

**Indiana University-Purdue University  
Indianapolis**  
**Department of Mathematical Sciences**

STATISTICS SEMINAR

12:15pm—1:15pm, Tuesday, October 01, 2019  
LD 265

**Speaker:** **Ruiqi Liu**  
*Department of Mathematical Sciences, IUPUI*

**Title:** **Deep Instrument Variables Estimator**

**Abstract:**

We proposed an estimator based on deep neural network in linear instrument variables model. Under mild conditions, we show that the estimator is root- $n$  consistent and semiparametric efficient. Compared with existing methods, the proposed estimator is able to avoid the curse of dimensionality in the presence of many instruments under more realistic and weaker assumptions.