

Information criteria for model choice in finite mixture models

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Abstract

Conducting inference for finite mixture models can be challenging, even if the number of mixture components in the model is fixed, because the likelihood surface has many local maxima. The challenge becomes even greater if the number of mixture components is unspecified, and as a result simple criteria such as AIC are often used to select the number of components. I will discuss some problems in using AIC in this way, and show that AIC and some suggested corrected versions of AIC sometimes fail to select the model which is optimal according to the original derivation of AIC.