

Abstract

Due to financial and ethical challenges inherent to experimental designs, increasingly more insights into policy are based on the statistical analysis of observational data. This thesis develops and improves statistical methods for personalized policy analysis. In the first paper, I develop methods for the identification and estimation of causal effects when the subjects of interest are heterogeneous, and a policy has a complex, nonlinear relation with the outcome. In the second paper, I introduce and evaluate methods tailored to highly correlated, sparse subject characteristics. In the third paper, we investigate a novel dimensionality reduction method for the inference of causal parameters.