

UNIVERSITI TEKNOLOGI MARA

**Mammogram Breast Cancer
Classification using Support Vector
Machines (SVM)**

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for Bachelor of Computer Sciences (Hons.) Faculty
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SUPERVISOR APPROVAL

MAMMOGRAM BREAST CANCER CLASSIFICATION USING SUPPORT VECTOR MACHINE (SVM)

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This thesis was prepared under the supervision of the project supervisor, Nur Nabilah binti Abu Mangshor. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Computer Science.

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STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

Breast cancer is the one of the most cancer that frequents suffered by women nowadays, throughout the world. This diseases can be distinguish by do persistent clinical breast test and breast screening. Mammography images is the most effective and widely used method for detecting and screening the abnormalities in breast. However, the low quality of mammography images leads to the tedious and challenging task in diagnosis process. In addition, the mammographic images are too complex to interpret it. Thus, the implementation of image processing in medical images can help the medical practitioners in diagnosis process. Hence this study propose a breast cancer classification using mammogram images. These prototype systems are using enhancement, segmentation, and feature extraction and classification method. This enhancement is using median filtering method to noise removal. The segmentation of mammogram images has been playing important part to improve the detection of breast cancer. The segmentation method used is Region props, this process need to segment the tumour part. The extraction features are extracted from the segmented area of breast by using GLCM method. The last step is classifying the cancerous or non-cancerous by using Support Vector Machine (SVM) classifier. The developed prototype technique is tested using 112 mammography images which are obtained from MIAS online database. This implementation of GLCM for feature extraction and SVM classifier has yield 85% in accuracy percentage. It show that, SVM classifier is potential to classify breast cancer.

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