intRegGOF: Modelling with the aid of Integrated Regression Goodness of Fit tests.

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Integrated Regression Goodness of Fit tests were introduced in Stute (1997) with the aim to detect the discrepancies between the actual regression model that data follows and any possible alternative. These tests are based on the fact that cumulative residuals along the values of the covariates characterizes the stochastic behaviour of the discrepancies between null and alternative hypothesis related to these regression models. In this way, these tests enable us to detect the lack of fit of a given model. As is pointed in previous reference the asymptotic distribution of functionals of this cumulative processes is not amenable and appropriate resampling methods in the regression framework are required to perform the tests.

R Package intRegGOF implements not only the main tools to perform Goodness of Fit tests based on Integrated Regression but also some utilities that allows modeling in a similar fashion to what is available in R for the class of models lm. In its present status, the package handles models developed using lm, glm y nlm tools for both unbiased and biased observations.

In this work we present the package, its main features and how are they implemented. The use of the R utilities to handle with several different models and computing on the language to develop the comparison between models is also addressed. Some examples with real and simulated data are also discussed to explain how the package works in both, the unbiased and selection–biased frameworks.

References


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