SEMINAR
DEPARTMENT OF STATISTICS
THE CHINESE UNIVERSITY OF HONG KONG

On imputation-based ATE estimators

INVITED SPEAKER

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TIME

March 01, 2024 (Fri) · 10:30 am - 11:30 am

VENUE

ERB LT · William M.W. Mong Engineering Building - LT · CUHK

ABSTRACT

Consider estimating the average treatment effect (ATE) by imputing the missing potential outcomes. In this talk I will show that (a) such imputations are all intrinsically estimating the covariate density ratio between treated and control, or equivalently, the propensity score; (b) combining imputation with a type of bias correction due to Rubin (1973) and Abadie and Imbens (2011) yields doubly robust and semiparametrically efficient ATE estimators; and (c) a double machine learning version exists; it produces similar theoretical guarantees under arguably milder conditions.