

Abstract

In recent years the use of technology to transport more often used. In this Final discussed the number plates identification of vehicles that can be used as the basis of the intelligence infrastructure that can replace the role of humans (such as payment of tolls and parking) and traffic management vehicles. This number plate recognition means the recognition of an image pattern that classified into classes of numbers and letters. Computerized pattern recognition can be performed by the method of Artificial Neuron Network (ANN) . ANN is a model of human neural neuron computerized into a more modest but still be able to adapt the learning / learning in the human brain to recognize a form / pattern and classified into certain classes.

One of the ANN method for classification is the Cascade Correlation. Cascade Correlation is a kind of supervised learning algorithms that are supervising the process, the training data along with labels indicating the class observations, and new data are classified based on the training set. Cascade Correlation network architecture using Multi Layer Perceptron (MLP).

Cascade Correlation begins with a neural network architecture with a minimal number of hidden layers, and then trained the network automatically and added to the number of hidden layers one by one. Once a new hidden unit has been added to the network, the input layer weights are frozen (not modified). This unit later became a permanent feature detectors in the network, which is available to produce output or to create other features are more complex detectors.

The TA is used backpropagation as learning algorithm. Before the ANN classify the data, preprocessing is performed to reduces the image to smaller dimensions by selecting the components of the principles contained in the image with the PCA technique.

Combination of PCA as a feature extactor and Cascade Correlation neural network as classifier produced high accuration of license plate recognition. From the results, a combination of: 250 PCA features, and the learning rate of 0.5 is capable of producing the best accuracy of 97.96% to 90.62% training data and testing data.

Keywords: *classification, cascade correlation, PCA, backpropagation.*