Brain Stroke Segmentation using Fuzzy C-Means Clustering

Abstract

Image processing technique plays an important role in medical science for envisage various phenomenal structure of human body. Even though it helps more, sometimes it’s very difficult to detect abnormal structures of human body by using simple images. Magnetic Resonance Imaging (MRI) is the one of the most significant technique to analyze human body and helpful for distinguishing and expounding the neural architecture of human brain effectively. This proposed strategy focus on detection and extraction of brain stroke from different patient’s MRI images. In this work some pre-processing techniques like noise removal, filtering and segmentation is used for extract brain stroke partition accurately. The segmentation of brain stroke is implemented by using Fuzzy C-Means (FCM) clustering with two different levels of extraction. Edge detection is used for finding segmented portion of brain stroke edges accurately. Finally the stroke size is calculated for help doctors to make effective decisions about brain stroke. The experimental result proven that the proposed method is successful in detecting and extraction brain stroke efficiently with less time.
References


Index Terms

Computer Science  Fuzzy Systems
Keywords

FCM, MRI, CT, PET, hemorrhage, ischemic, embolic, WMF and etc.