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Katharine M. Clark and **Paul D. McNicholas*** (paulmc@mcmaster.ca). *Using Subset Log-Likelihoods to Trim Outliers in Gaussian Mixture Models.*

Mixtures of Gaussian distributions are a popular choice in model-based clustering. Outliers can affect parameters estimation and, as such, must be accounted for. Algorithms such as TCLUS_T discern the most likely outliers, but only when the proportion of outlying points is known *a priori*. It is shown that, for a finite Gaussian mixture model, the log-likelihoods of the subset models are beta-distributed. An algorithm, called OCLUS_T, is then proposed that predicts the proportion of outliers by measuring the adherence of a set of subset log-likelihoods to a beta reference distribution. The OCLUS_T approach is compared to popular alternatives using simulated and real data. (Received August 14, 2019)