ABSTRACT

Hearing is one way to communicate with each other. But that limits for some people who have limitations in socializing, especially people with hearing impairments. The sign language system is made to make it easier for someone to tell people who are deaf to what they want to say, because there are very few people who understand Indonesian sign language.

This final project creates a speech processing system that introduces speech signals to 30 word classes and displays sign language videos. The system input is a speech signal recorded using a smartphone. The next greeting signal is preprocessing and Mel Frequency Cepstral Coefficients. The results of feature extraction are classified using the method (Hidden Markov Model) which aims to find out the sound signal is the recording sound of a particular word. The HMM classification results are class results that represent the words of a text, then the text as a reference for displaying video Sign language contained in the database.

The conclusion for this final project is that the best system accuracy is 87%. The best parameters are sampling frequency of 8000 samples / second, frame size of 256 data per frame, number of MFCC coefficients as many as 30 coefficients, number of data sets of 3 data per person per word class, and iteration of HMM training once.

Keywords: Indonesian Sign Language, Deaf Person, speech processing, Mel Frequency Cepstral Coefficients (MFCC), Hidden Markov Model (HMM).