Marathi Handwritten Character Recognition Using SVM and KNN Classifier

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Abstract

Marathi handwritten character recognition is the most challenging task in Optical Character Recognition (OCR) research domain. The need for OCR to convert Marathi handwritten documents or scripts to editable text, which can be attained by the proposed work, which will reduce the burden of storage space, the task of data entry in forms in Marathi language and converts degraded historical documents in editable text. Moreover, Handwritten Marathi characters tend to more complicated due to their structure, shape, several strokes, and different writing styles. The character recognition involved four necessary procedures like Pre-Processing on input character images, Segmentation of characters in words, Extraction of features of segmented characters, and Classification, to recognize the Marathi characters with a different style. In this paper, handwritten Marathi single character accepted as input, and the features are extracted using the Histogram Oriented Gradient method (HOG), whereas characters classified using Support Vector Machine (SVM) and K-Nearest Neighbor algorithm (KNN).

Keywords

Optical Character Recognition (OCR) Histogram Oriented Gradient method (HOG) Support Vector Machine (SVM) classification algorithm