

A nonparametric regression model for Bayesian survival analysis

Chris Holmes, University of Oxford

We present a new joint model for Bayesian nonparametric survival analysis, designed to be interpretable and allow for easy characterization of informative prior beliefs elicited on survival times and covariate effects. The model separates out beliefs about the population survival times from beliefs about the covariate effects on the ordering of event times. Inference in the presence of censored data can be carried out efficiently using imputation and MCMC. The motivation comes from ongoing work in genetic epidemiology.