An alternative approach on model selection in Generalized Linear Models

Özlem Korucu and Kadri Ulaş Akay

Istanbul University, Turkey

Abstract

Generalized Linear Models are widely used as flexible models in which variability is described by a distribution in an exponential family. The use of Generalized Linear Models in industrial applications has become very common. The purpose of this study is to compare models in several Generalized Linear Model applications. To compare the models, some model selection criteria (AIC, SBIC and ICOMP) and the hierarchy principle are taken into consideration. The suggested approaches are illustrated on different data set in the literature.

Keywords

Generalized Linear Models, ICOMP, Hierarchy principle.

References

Clark, A.E. and Troskie, C.G. (2006). Regression and ICOMPA simulation study. *Comm. Statist. Simulation Comput.* 35(3), 591–603.

Myers, R.H., Montgomery, D.C., Vining, G.G., and Robinson, T.J. (2010). *Generalized Linear Models with Applications in Engineering and the Sciences* 2nd. edition. John Wiley and Sons Inc., USA.

Peixoto, J.L. (1990). A property of well-formulated polynomial regression models. *Amer. Statist.* 44(1), 26–30

1