Quantitative Analysis of Metastasis Brain Tumor and its Area Estimation in MR Images

International Journal of Computer Applications

Foundation of Computer Science (FCS), NY, USA

Volume 139 - Number 14

Year of Publication: 2016

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10.5120/ijca2016905950

Abstract

Metastasis brain tumor lops multiple tumors at asymmetrical location of the human brain. MRI Imaging is one of the prudent mechanisms to extract the tumor regions and to map the brain for diagnosing. For the better diagnosis, one must detect the tumor accurately and need to calculate the area and volume of the tumor exactly. Here in this letter, we proposed a novel resolution enhancement technique to improve the quality of MR brain image and optimized hybrid clustering with region split and merge algorithm to detect the tumor cells from the original MR images and to estimate the tumors from different locations. Simulation results show that the proposed algorithm has performed superior to conventional clustering algorithms such as Fuzzy C-means (FCM), K- Means and even optimized pillar algorithm.

References


Index Terms

Computer Science  Image Processing

Keywords

Metastasis brain tumor, DWT, SWT, Interpolation, Image Segmentation, FCM, K-means, Optimized pillar algorithm