETION
WITH STATISTICAL OPTIMALITY**

Abstract

We develop methods for estimating a low rank tensor from noisy observations on a subset of its entries to achieve both statistical and computational efficiencies. There have been a lot of recent interests in this problem of noisy tensor completion. Much of the attention has been focused on the fundamental computational challenges often associated with problems involving higher order tensors, yet very little is known about their statistical performance. To fill in this void, in this article, we characterize the fundamental statistical limits of noisy tensor completion by establishing minimax optimal rates of convergence for estimating a k -th order low rank tensor which suggest significant room for improvement over the existing approaches. Furthermore, we propose a polynomial-time computable estimating procedure based upon power iteration and a second-order spectral initialization that achieves the optimal rates of convergence. Our method is fairly easy to implement and numerical experiments are presented to further demonstrate the practical merits of our estimator.

on

Thursday, February 1, 2018

(Refreshments will be served from 9:15 a.m. outside Room 301 Run Run Shaw Building)

9:30 a.m. – 10:30 a.m.

at

Room 301, Run Run Shaw Building

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 3917 2466 for parking arrangement.

ALL INTERESTED ARE WELCOME