ABSTRACT

NI WAYAN SUDARMI. Comparison between Wavelet Daubechies and Mel-frequency Cepstral Coefficient (MFCC) with Feature Extraction Using Normal Distribution for Phoneme Recognition. Under the supervision of AGUS BUONO.

Speech recognition is speech to text transcription. Speech to text transcription system is a system used to convert a voice signal from a microphone into a single or a set of words. Most research of speech to text transcription used technique which every word in corpus is modeled. It is not effective if we want to develop a large vocabulary speech recognition system which number of words in corpus are more than one thousand words. Therefore, this research developed phoneme recognition with early stage in speech recognition.

This research used some stage process, those are take data, feature extraction, and feature matching. Normal Distribution (Gaussian) is used for feature matching, Wavelet Daubechies and MFCC is used for feature extraction. Corpus on this research consist of 11 words in Indonesian which each word recorded 20 times, 15 times for data training and 5 times for data testing. This research used 13 cepstral coefficients. Phonemes are generated from the segmentation process, and then mhu and sigma be calculated to generate the model. This case produced 26 models. The best accuracy is 90% generated by feature extraction MFCC and 46.92% generated by the Wavelet Daubechies.

Keyword: Mel-frequency Cepstral Coefficient, Wavelet Daubechies, Distribusi Normal, speech to text transcription, phoneme.