

## **ABSTRACT**

*Breast cancer is a disease that many suffered by women. Those cancer grows uncontrolled in breast tissue. Mammography is one way of breast examination using a beam of low-dose x-ray that can detect symptoms of breast cancer as early as possible which results in the form of image, called mammogram. Sometimes there are some dark mammograms that are difficult to diagnosed, it is necessary to improve image quality using image enhancement technique which can raise the hidden features. A technique that often used for this case is Histogram Equalization (HE). However, there are some parts that still dark because HE enhances the global contrast of image. Adaptive Histogram Equalization (AHE) is a technique that able to overcome the problem of HE by increasing contrast in local area. But the expectation of increasing is happen excessively. By using Contrast Limited Adaptive Histogram Equalization (CLAHE), the excessive increase in AHE can be overcome by giving a limit value in the histogram so that the contrast increases but not excessive evenly it works on local area. Generally, the system of breast cancer detection consists of four main parts, i.e. image enhancement, feature extraction, classification and tumor segmentation by Region Growing. In this system CLAHE can improve the accuraction until 100%. Testing on Region Growing is performed with assessment of ROI results by a medical expert.*

*Keywords: Breast cancer, Mammogram, CLAHE, Region Growing.*