

## **Propriety of posterior distributions arising in categorical and survival models under generalized extreme value distribution**

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### **Supplementary Material**

The computation for the GEV survival model described in this paper has been implemented in R and it is available as supplementary materials. This document provides instructions on how to implement the R codes.

The R codes can be run from the command line of R or non-interactively in the batch mode. The shape and scale hyperparameters for the Inverse Gamma prior of  $\sigma$  are specified by a0 and b0 restrictively. Different initial values for the MCMC sampling are: n.chains denoting the number of multiple chains (used for calculating the Gelman-Rubin scale reduction factor), nsim denoting the length of the Markov chains, burnin and n.thin denoting the burn-in and thinning values respectively. The tuning parameters for the Metropolis-Hastings proposals of  $\beta$ ,  $\sigma$ , and  $\xi$  are s, sig.sig, and sig.sai respectively. These tuning parameters should be changed to get around 40% acceptance rate. The realizations of the Markov chains are stored in three arrays namely, beta.store, sig.store, and sai.store restrictively. Trace plots and autocorrelation plots of the Markov chain outputs are produced. Posterior means and posterior quantiles are given as summary of the posterior densities.