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Mixture-model Averaging

Criteria commonly used for choosing the number of components in a finite mixture model include the Akaike information criterion, Bayesian information criterion, approximate weight of evidence, and the Integrated complete likelihood. We argue that it is not reasonable when the difference between the biggest value of such a criterion and some other values is small. It is, therefore, worth considering a model-averaging approach. We consider an averaging of the top M mixture models with applications in clustering and classification.