

ABSTRACT

Humans communicate with each other through dialogue. A person's mood is one of the factors that can affect the quality of communication. One form that represents mood is emotion. Emotion is a condition that encourages a person to take action due to a stimulus. Generally, human emotions can be detected through facial expressions. However, detecting emotions in humans can also be done through sound.

In this final project, research is conducted on the detection and classification of emotions based on speech signals. Speech recognition is an influential field in this study to measure the level of emotion in humans. This emotion detection system uses data samples from human voices with an age range of 17 to 23 years and is not determined by gender. In this study, the system can detect a person's emotions based on the characteristics of speech signals. The methods used in this research are Discrete Wavelet Transform (DWT) for feature extraction and Support Vector Machine (SVM) for detecting and classifying emotions based on the human voice.

The working principle of an emotion detection system based on sound signals is to take a sample of data in the form of a human voice using an audio recorder application on a smartphone, then feature extraction is carried out to reduce noise that is recorded during data sampling and classified according to the emotional class. So that a person's expression when feeling happy, angry, sad, and disappointed can be detected and classified based on speech signals. Based on the research in this final project, we obtained the highest accuracy of 85% with the best parameters using decomposition level 4, haar wavelet type, and quadratic kernel type.

Keywords : *Accuracy, Discrete Wavelet Transform (DWT), Emotion, Support Vector Machine (SVM), Computing time*