Thesis Title

The Fuzzy C-Means Medical Image Clustering using Histogram

Analysis

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ABSTRACT

The region clustering of a Magnetic Resonance Imaging (MRI) image is more complicate than a Computed Topography (CT) image because a MRI image composes of three components, T1weight (T1), T2weight (T2) and Proton Density (PD) in each layer. However, the MRI Images Provides more fine detail than the CT images. We present, in this thesis, a technique of the region clustering of CT and MRI image by using Fuzzy C-Means (FCM) technique. Our improved technique of FCM is based on histogram analysis for specifying the initial positions of the cluster centres (v). In experimental results, the technique provides more segmentation accuracy than the Hard C-Means (HCM) technique. Moreover this technique takes lower computational time comparing to the previous methods appeared in the literatures.