

UNIVERSITI TEKNOLOGI MARA

**HERBS IDENTIFICATION THROUGH
LEAVES RECOGNITION**

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BACHELOR OF COMPUTER SCIENCE (Hons.)

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**Herbs Identification Trough Leaves
Recognition**

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SUPERVISOR'S APPROVAL

HERBS IDENTIFICATION THROUGH LEAVES RECOGNITION

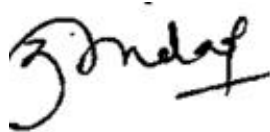
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This report was prepared under the supervision of project supervisor, Prof Madya Zaidah binti Ibrahim. It was submitted to Faculty of Computer Science and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Computer Science (Hons).

Approved by



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Project Supervisor

JULY 29, 2015

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 acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

The leaf contains important information for plant identification including herb plants. This project presents a prototype designed to recognize herbs plant using leaf images. The prototype focuses on six types of herbs plants available in Malaysia, that are Cabang Tiga, Bebuas, Kaduk, Ginseng Jawa, Sireh and Pegaga. The prototype uses Zernike Moment Invariant features and similarity match Template Matching Classification to classify the leaf. Twenty four images have been collected. Twelve from top and twelve from bottom view. All the images captured with white background. Firstly, the image will be resized, converted into grayscale and enhanced to get local range of the image. Then, the value of Zernike moment invariant is computed for each leaf image. The plant identification is performed using template matching where the rules for each leaf is constructed based on the collection of values of the Zernike moment of invariant for eight leaves from each herb type. The output of this prototype is the name of herbs species that have been tested with test image. Accuracy of recognition calculated by count how many true species name displayed using Precision and recall rate. It is found that the Zernike moment invariant feature enables the template matching classifier to identify the herb better based on the bottom view of the leaves image. Thus, the finding from this prototype can provide useful information for developing an automated plant identification tool.

Keywords: image processing, herbs identification, moment invariant, template matching classifier