

Adjusted Jackknife Estimation Method in Quasi-Likelihood Model with Outliers

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Abstract

Many statisticians usually use a quasi-likelihood model to examine the relationship between response variable and explanatory variables. In many applications, the data set often contains outliers and, hence the traditional estimation methods may not be adequate. In this paper, we develop an adjusted jackknife estimation method to solve this problem. The advantage of adjusted jackknife estimation method is that the influence of outliers in parameter estimation can be reduced efficiently. The asymptotic properties of the adjusted jackknife estimator are derived when the link function is linear. Some Monte Carlo simulations and one example are provided to demonstrate the application of the adjusted jackknife estimation method.

Keywords: Asymptotic Normality, Fuzzy-Weighted Estimation, Link Function, Optimal Fuzzy Clustering Method, Semi-Parametric Model.