Abstract

In this paper an automatic recognition system for isolated Handwritten Devanagari Numerals is proposed and compared the recognition rate with different classifier. We presented a feature extraction technique based on recursive subdivision of the character image so that the resulting sub-images at each iteration have balanced numbers of foreground pixels as possible.
Database, provided by Indian Statistical Institute, Kolkata, have 22547 grey scale images written by 1049 persons and obtained 98.98% highest accuracy with SVM classifier. Results are compared with KNN and Quadratic classifier.

Reference

- U. Bhattacharya, S. K. Parui , B. Shaw, K. Bhattacharya, “Neural Combination of ANN and HMM for Handwritten Devnagari Numeral Recognition”.
- S. Mozaffari, K. Faez, M. Ziaratban, "Character Representation and Recognition using Quadtree-based Fractal Encoding Scheme ", Proceedings of the 8th International Conference
- LIBSVM -- A Library for Support Vector Machines, available online: http://www.csie.ntu.edu.tw/~cjlin/libsvm
- Chih-Chung Chang and Chih-Jen Lin, LIBSVM -- A Library for Support Vector Machines, National Taiwan University, Taipei, Taiwan, http://www.csie.ntu.edu.tw/~cjlin/papers/libsvm.pdf
- Handwritten Character Databases of Indic Scripts, ISI Kolkata website http://www.isical.ac.in/~ujjwal/download/database.html

**Index Terms**

Computer Science Pattern Recognition

**Key words**

Devanagari Numeral Indian Script SVM
(Support Vector Machine)

KNN

Quadratic