

ABSTRACT

Technological development of biometrics especially face recognition is developed by the researchers to find better methods for feature extraction and classification. One classification method that commonly used is Artificial Neural Network (ANN).

ANN is information processing system that has characteristic similar to biological neural networks. Based on learning method, ANN is divided into Supervised learning and Unsupervised learning. In this research, ANN that being used are Backpropagation ANN and Learning Vector Quantization (LVQ). While the feature extraction used Principal Component Analysis (PCA).

The test result showed the highest accuracy on backpropagation with PCA is 99.5%, achieved when using 150 PC, and the number of hidden neuron 250, and learning rate value 0.1,. While the highest accuracy on LVQ is 90.75%, achieved when using 50 PC, the number of hidden neuron 250, and learning rate value 0.0075.

Keywords: Biometric, Artificial Neural Network, Supervised Learning, Unsupervised Learning, Backpropagation, Learning Vector Quantization, Principal Component Analysis.