Segmentation of Medical Images using Adaptively Regularized Kernel-based Fuzzy C-Means Clustering

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Abstract

Medical imaging is the process of seeing the internal parts of the body, whose purpose is to maintain health, prevention and treatment of diseases. Nowadays, medical imaging has become a common part of everyday clinical practices. Despite huge progress, there is still no such instrument that can represent all facets of the human body. Image segmentation is the most common method used to analyze and detect distortion in medical images. Clustering is a technique used to group similar data in the same cluster. MRI segmentation is critically important for diagnostic studies and diagnosis. There are many drawbacks in existing methods based on soft clustering, which include low noise and high computational cost in the presence of image noise and artifacts. In this paper, we use a novel method to split brain tissues from magnetic resonance images, which routinely use regularized kernel-based fuzzy-clustering clusters. Adaptive regularized kernel based fuzzy clustering means (ARKFCM) is applied to remove nuclei and non-nuclei images of the Histopathological ROI image. In ARKFCM, results occurred in two sets of images, both images are examined to generate clustering cells. The combined ARKFCM image contains many overlapping areas of cells.
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Index Terms

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Keywords

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