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Abstract:

The property of identifiability is an important consideration on estimating the parameters in a mixture of distributions. Also classification of a random variable based on a mixture can be meaningfully discussed only if the class of all finite mixtures is identifiable. The problem of identifiability of finite mixture of Gompertz distributions is studied. A procedure is presented for finding maximum likelihood estimates of the parameters of a mixture of two Gompertz distributions, using classified and unclassified observations. Based on small sample size, estimation of a nonlinear discriminant function is considered. Throughout simulation experiments, the performance of the corresponding estimated nonlinear discriminant function is investigated.

Keywords:

Discriminant Function Finite Mixture Maximum Likelihood Estimate Mixture of Distributions Monte Carlo Study Random Variable Simulation Experiment Small Sample Size

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