Abstract

Character of Handwriting have a kind which is different for each person, so that the handwritten character recognition is fairly difficult to do. Handwritten character recognition process is very useful for digitizing handwriting, so that the data generated can be done editing, word searching or phrase, and performs other techniques such as text-to-speech or even text mining. In general, this recognitiom consists of three main stages, namely the pre-processing, feature extraction and classification.

Chain Code feature extraction methods will be applied to the system of handwriting recognition alphabet characters, which will be built. Problems are often encountered when using chain code incompletely is the memory length needed to store the code. To resolve these problems, the long chain code simplified using histogram techniques that will generate Chain Code Histogram (CCH). Moreover, in this thesis the author divides the region in the framework of the writing produced, changed the CCH be Differential Chain Code Histogram (DCCH) or change any code in chain code, and add the characteristic Direction Turning Point (DTP) or the number of direction changed of chain code drasticly. While on the classification stage, the author used K-Nearest Neighbor (K-NN).

Aalphabetical character handwriting recognition testing systems used a modified approach CCH could do a good enough recognition to the dataset ETL-1. The division of 25 regions overlay on the image and the addition of the DTP characteristics produced the best accuracy 92.28% with K = 4 using K-NN classification.

Keyword : *handwriting*, *Optical Character Recognition* (OCR), *Chain Code Histogram* (CCH), *Differential Chain Code Histogram* (DCCH), *K-Nearest Neighbor* (K-NN)