

Fit generalized linear models with using of different likelihoods

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Abstract

We introduce generalized linear models, a statistical estimator which combines features of nonlinear and non normal regression. A GLM uses some methods such as maximum likelihood for estimating parameters in model. In these models, there is a link function that shows relations between predictors and response variables. In some cases computation of maximum likelihood in full likelihood is difficult, so we need a simple method to estimate parameters. We obtain some types of likelihoods for making easy computations. These likelihoods are conditional, profile, empirical and quasi likelihood. We also present an example with real data of productivity of bulldozer and compute estimators with using these likelihoods by SAS software.

Keywords

Linear predictor, Link function, Nuisance parameter, Quasi likelihood, Sufficient statistic.

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