Isolated Handwritten Kannada Consonants Recognition using Discrete Curvelet Transform

Volume 106 - Number 5

Year of Publication: 2014

Authors:

B. V. Dhandra
Shashikala Parameshwarppa
Gururaj Mukarambi

Abstract

In this paper, an attempt is made to develop an algorithm for the recognition of handwritten Kannada consonants characters using Second Generation Discrete Curvelet Transform (DCTG2). Images are made noise free by using median filter and images are normalized into 64x64 pixels. Curvelet transform with different scales are applied to the input images to generate the curvelet coefficients. Then the Standard deviation are computed for the curvelet coefficients to form feature vector of size 20 and KNN classifier with two fold cross validation is used for the recognition of handwritten Kannada consonants. A sample of 200 images is collected for each of the 34 consonant characters amounting to 6800 sample images. The experiment is carried out for the proposed algorithm on 6800 samples collected. The average recognition accuracy of 92.56 % is obtained and compared with other existing system and found to be an efficient algorithm with respect to feature size. The proposed algorithm is independent of the thinning and skew of the characters.

References

10.5120/18516-9603

{bibtex}pxc3899603.bib{/bibtex}


**Index Terms**

Computer Science

Pattern Recognition

**Keywords**

Kannada character Recognition  Curvelets  Standard deviation  KNN classifier.