

Title : Type Classification of Thai government official document images by using
Image Processing technique and Artificial Neural Network

Author : Panuwat ketwong **Degree :** M.Sc. (Computing Technology for Education)

Advisors : Asst. Prof. Sittichai Bussaman Chairman
Asst. Prof. Kanjana Khamsombat Committee
Asst. Prof. Natthapong Phanmanee Committee

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ABSTRACT

In spite of the explosive increase of electronic communication in recent years, a significant amount of documents is still printed on paper. In an attempt to move toward a paperless office, large quantities of printed documents are often scanned and archived as images.

Thai government official document is the document used in communication among government organizations. It can be divided into many types, depending on their objectives and some factors such as a class of the composer who generates the document.

In this research proposed methods for categorizing Thai government official document images into their classes by using Image Processing technique and Artificial Neural Network. The research was operated in 3 procedures : 1) Data preparation, by using the process of histogram-based binarization to convert multi-level images to bi-level images and Hough Transform for skew correction; 2) Feature extraction, by using the window feature to identify characteristics of images; 3) Implement classifier, implementing classification scheme by using artificial neural network.

125 document images of Thai government official document images from 5 types of documents were tested by using difference window formats and different nodes of hidden layer. The classification yielded the highest rate of accuracy: 82.40 per cent from window 4x5 with 3 nodes of hidden layer.