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Using Scale Invariant Feature Transform Features to Recognize Characters in Natural Scene Images

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Abstract : The main purpose of this work is to recognize individual characters extracted from natural scene images using scale invariant feature transform (SIFT) features as an input to K-nearest neighbor (KNN); a classification learner algorithm. For this task, 1,068 and 78 images of English alphabet characters taken from Chars74k data set is used to train and test the classifier respectively. For each character image, We have generated describing features by using SIFT algorithm. This set of features is fed to the learner so that it can recognize and label new images of English characters. Two types of KNN (fine KNN and weighted KNN) were trained and the resulted classification accuracy is 56.9% and 56.5% respectively. The training time taken was the same for both fine and weighted KNN.

Keywords : character recognition, KNN, natural scene image, SIFT
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