ABSTRACT

Braille is a special form of writing used by the blind people for the information and knowledge. In this final task will be made a software to convert Braille into Hijaiyah letter so that the blind can read the letter Hijaiyah well.

This final task will help reading Braille that will be converted (translated) to the Hijaiyah letter with MATLAB application program. Braille character recognition process uses artificial neural network method uses Self Organizing Maps as well as the existence of an image processing process. At this stage Braille pattern recognition image processing before there is a process, where the Braille text input image was taken offline by using the scanner before you do the next process, namely: grayscale, edge detection, thresholding, feature extraction and then further to do the training and introduction letter and later papers have been recognized will be released by the computer in letters that have been processed.

Artificial Neural Network Self Organizing Maps with the extraction of the average pixel area that is used to establish pattern into outputs from the SOM training shows the translation accuracy of 85.33% with an average time of 3:57 seconds.

Key words: Hijaiyah Letters, Braille letters, scanning, pre-processing, artificial neural network, SOM.