The Chinese University of Hong Kong
Department of Statistics

Seminar

Statistical Methods for Selecting Best Treatment with High-Dimensional Data

By

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Abstract

We consider heterogeneous treatment effects on a set of high-dimensional covariates for observational data without the strong ignorability assumption. With a binary instrumental variable, the parameters of interest are identifiable on an unobservable subgroup (compliers) of the population through a two-stage regression model. The Lasso estimation under a non-convex objective function is developed for the two-stage regression. Its desparsifying estimator and the inference procedure are proposed. The confidence interval for the treatment effect given specific covariates is also constructed. The proposed approach works for both continuous and categorical response variables under the framework of generalized linear models. Theoretical properties of the proposed method are derived, and simulation studies are conducted to evaluate its performance. A real data analysis on the Oregon Health Insurance Experiment is performed to illustrate the utility of the proposed method in practice.

Date:	April 10, 2019 (Wednesday)
Time:	2:30 p.m. - 3:30 p.m.
Venue:	Room LT7, Lee Shau Kee Building (LSK)
	The Chinese University of Hong Kong

ALL INTERESTED ARE WELCOME