Abstract

In this paper we deals with the recognition of printed Devanagari Characters with neural network approach. The paper shows measurement of the effectiveness classifier in terms of precision in recognition. It is also a benchmark for testing and verifying new pattern recognition theories and algorithms. 10 samples of each devanagari vowel and consonant from 10 different printed kruti dev font have been sampled and database was prepared. After segmentation, an individual image is normalized to 100X100 pixel size. Seven moment invariants (MIs) are evaluated for each character along with GLCM properties like Contrast, Homogeneity, Entropy, Correlation, color domain and histogram. The Neural network function has been adopted for classification. The main objective of the paper is to test the possibility of using the MI for recognition of printed character independent of its Size, slant and other variations.
A Neural Nework Approach to Printed Devanagari Character Recognition

- Chomtip Pornanomchai, Dentcho N. Batanov and Nicholasl Dimmitt Recognizing Thai handwritten Character and words for human computer interaction; International Journal of Human- Computer Studies, pp. 259-279, (2001)

- Comparative Study Of Different Classifiers For Devanagari Handwritten Character Recognition Anilkumar Holambe et. al. / International Journal of Engineering Science and Technology Vol. 2 (7), 2010, 2681-2689

- T. Wakabayashi, M. Shi, W. Ohyama, and F. Kimura: A Comparative Study on MirrorImage Learning and ALSM; In Proc. 8th


- Freeman, H., On the Encoding of Arbitrary Geometric Configurations, IRE Trans. on Electr. Comp. or TC(10), No. 2, June, 1961, pp. 260-268


- S. Arora, D. Bhattacharjee, M. Nasipuri, L. Malik; A Novel Approach for Handwritten Devnagari Character Recognition; International Conference on Signal and Image Processing (ICSIP), Hubli, Karnataka, India, 2006

- R J Ramteke Invariant Moments Based Feature Extraction for Handwritten Devanagari Vowels Recognition International Journal of Computer Applications (0975 - 8887) Volume 1 – No. 18

- An Overview of Character Recognition Focused on Off-Line Handwriting, ieee transactions on systems, man, and cybernetics—part c: applications and reviews, vol. 31, no. 2, may 2001


- Statistical Texture Measures Computed from Gray Level Concurrence Matrices, Fritz Albregtsen Image Processing Laboratory Department of Informatics University of Oslo November 5, 2008


Index Terms

Computer Science

Neural Networks
Keywords

Histogram  Moment Invariant  GLCM  color domain  ANN