



THE UNIVERSITY OF
CHICAGO

Department of Statistics
STATISTICS COLLOQUIUM

PETER BÜHLMANN

Departments of Mathematics
ETH Zürich

Deconfounding

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Via Zoom (session information will be e-mailed to subscribers)

ABSTRACT

Hidden confounding is a severe problem when interpreting regression or causal parameters, and it may also lead to poor generalization performance for prediction. Adjusting for unobserved confounding is important but challenging when based on observational data only. We propose spectral deconfounding, a class of linear data transformations, followed by standard sparse estimation methods such as the Lasso, or the Debiased Lasso when confidence guarantees are required. The proposed methodology has provable (optimality) properties when assuming dense confounding. Without additional assumptions, deconfounding from observational data is impossible. But we argue that even when such assumptions fail to hold, certain methods exhibit partial robustness against hidden confounding.

The talk is based on joint work with Domagoj Cevic, Zijian Guo and Nicolai Meinshausen.

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