

**THE DEVELOPMENT OF FACE RECOGNITION BASED ON LIP  
USING NEURAL NETWORK**

**HALIZAWATI BINTI MOHD.NOR**

**2004218634**

**B. SC (HONS) INTELLIGENT SYSTEM**

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**APRIL 2006**

## **DECLARATION**

**I certify that this report with all this words, facts and relevant materials are fully under my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged with the standard referring practices of the disciplines.**

**APRIL 2006**

**HALIZAWATI BINTI MOHD.NOR**

**2004218634**

## **ACKNOWLEDGEMENT**

**بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ**

**In the name of ALLAH, the Most Gracious and the Most Merciful**

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## **ABSTRACT**

Nowadays a lot of applications have been developed especially in face recognition system. Face recognition became an interesting application in surveillance, identification system and security system. This project is focusing on the development of face recognition based on lip using Neural Network Technique. The objective is to identify the persons' ID based on individual lip from different expression of facial image. This project is divided into two phases. The first phase is image pre-processing using MATLAB. The pre-processing is conducted by applying all functions in MATLAB image processing Toolbox. This project used 'imadjust' and 'histeq' functions for Grayscale Enhancement, 'imfilter' for Linear Filtering and 'im2bw' for Image Segmentation. The second phase is NN application design and development. Training and testing has been conducted to measuring the performance of learning by manipulating the parameters to achieve a better performance. It demonstrates that 60 percent of accuracy which person's lip can be recognized in the form of normal and smile expressions.

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