University of California, Irvine
Statistics Seminar

Moment-Based Semiparametric Bayesian Causal Inference

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We consider the problem of prior-posterior analysis of causal parameters under minimal, core assumptions, in particular, unconditional and conditional moment restrictions on the unknown probability distribution of the outcomes. The framework is based on the theory of estimation and model comparison, under the nonparametric exponentially titled empirical likelihood, for moment restricted models, developed in Chib, Shin and Simoni (2018, JASA) and Chib, Shin and Simoni (2020, JRSS-B, in press). We provide illustrations of this approach to the estimation of the causal parameter in instrumental variables regressions, to the problem of average treatment effect (ATE) estimation under the conditional ignorability assumption, and the regression-discontinuity ATE estimation under a sharp-design.