

Abstrack

Identifying Words with Hidden Markov Model (HMM) using the feature extraction Mel-frequency Cepstral Coefficient. Voice recognition or Speech Recognition is the process of converting an acoustic signal, originating from a microphone or a telephone, a single or set of words. Sound signal itself is a wave created by air pressure which comes from the lungs that runs through the sound track to the mouth and nasal cavity, so having different frequencies. In order for a computer system can recognize a word, it is necessary to the proper representation of the incoming signals following the change in frequency in a certain time frame.

The final task is to analyze a system that implements the HMM method with MFCC feature extraction to recognize a word The word used is limited to 15 pieces foundation said the Indonesian language, which consists of 15 speakers, women and men as training data. Limited to 15 people and other speakers, each of which mentions an Indonesian base words are different, so there are 15 new data called testing data. Speakers who have been trained before.

From this research produced some of the HMM representing incoming voice signals into a word in Bahasa Indonesia. For the best HMM training data that analyzes 75 data trained by the number of hidden states 7 and 15, as well as analyzing the data 120 trained by the number of hidden state 15 in the second analysis groups the training data that generates value reached 100% accuracy. And the lowest level of accuracy that analyzes the training data 120 by the number of hidden state 5, the yield is only 90% of iterations. Lalu untuk data testing HMM terbaik yang menggunakan 75 data training dengan hidden state 7 yang menghasilkan akurasi nilai sebesar 100%, dan data testing HMM terbaik yang menggunakan 180 data training dengan hidden state 7 yang menghasilkan akurasi nilai hanya sebesar 25%. Then the best HMM for testing data using training data with 75 hidden states 7 that produces a value of 100% accuracy, and data testing the best HMM that uses 180 training data with the hidden state 7, which produces an accuracy value of only 25%.

Key words: identification word, Hidden Markov Model (HMM), Mel-frequency cepstral coefficient (MFCC)