

ABSTRACT

Breast cancer is a disease suffered by many women. Breast Cancer is the uncontrolled growth of breast tissue. Mammography is one way of breast screening using low-dose x-ray beam that can detect symptoms of breast cancer as early as possible which results in image form. Jpg, called mammogram. The final project is to produce a software-based tool for the radiologist in diagnosing mammogram image and make it easier to classify the types of breast cancer abnormalities into three classes based on BIRADS, namely normal, benign, and malignant. In general, the detection of breast cancer is made up of 3 main parts, namely: preprocessing, feature extraction, and classification.

Image preprocessing is performed consisting of morphological operations, labeling and thresholding, cropping and normalization, then watershed segmentation. Feature extraction process is performed by using a statistical approach to Gray Level Difference Method (GLDM) technique. In the extraction process will produce characteristics traits or features which will be recognized by the method of classification Adaptive Neuro Fuzzy Inference System (ANFIS).

Adaptive Neuro-Fuzzy Inference System (ANFIS) is a combination of Fuzzy Inference System with Artificial Neural Network (ANN) in which the membership value of a Fuzzy Inference System will be improved through learning neural network so that it can provide a better accuracy rate for a classification system.

The test results show that the system is in the testing phase with test data, ANFIS is able to classify the mammogram image data with an accuracy rate of 76.67%.

Keywords: mammograms, feature extraction, GLDM, ANFIS.