Mathematics, Statistics, and Computer Science **@ UIC**

Statistics and Data Science Seminar

Dynamic Tensor Clustering with Applications in Neuroimaging and Online Advertising

Wei Sun (University of Miami)

Abstract: Tensor as a multi-dimensional generalization of matrix has received increasing attention due to its success in many empirical tasks. In particular, dynamic tensor data are becoming prevalent since time is often one of the tensor modes. Existing tensor clustering methods either fail to account for the dynamic nature of the data, or are inapplicable to a general-order tensor. Also there is often a gap between statistical guarantee and computational efficiency for existing tensor clustering solutions. In this talk, I will introduce a new dynamic tensor clustering method, which takes into account both sparsity and fusion structures, and enjoys strong statistical guarantees as well as high computational efficiency. The efficacy of our approach will be illustrated via two real applications: brain dynamic functional connectivity analysis, and online advertisement clustering for market segmentation.

Wednesday, September 5 at 4:00 PM in 636 SEO