Brain MRI Segmentation based on Different Clustering Algorithms

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 155
Number 3

Year of Publication: 2016

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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

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Index Terms
Computer Science
Algorithms

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