DIAGNOSTIC TECHNIQUES FOR REGRESSION MODELS

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Abstract

Diagnostic techniques have been developed for the detection of problems arising in the application of regression models. These problems may be associated with violations of one or more assumptions of the model, with the presence of outliers in the data, with the inappropriate choice of the functional form of the model e.t.c. Most of the proposed diagnostic techniques are suitable for the linear model. However, there are several techniques that may be applied to more complex types of models. Our aim is to present the major developments in the area of diagnostic methods for linear regression models, as well as diagnostic methods which are applicable to some more general types of models. The latter include generalized linear models, nonlinear models and errors in variables models.

Keywords and Phrases: diagnostics; residuals; linear model; generalized linear model; nonlinear model; errors in variables models; heteroscedasticity; autocorrelation; multicollinearity; influence measures