ABSTRACT

REALIZATION OF THE APPLICATION OF LAMPUNG HANDWRITTEN RECOGNITION WITH TOUCHSCREEN INPUT USING BACKPROPAGATION ARTIFICIAL NEURAL NETWORKS

By

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Lampung language is language used by people who live in southern Sumatera. It is written in Lampung characters known as ”kaganga”. Currently, Lampung language is rarely used so it is necessary to preserve it. The aim of this research is to make an application which able to recognize and translate Lampung characters handwritten into bahasa. In contrast to previous research that used scanned paper as a medium for writing, in this research the user can write characters directly on this application using touchscreen input. So that, the use of paper can be reduced.

The system is designed by applying the Artificial Neural Network (ANN) and image processing techniques. System design consist two systems, they are training system and testing system. Training system is conducted to train the neural network to be able to recognize characters. Some characters have similarity so that those are trained repeatedly. All of characters training generates an average error below of 10%. While the testing system is a application used to test the network. The application is able to read the Lampung characters handwritten and translate it into bahasa.

Average recognition error obtained from the testing system is 12% of the 50 samples of handwritten testing. The recognition errors affected by several things, they are structure of characters, image processing techniques, handwritten variation, the parameters determination of artificial neural networks.

Kata kunci: Lampung characters, handwritten recognition, artificial neural network, Backpropagation and image processing.