

Universiti Teknologi MARA

**Malay Spoken Word Segmentation Using
Magnitude Sum Function**

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“By the name of Allah, the most Gracious and Most Merciful”

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ABSTRACT

Speech recognition or voice recognition is the identification of spoken words by a machine. The spoken words are digitized by getting the input through a microphone and matched the patterns produced by the speaker against coded database in order to identify the words. In the speech recognition the segmentation of speech is important. Speech segmentation is a method of separating the speech into some isolated sub-words with optimal boundaries. The aim of this research is to apply the segmentation techniques to Malay speeches. In this research, Malay digit speeches were recorded and segmented using magnitude sum function. The segmented speeches can be used on Malay speech recognition on other application that related to speech recognition for example spoken document retrieval system that mainly for indexing continuous Malay speeches and its transcribed document.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Speech or voice recognition is the identification of spoken words by a machine. The spoken words are digitized by getting the input through a microphone and matched the patterns produced by the speaker against coded database in order to identify the words. Segmentation is the important process in speech recognition. Speech segmentation is a method of separating the whole speech into some isolated sub-words with optimal boundaries (Bavy et al, 1999). According to Al-Hadad, sentence segmentation is very helpful especially in speech document indexing, video summarization and speech summarization (Al-Hadad et al, 2006). Endpoint detection plays as an important part in speech segmentation. It is use to detect and trace the speech in the background of noise. The system need to trace the beginning and end of a word (Al-Hadad, 2006). This research uses Malay language which is a branch of the Austronesian (Malayo-Polynesian) language family, spoken as a native language by more than 33,000,000 persons spread over the Malay Peninsula, Sumatra, Borneo, and the several smaller islands of the area, and broadly used in Malaysia (Britannica, 2006). Malay Language is an agglutinative language. It is a language to derivative, which allows addition of prefix and suffix to the base word to form new word (Salam et al, n.d.). This research will use formal Malay language as an input to be applied to demonstrate the segmentation technique.