

ABSTRACT

This project aims to produce a tool to diagnose MRI and make it easier to classify brain tumor into two generally types benign, or malignant type. In this case, the system of brain tumor detection consists of three main parts, i.e preprocessing, segmentation, and classify.

Morphological Gradient method is used to get sub-image of MRI. Then do the segmentation process with Watershed Transformation. After getting the segmentation result, it is proceed by feature extraction with statistical feature approach. Feature extraction produces curent feature that is detected by K-NN Classification method.

Watershed transformation can separate image of tumor from the backgroud image even if the edge between continuous objects. The test is performed with the results of the MRI input image in. jpg format by using a statistical approach. Overall, the results of pattern recognition by using K-NN obtain an accuracy of 85.80 %.

Keyword: Magnetic Resonance Imaging, morphological gradient, watershed transform, statistical approach, K-NN clasification