Abstract

This paper provides new hybrid medical image segmentation based on Global Minimization by Active Contour (GMAC) method and Spatial Fuzzy C Means Clustering method (SFCM) tailored to CT imaging applications. GMAC is the unification of image segmentation and image denoising, which is a combination of snake, Rudin-Osher denoising and the Mumford Shah model. Here globalization of contour is applied which normalizes the threshold to form a cluster by spatial fuzzy means. By allowing the Active contour to detect the region of features that is to be segmented is spatial functioned by fuzzy c means is applied for fining the segmentation results. Our method is compared with other methods like Adaptive Threshold (AT), Edge detecting, Region Growing by Adaptive (RGA) Threshold to prove the efficiency. We validate the new approach with the parameters in terms of energy level, Relative Entropy (RE), Discrete Entropy(DE), Mutual information(MI), Evaluation time(ET). The experimental result shows that the proposed model works efficiently.

References

- D. Jayadevappa, S. Srinivas Kumar, and D. S. Murty, A Hybrid Segmentation Model
Hybrid Medical Image Segmentation based on Fuzzy Global Minimization by Active Contour Model


Index Terms

Computer Science Artificial Intelligence
Keywords

Fusion technique  Global Minimization by active contour  spatial fuzzy clustering
Adaptive thresholding

Medical image