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A Fuzzy Kernel K-Medoids Algorithm for Clustering Uncertain Data Objects

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Abstract : Uncertain data mining algorithms use different ways to consider uncertainty in data such as by representing a data object as a sample of points or a probability distribution. Fuzzy methods have long been used for clustering traditional (certain) data objects. They are used to produce non-crisp cluster labels. For uncertain data, however, besides some uncertain fuzzy k-medoids algorithms, not many other fuzzy clustering methods have been developed. In this work, we develop a fuzzy kernel k-medoids algorithm for clustering uncertain data objects. The developed fuzzy kernel k-medoids algorithm is superior to existing fuzzy k-medoids algorithms in clustering data sets with non-linearly separable clusters.

Keywords : clustering algorithm, fuzzy methods, kernel k-medoids, uncertain data
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