

## ABSTRACT

Speech signal information has a unique characteristic. Many researches in the speech signal processing field has done. One of the results produced is speaker identification application. Speaker Identification is a process of determining the speaker provides a given utterance. Generally, phonemes used in the speaker identification system as a recognizer unit, but the problem is located in the certain phonemes classes which has a short duration. In order to solve this problem, speech recognition method using diphone (phonemes combination) database as an alternate recognition unit is developed.

In this final project, diphones used as a reference database in the speech recognition system is being explored. The diphone itself is easier to be recognized than the phoneme, since it gives more acoustics information. The identification method used here is Back Propagation Neural Network. The method used in speech signal feature extraction is Linear Predictive Coding (LPC).

Result in this final assignment showed that the feature extraction method using LPC give a good result because it show the resemblances of the features from the speech signal which is used for reference database. Based on the test, Back propagation method has an accuracy 80% using blindest database.

Based on the research result we obtained the optimum configuration from neural network are 250 hidden neurons, learning rate 0.09, and momentum 0.35

Key words: *speaker identification, Linier Predictive Coding (LPC), jaringan saraf tiruan propagasi balik.*