

## ABSTRACT

To facilitate the reading of the manuscript lettered in Braille by ordinary people who do not really understand Braille, then an automated system that can convert Braille into writing Latin characters is applied. So when there is a literary work or a manuscript written in Braille characters, it will be converted from the Braille characters into text form automatically so that the ordinary people who do not understand Braille can easily enjoy the works of Braille character.

In this final project has designed a system based automated image converter that can recognize and convert Latin characters from the image of a manuscript into Braille characters with certain conditions taken from a digital camera with a feature extraction method is the Histogram Area. The system will recognize Latin characters and convert it into a vector for further input to the system K-Nearest Neighbor classification, where the system will classify the vectors of an image of Latin characters to form Braille characters.

In practice, the digital image capture using a scanner Latin script, then enter the preprocessing stage. Image out of the preprocessing stage will be extracted using Histogram algorithm Area to be stored in a database. The classification database will be carried out with K-NN method. Tests conducted with a large image and font type Arial 24 and 26. Results (outputs) of interest is how a system can identify and compare patterns of Latin image and can take appropriate decisions on any kind of pattern that became the image of certain Latin input. The accuracy obtained in this thesis to the value  $K = 3$  is 86.99% and for the value of  $K = 5$  is 87.39%

**Keywords:** *K-Nearest Neighbor, Histogram Area, Braille.*