Abstract

Bonferroni Mean Fuzzy K- Nearest Neighbors (BMFKNN) based Chinese character recognition is presented in this paper. The Chinese Academy of Sciences (CASIA) contributed the dataset utilized in this study; we limited the data to 3,408 images out of a total of 1,121,749 images (897,758 train sets and 223,991 test sets). The most difficult aspect of this research was the high degree of similarity between some of the characters. After the images were resized, the noise reduction using Gaussian filter and image binarization using Otsu's method was employed. Next, we use the Histogram of Gradients (HOG) to extract features. BM-FKNN is used as the classifier in the final step. The final result was obtained by averaging the accuracy of each iteration using k-fold cross-validation. With BM-FKNN, we achieved an accuracy of 80.15% in our experiments.