A Neural Network Approach to Printed Devanagari Character Recognition

Volume 61 - Number 22

Year of Publication: 2013

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10.5120/10230-4917

Abstract

In this paper we deal 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.

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Index Terms

Computer Science

Neural Networks
Keywords

Histogram  Moment Invariant  GLCM  color domain  ANN