Seminar

Tensor Regressions: New Methods, Algorithms and Theory



Emma Jingfei Zhang Emory University

Venue: LAU 14-222

Date: 07 Dec 2023 (Thursday)

Time: 11: 00 - 12: 30

Abstract:

Classical regression models focus on variables, predictor or response, that are vectors and estimate a vector of regression coefficients. Modern applications in medical imaging and business generate variables of more complex forms such as multidimensional arrays (or tensors). Traditional statistical and computational methods are insufficient for the analysis of those data due to their high dimensionality as well as complex structures. In this talk, we discuss new tensor predictor and response regression models, highlight challenges in their estimation and theoretical analysis, and present some solutions. Efficacy of the newly proposed methods is demonstrated through the analyses of medical imaging and advertisement data.

Biography:

Dr. Emma Jingfei Zhang is an Associate Professor of Information Systems & Operations Research at the Goizueta Business School of Emory University. She also holds a secondary appointment in the Department of Biostatistics & Bioinformatics at the Rollins School of Public Health of Emory University. Her research focuses on the developments of statistical methods and theory for networks, graphs, tensors, and point processes, with applications in biology, medicine, and business. She serves as an associate editor of the Annals of Applied Statistics, Computational Statistics & Data Analysis, Statistica Sinica and the Journal of American Statistical Association, Theory and Methods.

