A Hybrid Method for Face Recognition using LLS CLAHE Method

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Abstract

Face recognition is an active research work since its use is widespread in many applications. The proposed work is to develop a hybrid illumination pre-processing method for face recognition by combining two-dimensional Discrete Wavelet Transform (2D DWT) and Contrast Limited Adaptive Histogram Equalization (CLAHE). 2D DWT is applied on the original image and the LL sub-band of DWT coefficients is extracted. These coefficients are multiplied by a scaling factor and then CLAHE is applied on it. The image obtained is termed as LLS CLAHE. The face recognition of LLS CLAHE is done using Gabor fisher classifier method. The efficiency of the proposed method is tested on AR, Yale and ORL, Extended Yale B and CMU PIE databases. The experimental results prove that LLS CLAHE using Gabor fisher is an effective method for images under varying illuminations.

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