

ABSTRACT

Monitoring a person when he is sick is needed to help the family stay active outside the room but also to know the condition of the sick person. The Speech Recognition system can activate the role of the family for direct monitoring by recognizing the words or speech of the sick person. The family receives the text according to the sound or speech it produces. So that when an undesirable condition occurs, it can be handled properly.

In this study, a Speech Recognition system was designed using Mel Frequency Cepstral Coefficients (MFCC) for feature extraction. Then the results of feature extraction are processed using Machine Learning with Supervised Learning algorithms, namely Artificial Neural Network (ANN) to predict words or speech from sick people. The model that has been trained uses the system on the Raspberry Pi 4 to make predictions and send the prediction results in the form of text messages to Telegram.

This study uses a dataset created manually by the author, namely recording the sound of 5 words determined with a USB microphone. With the model that has been built using n_mfcc 50, hidden layer 1, density 80, epoch 400, the results of the system performance are 100% training model accuracy, 97% model testing accuracy, 83% distance-based accuracy.

Keywords: *Mel Frequency Cepstral Coefficients, Machine Learning, Supervised Learning, Artificial Neural Network, Speech Recognition*