

Speaker:

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Title:

Smooth Tests of Goodness of Fit for Extended GLMs

Abstract:

Generalised linear models (GLMs) are typically defined with three aspects: linearity, a link function and a response distribution. Rippon (2013) studied smooth tests of goodness of fit focusing primarily when the response distribution is from a one parameter exponential family. However many response distributions are not from a one parameter exponential family. For example, the general linear model assumes normality: a two parameter distribution. Rippon (2013) dealt with normal and gamma response distributions each in isolation.

To deal with this issue extended GLMs are defined that relax the exponential family assumption on the response distribution. A general theorem is given that allows the construction of smooth tests of goodness of fit for such models. Response distributions such as the normal, gamma, zero inflated Poisson and negative binomial are of interest.

This is work in progress.