Abstract

This paper presents a new approach to off-line handwritten numeral recognition. From the concept of perturbation due to writing habits and instruments, we propose a recognition method which is able to account for a variety of distortions due to eccentric handwriting. The recognition of handwritten numerals is a challenging task in the field of image processing and pattern recognition. It can be considered as one of the benchmarks in evaluating feature extraction methods and the performance of classifiers. The performance of character recognition system depends heavily on what kind of features are being used. The objective of this paper is to provide efficient and reliable techniques for recognition of handwritten numerals. In this paper we propose Zoning based feature extraction system which calculates the densities of object pixels in each zone. Firstly the whole image is divided into $4 \times 4$ zones. Further in order to gain more accuracy these zones are divided into $6 \times 6$ zones. The division of zones carried out up to
8 x 8 zones. Hence 116 features are extracted in all. Nearest neighbour classifier is used for subsequent classification and recognition purpose.

Reference


**Index Terms**

- Computer Science
- Pattern Recognition

**Key words**

- Digit Recognition
- Adaptive Unsupervised Incremental Learning Technique