Recognize Bangla Handwritten Language using Local Binary Pattern

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Abstract

With approximately 166 million population, Bangla ranked 7th from the world population. The Bangla language consists of 50 alphabets (11 vowels and 39 consonants). With this huge number of alphabets and population, their extensive variations on the handwritten version of this language. As that, it requires great amount of training sets and time to build a model that can recognize texts from handwritten Bengali language. Moreover, an appropriate Pattern Recognition strategy need to be applied to increase the efficiency in training and accuracy of the model. Bangla handwritten recognition of numeral scored 96.7% using Local Binary Pattern with KNN classifier. We propose an automatic detection of Bangla handwritten recognition algorithm. The proposed method consists of three phases. First, we will collect different handwritten scripts of Bengali language from different state of the country people of different age and sex. Then, we will perform classification over the collected scripts using random forest to maintain the accuracy of large dataset and k nearest neighbors (KNN) classifiers to analyze patterns. Finally, we will apply Local Binary Pattern (LBP) in our classified data to train the model. We expect our proposed methodology will outperform state-of-the-art Bangla handwritten recognition model for both numerals and alphabets. Furthermore, we believe these studies will help future researchers to improve the accuracy of Bangla handwritten recognition by Pattern Recognition.

Keywords: *KNN, LBP, Handwritten, Bangla*

References

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