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A Bayesian Approach to Competing Risks Model with Masked Causes of Failure and Incomplete Failure Times (Article) (Open Access)

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Abstract

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We present a Bayesian approach for analysis of competing risks survival data with masked causes of failure. This approach is often used to assess the impact of covariates on the hazard functions when the failure time is exactly observed for some subjects but only known to lie in an interval of time for the remaining subjects. Such data, known as partly interval-censored data, usually result from periodic inspection in production engineering. In this study, Dirichlet and Gamma processes are assumed as priors for masking probabilities and baseline hazards. Markov chain Monte Carlo (MCMC) technique is employed for the implementation of the Bayesian approach. The effectiveness of the proposed approach is illustrated with simulated and production engineering applications. © 2020 Yosra Yousif et al.

SciVal Topic Prominence

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