

**UNIVERSITI TEKNOLOGI MARA**

**MALAYSIAN SIGN LANGUAGE DETECTION BY  
IMAGE SYSTEM (MSLDI)**

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**BACHELOR OF INFORMATION TECHNOLOGY (Hons)**

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**Thesis submitted in fulfilment of the requirements for Bachelor of  
Information Technology (Hons) Faculty of Computer and Mathematical  
Sciences**

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## **SUPERVISOR'S APPROVAL**

### **MALAYSIAN SIGN LANGUAGE DETECTION BY IMAGE SYSTEM (MSLDI)**

**By**

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This thesis was prepared under the supervision of the project supervisor, Dr Ruzita Ahmad and co-supervisor Prof Madya Ts. Dr. Shukor Sanim Mohd Fauzi. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Information Technology (Hons).

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## **STUDENT DECLARATION**

I certify that this thesis 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**

Hand gestures are one of the nonverbal communication methods used in sign language. It is most used to communicate among deaf people who have hearing or speech problems, as well as with normal people. Many developers around the world have created various sign language systems, but they are neither flexible nor cost-effective for end users. As a result, this study introduced software that presents a system capable of automatically recognizing sign language to assist deaf people in communicating more effectively with each other or with normal people. The objectives of this study consist of to identify the criteria of the sign language of detection by image, to construct the sign language detection by image based on Deep Learning application and to evaluate the functionality of the proposed model. The system will benefit to deaf people and normal people because they will not need to use an interpreter to communicate with each other through online conversation. This project was developed by using research framework methodology. There are four phases involve which are Theoretical Study, Exploratory Study, Design and Development and Evaluation of MSLDI system. To measure the useful of Malaysian Sign Language Detection by Image System (MSLDI), Usability Testing and Functionality Testing were conducted to evaluate the system. Furthermore, findings shows that MSLDI still weak on recognizing the hand gesture that perform by different user. For feature work, the accuracy for the detection need to be improvise on recognizing the hand gesture.