Abstract

Recognition of Indian languages is a challenging problem. In Optical Character Recognition (OCR), a character or symbol to be recognized can be machine printed or handwritten characters/numerals. Several approaches in the past have been proposed that deal with problem of recognition of numerals/character depending on the type of feature extracted and way of extracting them. In this paper also a recognition system for isolated Handwritten Devanagari Numerals has been proposed. The proposed system is based on the division of sample image into sub-blocks and then in each sub-block Strength of Gradient is accumulated in 8 standard directions in which Gradient Direction is decomposed resulting in a feature vector with dimensionality of 200. Support Vector Machine (SVM) is used for classification. Accuracy of 99.60% has been obtained by using standard dataset provided by ISI (Indian Statistical Institute) Kolkata.

References
- U. Bhattacharya, S. K. Parui, B. Shaw, K. Bhattacharya, "Neural Combination of ANN and HMM for Handwritten Devnagari Numeral Recognition."
Recognition of Devanagari Handwritten Numerals using Gradient Features and SVM


**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Devanagari Numeral recognition  
Handwritten recognition  
Gradient  
Gradient Feature Extraction  
svm