

## ABSTRACT

One of the Medical image application is disease detection that obtained from an image analysis. This final project aim to make a software based tools for radiologist in diagnose Magnetic Resonance Imaging (MRI) image and make it easy to classifying brain tumor into three classes.

In general, brain tumors can be classified into two cancer Benign and Malignant. Benign tumor is a type of brain tumors are not cancerous or not to spread to other body tissues, while malignant tumors are a type of tumor that is very dangerous because it can spread to other body tissues.

Independent Component Analysis (ICA) feature extaction method is used to get the feature vector from the MRI image in .jpg format. The result of the feature vector will be classified with Support Vector Machine(SVM) so we will get the classification result in three class: normal, benign, and malignan. Overall the patern recognition with ICA and SVM method get accuracy at 81,33 % and computing time 30,668 seconds.

*Key words : Medical Image, Magnetic Resonance Imaging, Benigna, Malignan, Independent Component Analtsis, Support Vector Machine*