KATHERINE MORRIS, University of Guelph

Non-Gaussian Clustering and Dimension Reduction

A dimension reduction method for model-based clustering via a finite mixture of non-Gaussian distributions – specifically the $t$, shifted asymmetric Laplace and generalized hyperbolic distributions – is introduced. The approach is analogous to existing work within the Gaussian paradigm and relies on identification of a reduced subspace. This subspace contains linear combinations of the original data, ordered by importance using the associated eigenvalues. Our clustering approaches are illustrated on simulated and real data, and compared to each other as well as their Gaussian counterpart.