

**UNIVERSITI TEKNOLOGI MARA**

**ACCURACY ASSESSMENT  
OF AUTOMATION  
OIL PALM TREE COUNTING  
USING ECOGNITION  
BASED OF UAV IMAGERY**

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Thesis submitted in fulfillment  
of the requirements for the degree of  
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**Faculty of Architecture, Planning and Surveying**

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## AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

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## ABSTRACT

A good management of oil palm plantation become a growing concern as the demand on oil palm is increasing. The farmers need a high technological system that can make it easier to identify the number of oil palm in the plantation for the fertilizers and prediction of yield. There is already manual technique and automation technique in determining the number of oil palm trees exist but the manual technique is time consuming and more expensive. The existence of automation method has not been widely known by the farmers and the accuracy is not yet been verified. Therefore, the accuracy of automation technique should be verified as it can be beneficial to the agriculture sector. This research aim is to identify the accuracy of automation method in oil palm tree counting by using the result from manual digitizing as a verification subject to the automation technique. The data used in this research which is UAV imagery data has been obtained from Braintree company. This data is suitable to be used in this project as it provides high spatial resolution where the trees can be identified easily. The result analyzes whether the accuracy of automation method by manipulating five different threshold values approximately same as the accuracy of manual method. It is suggested that the result of one of the threshold value in the automation method has a high accuracy and can be used for oil palm tree counting.

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