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Bayesian Adjustment for Confounding in Bayesian Propensity Score Estimation

I propose a Bayesian approach for Propensity Score (PS) variable selection and estimating the average causal effect as a weighted average over different PS. The approach is a two-stage modeling and is based on specifying three models: (1) the prognostic score model; (2) the PS model, and (3) the outcome model. The key to my approach is the incorporation in the second stage of an informative prior distribution on the parameter that controls the inclusion of each covariate in the PS, which is obtained in the first stage. Throughout, I use Reversible Jump MCMC algorithm for each stage.