Abstract

The aim of this paper is to design a recognizer to recognize Assamese digits using feed forward neural network. The recognizer crops the individual digits of the image using bounding box method and extracts the feature. In the present study zoning is used to obtain necessary feature vector. This feature is provided as input to the classifier and the network is trained with backpropagation training algorithm with two hidden layer. The recognition rate of printed digits is 98%, including multi size, bold and italics fonts. In case of handwritten digits recognition rate is 70.6%.

References

- S. Naz, K. Hayat, M. I. Razzak, et al. : "The optical character recognition of
Urdu-like cursive scripts
digit recognition with feed forward neural network

- V. V. Kumar, A. Srikrishna, B. R. Babu and M. R. Mani, "Classification and recognition of handwritten digits by using mathematical morphology", Sadhana vol. 35, pp. 419–426, 2010
- C. M. Bishop, Neural Networks for Pattern Recognition, Claderon Press, Oxford, 1995.
- K. S. Siddharth, M. Jangid, R. Dhir, R. Rani, "Handwritten Gurmukhi Character
Recognition Using Statistical and Background Directional Distribution Features;
- H. R Mamatha, S. Sucharitha and K. Srikantha Murthy, "Multi-font and Multi-size Kannada Character Recognition based on the Curvelets and Standard Deviation;
- A. Sampath, C. Tripti, V. Govindaru, "Freeman code based online handwritten character recognition for Malayalam using Back propagation neural networks;
- S. Dewan, S. Chakravarthy, "A System for Offline Character Recognition Using Auto-encoder Networks;
- S. Bag, G. Harit, P. Bhowmick, "Recognition of Bangla compound characters using structural decomposition;
- S. Barman, D. Bhattacharyya, S. Jeon, T. Kim, H. Kim, "A New Experiment on Bengali Character Recognition;
- A. Choudhury and J. Mukherjee, "An Approach towards Recognition of Size and Shape Independent Bangla Handwritten Numerals;
- M. Hangarge, G. Mukarambi and B. V. Dhandra, "South Indian Handwritten Script Identification at Block Level from Trilingual Script Document Based on Gabor Features;
- S. Dewan, S. Chakravarthy, "A System for Offline Character Recognition Using Auto-encoder Networks;
- V. Rasagna, K. J. Jinesh and C. V. Jawahar, "On Multifont Character Classification in Telugu;

Index Terms

Computer Science
Image Processing
Keywords

Assamese digits Recognition  Feed Forward Neural Network  Zoning  Back Propagation