Abstract

Handwritten character recognition is a difficult problem due to the great variations of writing styles, different size of the characters. Multiple types of handwriting styles from different persons are considered in this work. An image with higher resolution will certainly take much longer time to compute than a lower resolution image. In the practical image acquisition systems and conditions, shape distortion is common processes because different people’s handwriting has different shape of characters. The process of recognizing character recognition in this work has been divided into 2 phases. In the first phase, Image preprocessing is done in which image is firstly converted into binary form based on some threshold value obtained through Otsu’s method. After that removal of noise is done using median filter. After that feature extraction takes place that is done here through Fourier descriptor method using Fourier transform and correlation between template made through training data and test data is obtained. A multilayer feed forward neural network is created and trained through Back Propagation algorithm. After the training, testing is done to match the pattern with test data. Results for various convergence objective of neural network are obtained and analyzed.

Refer
References

- C. Suresh Kumar, Dr. T. Ravichandran, "Handwritten Tamil Character Recognition Using RCS Algorithm", International Journal of Computer Applications (0975 – 8887), Volume 8, No. 8, October 2010.
- Birijesh K. Verma, "Handwritten Hindi Character Recognition Using Multilayer
Neural Network based Approach for Recognition of Text Images

- Janusz A. Starzyk and Nasser Ansari, &quot;Feedforward Neural Network for Handwritten Character Recognition&quot;; IEEE symposium on circuit and systems, 1992.
- Image Processing and Neural Network Toolbox help of MatLab R2010.

Index Terms
- Computer Science
- Neural Networks

Keywords
- Character Recognition
- Image Processing
- MatLab
- Neural Network