Abstract

Feature plays a very important role in the area of image processing. Before extracting features, image pre-processing technique like resizing is applied on the input image. Then, features are obtained by various feature extraction techniques. These features are then used for classification and recognition of the objects in an image. Features are useful in terms of space utilization, efficiency in classification and obviously the time in processing the image, as they define characteristics of an image. Extracting effective features is the key for accurately detecting humans in images. Extracted features should be discriminative, failure resistant to various changes and easy to compute. In this paper, center-symmetric local binary patterns (CS-LBP) and Histogram of oriented gradients (HOG) feature extraction methods are presented. HOG feature calculates the gradient magnitude and the gradient direction of the local image. The main drawback of HOG feature extraction is that, it produces too many feature patterns, difficult to analyse and is time consuming. The drawback of HOG is overcome by using CS-LBP method of feature extraction. The CS-LBP feature captures both gradient information and texture information. CS-LBP method produces less number of feature patterns which is easy to analyse and works well on flat image areas. Experiments on the INRIA pedestrian dataset show that, the CS-LBP method produces less number of feature patterns compare to HOG feature and gives better result that can be used for any image processing applications.

References

Feature Extraction for Human Detection using Hog and Cs-Lbp Methods

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