

Factor PD-Clustering

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Factorial clustering methods have been developed in recent years thanks to the improving of computational power. These methods perform a linear transformation of data and a clustering on transformed data optimizing a common criterion. Factorial PD-clustering is based on Probabilistic Distance clustering (PD-clustering). PD-clustering is an iterative, distribution free, probabilistic, clustering method. Factor PD-clustering make a linear transformation of original variables into a reduced number of orthogonal ones using a common criterion with PD-Clustering. It is demonstrated that Tucker 3 decomposition allows to obtain this transformation. Factor PD-clustering makes alternatively a Tucker 3 decomposition and a PD-clustering on transformed data until convergence. This method could significantly improve the algorithm performance and allows to work with large dataset, to improve the stability and the robustness of the method.

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