

Abstract

Commonly, classification of each letter category is proceeding directly by eyesight. That classification becomes the idea in order that process can be done in computerization, so that there is no mistake in Arabic letters pronouncing. This classification is proceeding in Arabic letter because they have specific shape, such as firstly, each letter has two until four different shapes, based on the letter position in one words. Secondly, several letters have one, two, three or the hamzah that is added in a letter on, under, as well as besides the letter. Thirdly, there is no capital letter or small letter in Arabic letter.

In the classifying, this final assignment use ART-2 artificial neural network approach. This approach is a model which has new information receiving ability without denying the old information. Before the classification, this system will recognize the pattern for each single Arabic letter. In this section, there are many actions to do, such as entering Arabic letter's image in .bmp (bitmap). The next process is cleaning the noise, image binaryzation, segmentation, stretching, thinning, and feature extraction for each letter. The last process of this system is pattern classification using ART-2 artificial neural network weight changing based on alpha, rho, and iteration parameter as well as the network has to be modified according to those parameter sizes. The output of this testing is decision if the input letter is recognized by this system and for making know what is the name of the input letter. From the testing process, we can conclude that the success rate of this system reach about 63%.

Keyword: Segmentation, Stretching, Thinning, Feature Extraction, ART-2 Artificial Neural Network