

Statistics and Data Science Seminar

Semi-parametric method for non-ignorable missing in longitudinal data using refreshment samples

Dr. Lan Xue (Oregon State University)

Abstract: Missing data is one of the major methodological problems in longitudinal studies. It not only reduces the sample size, but also can result in biased estimation and inference. It is crucial to correctly understand the missing mechanism and appropriately incorporate it into the estimation and inference procedures. Traditional methods, such as the complete case analysis and imputation methods, are designed to deal with missing data under unverifiable assumptions of MCAR and MAR. The purpose of this talk is to identify and estimate missing mechanism parameters under the non-ignorable missing assumption utilizing the refreshment sample. In particular, we propose a semi-parametric method to estimate the missing mechanism parameters by comparing the marginal density estimator using Hirano's two constraints (Hirano et al. 1998) along with additional information from the refreshment sample. Asymptotic properties of semi-parametric estimators are developed. Inference based on bootstrapping is proposed and verified through simulations.

Monday, August 7 at 3:00 PM in SEO 636
--