Statistics Seminar

Department of Mathematical Sciences

DATE:	Thursday, February 24, 2022
TIME:	1:15pm – 2:15pm
LOCATION:	Zoom meeting
SPEAKER:	Xinhai Zhang, Binghamton University
TITLE:	Machine learning estimation of heterogeneous treatment effects with instruments

Abstract

Machine learning estimation of heterogeneous treatment effects with instruments Abstract: This talk focus on the estimation of heterogeneous treatment effects with arbitrary machine learning methods in the presence of unobserved confounders with the aid of a valid instrument. Such settings arise in A/B tests with an intent-to-treat structure, where the experimenter randomizes over which user will receive a recommendation to take an action, and we are interested in the effect of the downstream action. The authors of this paper develop a statistical learning approach to the estimation of heterogeneous effects, reducing the problem to the minimization of an appropriate loss function that depends on a set of auxiliary models (each corresponding to a separate prediction task). The reduction enables the use of all recent algorithmic advances (e.g. neural nets, forests).