



Mixtures of Skew-t Factor Analyzers

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In this paper, we introduce a mixture of skew-t factor analyzers as well as a family of mixture models based thereon. The mixture of skew-t distributions model that we use arises as a limiting case of the mixture of generalized hyperbolic distributions. Like their Gaussian and t-distribution analogues, our mixture of skew-t factor analyzers are very well-suited to the model-based clustering of high-dimensional data. Imposing constraints on components of the decomposed covariance parameter results in the development of eight flexible models. The alternating expectation-conditional maximization algorithm is used for model parameter estimation and the Bayesian information criterion is used for model selection. The models are applied to both real and simulated data, giving superior clustering results compared to a well-established family of Gaussian mixture models.

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