Abstract

This paper presents approach for the recognition of handwritten Marathi consonants. In order to recognize handwritten Marathi consonants, a database of handwritten Marathi consonants is developed to carry recognition experiments. Problem of handwritten Marathi consonant recognition is simplified using multilevel classification which improves recognition rate. Total 36 Marathi consonants are transformed using instance simplification technique into six sub classes depending on special property of consonants. Suitable features are extracted from different sub classes and further classification is carried out using SVM and k-NN classifiers. We have used database of 7920 characters for testing and found recognition accuracy 78.27% using SVM classifier and 73.29% using k-NN classifier.
Handwritten Marathi Consonants Recognition using Multilevel Classification

References

Handwritten Marathi Consonants Recognition using Multilevel Classification


- Gaurav Agrawal, Kshitij, Amitabha Mukerjee, Nimit Kumar, "Handwritten Devanagari Script Segmentation Using Support Vector Machines"


- Mahesh Jangid, Devanagari "Isolated Character Recognition By Using Statistical Features", International Journal On Computer Science And Engineering (IJCSE) Vol. 3 No. 6 ISSN : 0975-3397 40695


- Ratnashil N Khobragade, Nitin A. Koli, Mahendra S Makesar, "A Survey On
- S. Arora, D. Bhattacharjee, M. Nasipuri, D. K. Basu, M. Kundu, L. Malik, &quot;Study Of Different Features On Handwritten Devnagari Character”, Second International Conference On Emerging Trends In Engineering And Technology, ICETET-092009
- S. Arora, D. Bhattacharjee, M. Nasipuri, D. K. Basu, M. Kundu, &quot;Recognition Of Non-Compound Handwritten Devnagari Characters Using A Combination Of MLP And Mnimum Edit Distance”, International Journal Of Computer Science And Security (IJCSS),Volume (4) : Issue (1)
- Sandhya Arora, Debotosh Bhattacharjee, Mita Nasipuri, Dipak Kumar Basu, Mahantapas Kundu, &quot;Combining Multiple Feature Extraction Techniques For Handwritten Devnagari Character Recognition”, 2008 IEEE Region 10 Colloquium And The Third ICIIS, Kharagpur, INDIA December 8-10. 2008
- Sushama Shelke, Shaila Apte, &quot;A Multistage Handwritten Marathi Compound Character Recognition Scheme Using Neural Networks And Wavelet Features, International Journal Of Signal Processing”, Image Processing And Pattern RecognitionVol. 4, No. 1, March 2011
- Veena Bansal And R. M. K. Sinha, &quot;Segmentation Of Touching Characters In Devanagari”;
- Veena Bansal And R. M. K. Sinha, &quot;SEGMENTATION OF TOUCHING AND FUSEDDEVANAGARI CHARACTERS”;

Index Terms

Computer Science

Image Processing

Keywords

Marathi Consonants  Multilevel Classification  Svm  Knn  Pattern Recognition.