Brain Tumor Analysis of Rician Noise Affected MRI Images

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 141
Number 14

Year of Publication: 2016

Authors:
Renukalatha S., K.V. Suresh

10.5120/ijca2016909991

Abstract

Magnetic Resonance Imaging (MRI) established itself as a key imaging modality in diagnosis and treatment of brain tumors. Automatic segmentation of tumors becomes a tedious task due to complex anatomical brain structure. In addition, presence of noise degrades the quality of MRI scans. MRI images are usually corrupted by Rician noise which would mislead the image analysis algorithms and results in improper diagnosis of the diseases. Also, poor tumor boundary becomes a major hurdle for the subsequent stages of tumor analysis such as: feature extraction, classification and quantification. Classification accuracy mainly depends on quality of the denoised images and sharpness of the tumor boundary. This paper investigates the performance evaluation of different image matting techniques to extract tumor from Rician noise affected MRI brain images.

References


Index Terms

Computer Science
Image Processing
Keywords

MRI Brain tumor, Rician noise, Region of interest (ROI), image matting and Sensitivity.