ABSTRACT

Speechreading is a method of verbal communication to understand the speech of others by lips movement. In the process of speecreading, the key of understand lips movement are vowel. Usually speechreading used to communicate by the deaf. This is because the deaf have limitations in hearing the sound, so they take advantage of their sight to read the lips of the speaker.

In this final project designed a lip translator applications into text. In general, the system consists of three main stages, namely preprocessing, feature extraction, and classification. Feature extraction method in this final project using Principal Component Analysis (PCA). Then, the classification method using Support Vector Machine (SVM).

Based on the results of tests, lip translator application system can identifies 5 classes that represent syllables. The results of the classification with the highest accuracy is obtained on a Gaussian kernel with dimensions 80x80 sigma 4000 and this research resulted in 69% accuracy for data tested in non-realtime with training data 200 and testing data 100.

Keywords: speech, hearing, principal component analysis, support vector machine