

## Abstract

*Human have physiological traits as his identity to be recognized by others. The most common physiological characteristic is face. Each individual could be recognized (even in the dark or full expression) by his face. Face recognizing be easily done by humans because humans have the ability to learn and perform classification.*

*Next, this final task will built system that adopt human ability in face recognizing. The system implements back propagation for artificial neural network architecture with multi-layer perceptron on single hidden layer. In early stage, Fisherface method would extract face image into principal components and perform dimension reduction.*

*Furthermore, some observation using the Extended Yale B database shows that the system could have 100 % of accuracy with parameter combination of: 19 features Liner Fisher Discriminant (FLD), 100 neurons in hidden layer, and 0.1 for the learning rate value. While other some observastion using the Yale database, shows that the system accuracy is around 93.33 % with a combination of parameters: 14 features of FLD, 75 neurons in hidden layer, and 0.1 learning rate.*

**Key word** : *face recognition, feature extraction, fisherface, artificial neural network, back propagation*