

Outlier detection in 2×2 crossover design using Bayesian framework

ABSTRACT

We consider the problem of outlier detection method in 2×2 crossover design via Bayesian framework. We study the problem of outlier detection in bivariate data fitted using generalized linear model in Bayesian framework used by Nawama. We adapt their work into a 2×2 crossover design. In Bayesian framework, we assume that the random subject effect and the errors to be generated from normal distributions. However, the outlying subjects come from normal distribution with different variance. Due to the complexity of the resulting joint posterior distribution, we obtain the information on the posterior distribution from samples by using Markov Chain Monte Carlo sampling. We use two real data sets to illustrate the implementation of the method.

Keyword: Bayesian; Crossover design; Markov chain Monte Carlo; Outlier