

Classification of Red, Green and Blue Values from Face Images Using k-NN Classifier to Predict the Skin or Non-Skin

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Abstract : In this study, it has been estimated whether there is skin by using RGB values obtained from the camera and k-nearest neighbor (k-NN) classifier. The dataset used in this study has an unbalanced distribution and a linearly non-separable structure. This problem can also be called a big data problem. The Skin dataset was taken from UCI machine learning repository. As the classifier, we have used the k-NN method to handle this big data problem. For k value of k-NN classifier, we have used as 1. To train and test the k-NN classifier, 50-50% training-testing partition has been used. As the performance metrics, TP rate, FP Rate, Precision, recall, f-measure and AUC values have been used to evaluate the performance of k-NN classifier. These obtained results are as follows: 0.999, 0.001, 0.999, 0.999, 0.999, and 1,00. As can be seen from the obtained results, this proposed method could be used to predict whether the image is skin or not.

Keywords : k-NN classifier, skin or non-skin classification, RGB values, classification

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