Abstract

The Selection of a feature extraction method for recognition of an object/character is probably the single most factors in achieving high recognition accuracy. Therefore, in this paper an effort is made to identify the Second Generation Discrete Curvelet Transform (DCTG2) as the potential features for recognition of handwritten Kannada character system. Images are made noise free by 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. The total of 2800 Kannada vowels and 6800 handwritten Kannada consonants of sample images are used for classification based on the KNN classifier. To test the performance of the
proposed algorithm two fold cross validation is used. The average recognition accuracy of 90.57% is obtained for handwritten basic Kannada characters respectively. The proposed algorithm is independent of thinning and skew of the character images.

References


**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Kannada Character Recognition  
Curvelets  
Standard Deviation  
Knn Classifier.