

UNIVERSITI TEKNOLOGI MARA

**IRIS RECOGNITION USING GABOR
FILTER**

ZAKHIRULNIZAM BIN ARSHAD

BACHELOR OF COMPUTER SCIENCE (Hons.)

FEBRUARY 2016

STUDENT'S DECLARATION

I certify that this report 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 acknowledge in accordance with the standard referring practices of the discipline.

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ZAKHIRULNIZAM BIN ARSHAD
2013195959

FEBRUARY 1, 2016

ABSTRACT

A biometric system provides automatic identification of a person based on a unique feature or characteristic possessed by the individual. Iris recognition is regarded as the most reliable and accurate biometric identification system available. The iris recognition prototype process was started with an enrollment process where eye image will be process by performing automatic segmentation system that is based on the Hough transform. The segmentation process produced the extracted iris region from an eye and then normalized into a rectangular block with constant dimensions to account for imaging inconsistencies. Finally, the phase data from 1D Log-Gabor filters was extracted and quantized to four levels to encode the unique pattern of the iris into a bit-wise biometric template and save it with require information. For identification process, eye image once again will be employed and process. The Hamming distance function was used for to find the matching between the two iris templates, and information of person will be displayed if both them found to match. Functionality testing shows that every functions in the system work and running well in enrollment process and also identification process. The result of accuracy test using 30 images show the matching rate of 57% of true match and 40% of false match. There are few limitations that can be improved for the future such as using hybrid Gabor Filter with any available feature extraction technique to eliminate noise and enhance the image. The prototype also can be improving by integrate it with the use of infra-red imaging device to capture the eye images in real life.

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