

**DEPARTMENT OF MANAGEMENT SCIENCE AND STATISTICS
RESEARCH SEMINAR SERIES**

**Friday, Mar. 31
2 – 3 p.m. (CST)
BB 4.02.10 (Executive Conference Room)**



Dr. Chung Eun Lee

Associate Professor

Paul H. Chook Department of Information Systems and Statistics

Zicklin School of Business

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“Dimension Reduction for Tensor Response Regression Models”

Abstract

In this talk, we propose a flexible model-free approach to the regression analysis of a tensor response and a vector predictor. Without specifying the specific form of the regression mean function, we consider the estimation of the dimension reduction subspace that captures all the variations in the regression mean function. We propose a new nonparametric metric called tensor martingale difference divergence, and study its statistical properties. Built on this new metric, we develop computationally efficient estimation and asymptotically valid procedures. We demonstrate the efficacy of our method through both simulations and a real data application for e-commerce.

Bio

Dr. Chung Eun Lee is an Associate Professor in Paul H. Chook Department of Information Systems and Statistics, Zicklin School of Business at Baruch College. Her research interests are primarily in statistical methodology for dimension reduction, time series, functional data, and tensor data. Her work has been published in the Journal of the American Statistical Association (Theory and Methods), Biometrika, Statistica Sinica., Journal of Business & Economic Statistics. She is also interested in statistical applications in real-world problems of business and industry.