Statistics Seminar

Department of Mathematical Sciences

DATE:	Thursday, Nov. 18, 2021
TIME:	1:15pm – 2:15pm
LOCATION:	Zoom meeting
SPEAKER:	Xinhai Zhang, Binghamton University
TITLE:	A Semiparametric Instrumental Variable Approach to Optimal Treatment Regimes Under Endogeneity

Abstract

This is a talk about the article by Yifan Cui and Eric Tchetgen Tchetgen. There is a fast-growing literature on estimating optimal treatment regimes based on randomized trials or observational studies under a key identifying condition of no unmeasured confounding. Because confounding by unmeasured factors cannot generally be ruled out with certainty in observational studies or randomized trials subject to noncompliance, the authors propose a general instrumental variable (IV) approach to learning optimal treatment regimes under endogeneity. Specifically, they establish identification of both value function for a given regime D and optimal regimes with the aid of a binary IV, when no unmeasured confounding fails to hold.