Brain MRI Segmentation based on Different Clustering Algorithms

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Abstract

In this study, MR Image segmentation has been realized with some clustering algorithms. In the study, the performances kmeans, lloyds, llyds-kmeans, pso clustering, ga clustering and jaya optimisation algorithms on some MR images from BRATS 2012 dataset have been compared. For the comparison, the manual segmentation results of MR images from BRATS 2012 dataset have been referenced and results have been compared with these references. In the comparison RI (Rand Index), VOI (Variation of Information) and GCE (Global Consistency Error) have been used and results have been submitted. The results showed that the PSO algorithm yielded better results and has a better processing time than the other algorithms.

References


Index Terms

Computer Science   Algorithms

Keywords

Kmeans, particle swarm optimization, genetic algorithm, jaya optimization, Lloyds