

Outlier detection for location parameter within GAMLSS

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Abstract

Generalized additive models for scale and shape location (GAMLSS) have become increasingly popular. They generalize other already popular models such as the linear model, the generalized linear models, semiparametric models and the generalized additive models. They allow that any parametric distribution can be considered to model the response variable. In addition, all distribution parameters can be modeled with linear, non-linear or smoothing functions for explanatory variables. This work shows some diagnostics tools and proposes techniques to detect possible influential observations for GAMLSS. The study is still limited to situations univariate penalized splines, with one smoother. Simulations and analysis of real data illustrates the approached methodology.

Keywords: Bootstrap, Cook's distance, Diagnostics, Semiparametric Regression.

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