

A maximum margin clustering algorithm based on indefinite kernels

Hui XUE , Sen LI, Xiaohong CHEN, Yunyun WANG

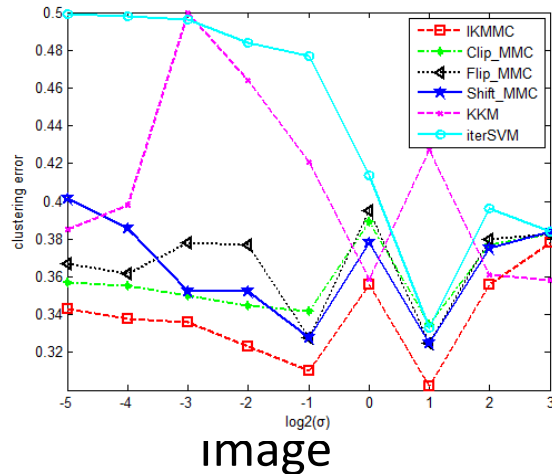
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Problems & Ideas

- Problems of Clustering Based on Indefinite Kernels
 - the research about indefinite kernel clustering is scarce
 - existing clustering methods are incapable in indefinite kernel scenarios
- Ideas: Indefinite kernel maximum margin clustering (IKMMC)
 - based on the maximum margin clustering (MMC) model
 - find a proxy positive definite kernel to approximate the original indefinite one and thus embeds a new F-norm regularizer in the objective function to measure the diversity of the two kernels
 - transforms the clustering problem into a classification one solved by indefinite kernel support vector machine (IKSVM) and then prediction labels used as the new input class labels at next iteration, utilizes the prediction labels at the last iteration as the expected indices of clusters

Main Contributions

- Less clustering error on the two-class data sets



- Less clustering error on the multi-class data sets

