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RAND Corporation
Santa Monica, CA

Olmsted Hall 420
April 30th, 2019
3:45-4:45pm

*Reception in Olmsted 1331
at 3:15 P.M.*



“**SYNTHETIC ESTIMATION FOR CAUSAL INFERENCE**”

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Abstract

A major difficulty for practitioners of Rubin Causal Model (RCM) is to choose from the large number of available estimators. Numerical and empirical studies showed that the conclusions across methods can be highly variable and that many distinct approaches have been recommended by different authors. To address this challenge, we propose a synthetic estimator based on the classic linear model averaging theory. The synthetic estimator is a convex combination of multiple candidate estimators with the goal of achieving an optimal mean squared error. We discuss the properties and computational details of the proposed synthetic estimator. We demonstrate by numerical examples that the synthetic estimator has a robust performance across various data generating strategies, while any single candidate estimator's performance is usually volatile.

Biography

Bing Han is a senior statistician at the RAND Corporation and a professor of statistics at the Pardee RAND Graduate School. His recent methodology works are in causal inference, nonparametric and semiparametric methods, and longitudinal data analysis. His recent collaborative works are in public health and health services research areas. He is the PI of three federally funded grants developing innovative statistical methods with applications in education assessment, substance abuse prevention, and healthcare delivery. He has been serving as an associate editor for *Annals of Applied Statistics* since 2012.