Abstract

Kernel-based clustering provides a better analysis tool for pattern classification, which implicitly maps input samples to a high-dimensional space for improving pattern separability. For this implicit space map, the kernel trick is believed to elegantly tackle the problem of "curse of dimensionality," which has actually been more challenging for kernel-based clustering in terms of computational complexity and classification accuracy, which traditional kernelized algorithms cannot effectively deal with. In this paper, we have analyzed the merits and deficiencies of KFCM-I/KFCM-II, and KFMC-III and pointed out the connections of these three algorithms.

References

A Comparative Study of MRI Image Segmentation based on Fast Kernel Clustering Analysis

- Cocosco C A, Kolokkian V, Kwan R K S, Evans A C. BrainWeb: online interface to a 3-D MRI simulated brain.

Index Terms

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Keywords

Kernel-based clustering  dimensionality reduction  speeding-up scheme  magnetic resonance imaging (MRI) image segmentation

intensity inhomogeneity correction