Abstract

In this paper, the two-parameter Marshall-Olkin Extended Weibull (MOEW) model is considered to analyze the software reliability data. The Markov Chain Monte Carlo (MCMC) method is used to compute the Bayes estimates of the model parameters. In this paper, it is assumed that the parameters have non-informative set of priors and they are independently
distributions. Under the above priors, we use Gibbs algorithm in OpenBUGS to generate MCMC samples from the posterior density function. Based on the generated samples, we can compute the Bayes estimates of the unknown parameters and also can construct highest posterior density credible intervals. We also compute the maximum likelihood estimate and associated confidence intervals to compare the performances of the Bayes estimators with the classical estimators. One data analysis is performed for illustrative purposes.

Reference


Index Terms

Computer Science  Software Engineering

Key words

Marshall-Olkin Extended Weibull (MOEW) model

Parameter estimation

Maximum likelihood estimate (MLE)

Bayes estimates

Markov Chain Monte Carlo (MCMC)