Jackknife-after-Bootstrap as logistic regression diagnostic tool

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Abstract

Jackknife-after-Bootstrap (JaB) has first been proposed by [1] then used by [2] and [3] to detect influential observations in linear regression models. In this study, we propose using JaB to detect influential observations in logistic regression model. Performance of the proposed method will be compared with the traditional method for standardized Pearson residuals, Cook’s distance, change in the Pearson chi-square statistic and change in the deviance by both real world examples and simulation study. The results reveal that under considered scenarios proposed method performs better than traditional method and is more robust to masking and swamping effects.

Keywords

Logistic regression, Bootstrap, Jackknife, Logistic regression diagnostics.

References