

ABSTRACT

Nowadays, more and more Indonesian people want to learn Korean language. This is due to increased fan of Korean dramas and Korean pop music lovers (K-pop). In addition, Indonesia also has a cooperative relationship with Korea in various fields, such as education, economy and employment. Korean language has an alphabet system called Hangeul, different with Latin letters. To learn Korean language, we have to memorize the letter first.

In this final project, an application program was made which could identify Korean letters, then translate it into Latin letters and Indonesian language. Korean letters that will be identified is a Korean letter picture taken with print screen in *.bmp format. The method used in execution of this final project is digital image processing. Stages include: pre-processing, segmentation, feature extraction, classification, and translation. Feature extraction method using Principal Component Analysis. The identification of Korean letters using Artificial Neural Network Self-Organizing Map (SOM).

Based on the simulation, it can be concluded that identification and translation of Korean letters using Principal Component Analysis and neural network Self-Organizing Map (SOM) has an accuracy of 97.31%. It means, the level of accuracy is obtained as expected.

Keywords: Korean Language, Hangeul, Digital Image Processing, Principal Component Analysis, Self-Organizing Map (SOM) Artificial Neural Network