HANDWRITTEN RECOGNITION SYSTEM FOR PALI CARDS
OF BUDDHADASA INDAPANNO

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ABSTRACT

The Dhamma principles of Buddhadasa Indapanno are highly valuable. In order to preserve and propagate these principles, the Buddhadasa Indapanno's handwritten images are kept in digital image file format. However, searching from image files is difficult. Hence, optical character recognition is one method to search these files easily. This research proposes a handwriting recognition system for the files of Buddhadasa Indapanno. One hundred and forty-eight handwritten Pali cards were used in this study. This system consists of four main processes which are pre-processing, character segmentation, feature extraction, and character recognition.

In pre-processing, the contrast of the images was automatically adjusted. Then these images were converted to gray scale images. Median filtering was used to remove noise in binary images. Connected Component Labeling and Projection Profile were applied for character segmentation. The zoning method was used to extract the features of single characters. Finally, a feed-forward backpropagation neural network was used to recognize the characters. There were 34,020 characters used for testing. The accuracy of character recognition was satisfactory. Moreover, this system can be applied to other similar handwritten images.

KEY WORDS: BUDDHADASA INDAPANNO / CHARACTER RECOGNITION / ARTIFICIAL NEURAL NETWORK

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