

Thesis Title Thai Numeric Handwritten Character Recognition by The Neocognitron
Student Miss Chitrlada Pholnimit
Thesis Advisor Asst.Prof.Dr.Boontee Kruatrachue
Degree Master of Science in Computer Science and Information Technology
Year 1998

ABSTRACT

A neural network model, called the "neocognitron" is designed for deformation visual pattern recognition. The ability to correctly recognize deformed pattern depends on the choice of training pattern set. In previous researchs, handwritten character recognition such as Arabic numeral, English alphabetic and Hangul (Korean) syllabic have shown good results. Character recognition is performed on the basis of similarity in shape between patterns, but with a little effect from deformation, changes in size or shifts in position. It does not require any preprocessing such as normalizing the position, size, deformation or reduction noise of the input patterns. This study will test the neocognitron with Thai handwritten character, which have different features. To find its ability of learning and classifying Thai handwritten character.

In this research, the neocognitron is trained to recognize 10 Thai numeric character in order to test the feasibility of using neocognitron as a model for Thai handwritten characters recognition. The result of this study show the possibility of neocognitron as a powerful model to recognize deformed handwritten character. However, the processing time appears to be very long. According to the experiment using various inputs of Thai numeric handwritten 1023 characters, network can correctly recognize about 86.6 percentage.