

Finite Mixtures of Generalized Linear Regression Models

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Abstract:

Generalized linear models have become a standard technique in the statistical modeling toolbox for investigating relationships between variables. The assumption of homogeneity of regression coefficients over all observations can be relaxed by incorporating generalized linear models into the finite mixture framework. The model class consisting of finite mixtures of generalized linear models is presented. Model identification is discussed and special attention is given to identifiability problems which arise in addition to those already known for mixtures of distributions. Details on model estimation are outlined, the implementation in the R extension package flexmix is described and the application is illustrated.