

## ***ABSTRACT***

*This project aims to produce a tool to diagnose mammogram and make it easier to classify breast cancer into normal, benign, or malignant type of class depend on BIRADS. Generally, the system of breast cancer detection consists of three main parts, i.e preprocessing, segmentation, and classify.*

*Morphological Gradient method used to find out the sub image of mammogram, which then the sub image is produced using Watershed Transformation as segmentation method. Then, the result of sub-image of mammogram, which are global region (breast) and local region (mass and micro-calcification,) is calculated using statistical approach to get unique features. The last, the unique features are recognized by using SOM neural network.*

*The using of watershed segmentation is proven effective in separating the object (cancer) from its background of cancer, though the edge between continuous objects. Test are done by using 90 image (.jpg) is calculated using statistical approach. Overall the recognition of feature using SOM neural network resulted in 86% of accuracy with average computation time in 16-22 second per image.*

*Keyword: mammogram, morphological gradient, watershed transform, statistical approach, SOM Neural Network*