Abstract

A vital role is impersonated by medical imaging within the field of medication. Image segmentation is a popularly identified technique that is employed to extricate unnatural tissues in medical images. There is a chance of a tumor getting converted into lethal cancer which is a significant leading cause of loss of life. This can be detected accurately by using magnetic resonance imaging images (MRI) in an automatic system. It will also consume less time in detecting the tumor.

Automating the entire method of detection the tumor at an initial stage helps to cure it quicker. The proposed work includes using magnetic resonance (MRI) images which will be enhanced by performing the mentioned Pre-Processing techniques like thresholding, watershed and other morphological operations which would help us in identifying and detecting the tumor. The features would be extracted and a delta graph will be generated which will help us in creating a 3D model of the brain. The 3D model helps the doctors to make a decision which kind of cure operation is to be performed and therefore gain a deeper insight. The proposed work will also
classify the detected tumor into Begin or Malignant with the help of K-means and Artificial Neural Network. Also, the growth of the brain tumor will be tracked with the help of differential analysis. The projected technique will be implemented with the aid of MATLAB R2018b.

References

13. R. Banik, M. R. Hasan, and M. S. Iftekhar, Automatic detection, extraction and mapping of Brain Tumor from MRI scanned images using Frequency Emphasis Homomorphic and cascaded hybrid Filtering techniques, 2015 International Conference on Electrical Engineering and Information.

**Index Terms**

Computer Science  
Image Processing

**Keywords**

K-means, Morphological operator