

## **ABSTRACT**

*Nowadays, the development of telecommunication technology is growing very rapidly. For example is a pattern recognition. Pattern recognition system has been used and developed. One example of pattern recognition system that is widely used handwriting recognition.*

*This final project was created with the purpose to implement a system capable of recognizing pattern from which the Arabic letter. The Arabic letter which used is basic. The system is made using Modified Direction Feature which incorporate a specific feature vector in order to distinguish between the Arabic letter with each other. The characteristic result of the MDF will be used as input to the learning process in the artificial neural network Backpropagation and KNN which can solve the problem about recognizing of the Arabic letter.*

*If we want to know this system has worked to the maximum then testing the system. Testing is done by analyzing the parameters to get the best level of accuracy. The parameters that affect the sistem are the amount of transition in MDF, learning rate, and epoch in the artificial neural network, the amount of sample in training data dan the training algorithm in KNN.*

*From the result of testing was obtained the accuracy for the testing data is 80.38% at KNN and 55.77% testing data at the artificial neural network Backpropagation.*

**Keyword:** *Arabic letter recognition, Modified Direction Feature (MDF), the Backpropagation artificial neural, K-Nearest Neighbor.*