Spatial Fuzzy C-Means Clustering based Segmentation of Tumor in Vertebral Column Images

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Abstract

Precise detection and segmentation of tumor that represents uncontrolled growth of tissue, in vertebral column is complex due to vertebrae shapes, gaps in the cortical bone, internal boundaries, as well as the noisy, incomplete or missing information from the MRI or CT scan images, and becomes a challenging task. This paper presents an elegant method using FCM clustering with spatial information for segmenting tumor region of such images. It segments the cluster image corresponding to the largest centroid and uses a few of the morphological operations for removing unwanted regions. It includes the results of three test images for illustrating the goodness of the proposed method.

References


Index Terms

Computer Science

Fuzzy Systems

Keywords
fuzzy c-means clustering, image segmentation.