

ABSTRACT

China is one of the nation's largest nation and deserve mention. Not only of its population that reached nearly 20% of the world's population, but also from the aspect of science, business and rapidly growing economy and China today are also increasingly open to international. This is causing the Chinese language or Mandarin are often called, became one of the international languages that need to be controlled. Chinese is a tonal language of the diverse and very unique, which makes mastering this language becomes difficult to learn and in terms of writing and reading.

The purpose of this final project will help the writing and reading letters Hanzi which will translate to a letter Pin Yin (Latin) in accordance with the letters of the basic level with MATLAB application program. Related letters that will be identified in this final is the result of the transfer print-out or letters Hanzi then print the pictures taken by a webcam and processed directly to then translated into letter Pin Yin (Latin), pre-processing, digital image , and character recognition using SOM neural network which will result in implementation of the translator application letter to the letter Pin Hanzi Yin (latin) and also to identify appropriate training algorithm.

Tests on this system using four kinds of parameters, the dimensional change, epoch, network topology, and function of the distance. The most optimal level of accuracy that is in high dimensions (70x70) and small epoch (100), using the topology and function of the distance dist gridtop with the accuracy reaching 86.23%.

Key words: Pin Yin Alphabet , Hanzi Alphabet, webcam, pre-processing, digital image, feature extraction, artificial neural network Self Organizing Map (SOM)