

## ABSTRACT

*Character recognition (CR)* is a computer system which is used for recognizing character combination that is became from typewriter or handwriting. Other words, CR is a process document changing to text file without re-typing, each character even word, sentence, can be recognized exactly and read by other software.

In this final project, developed an application for identifying Arabic words (*Hijaiyyah*) in a picture file which is filled character that came from handwriting hardcopy scanned or other picture or photos document. Process characteristic extraction uses vector approach and character identifying process using artificial *neuron network* Self Organizing Maps. In that process, will be executed vector character line by connecting dots of neuron which are in a character region.

To evaluate performance from application that using that method, will be tested to some input samples which is source from trained font and non trained font. The best result come from region shift feature extraction. Overall, the system accuracy level is approximately 85.71% with running time at 0.9914-2.6504 seconds foe each character.

***Key Word : Arabian Character Recognition (ACR) , feature extraction , Self Organizing Maps (SOM), Arabian character, Neural Network***