

A BAYESIAN APPROACH TO BIVARIATE SURVIVAL MODELS BASED ON ARCHIMEDEAN COPULAS

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- **ABSTRACT:** *In this work we consider models based on Clayton and Frank Archimedean copulas to model the dependence of bivariate survival data in the presence of covariates and censored data. For inferential purposes, a Bayesian approach via Markov Chain Monte Carlo (MCMC) were considered. Further, some discussions on the model selection criteria are given. In order to examine outlying and influential observations, we present a Bayesian case deletion influence diagnostics based on the divergence ϕ . The applicability of the proposed models are illustrated on artificial and real data. All computer implementations were performed using WinBUGS and R systems through the BRugs package..*
- **KEYWORDS:** *Survival analysis; Archimedean copulas; ϕ -divergence; Bayesian inference.*

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