

**Universiti Teknologi MARA**

**AUTOMATIC LICENSE PLATE  
DETECTION AND RECOGNITION**

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**Thesis submitted in fulfilment of the requirement  
for Bachelor of Computer Science (Hons.)  
Faculty of Computer Science & Mathematics**

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## **SUPERVISOR'S APPROVAL**

### **AUTOMATIC LICENSE PLATE DETECTION AND RECOGNITION**

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This report was prepared under the supervision of the project supervisor, Assoc. Prof. Madya Zaidah Binti Ibrahim. It was submitted to the Faculty of Computer and Mathematical Science and was accepted in partial fulfilment of the requirement 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 acknowledge in accordance with the standard referring practices of the discipline.

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## **ACKNOWLEDGEMENT**

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## ABSTRACT

Transportation is important in our daily lives. Nowadays, in Malaysia the usage of vehicle has increased tremendously because of the population growth and human needs. Due to that, Malaysian has produce many types of vehicles to be used. Recently, for each vehicles the license plate has a lot of different style. Therefore, it is difficult for the authorities to detect and recognize the license plate for security purposes. The objective of this project is to propose a technique that can be used for detection and recognition of license plate. License Plate Recognition (LPR) System is one kind of Intelligent Transport System which can be considered interesting because of its potential application. In the LPR system there are several phases for the detection and recognition of license plate such as image acquisition, pre-processing, segmentation, character segmentation and recognition. For each phase there are technique used to obtain good performance of the license plate detection and character recognition. In this project, connected component analysis for plate recognition and multilayer perceptron neural network (MLPNN) for character recognition is used. From 100 image of vehicles license plate that have been captured for this project, the result for the plate recognition using the required technique is 37% accurate whereas the result for the character recognition using the neural network tool is 100% recognizable from the dataset that is used. The overall result is very satisfying in which most image of license plate captured can be recognize. Finally, this intelligent transportation system is significant in areas of security access control or law enforcement.

**Keyword:** *License Plate Recognition (LPR), detection, recognition, intelligence transport system, multilayer perceptron neural network (MLPNN), connected component analysis.*