Abstract

It has been observed that the variations among the images of the same face due to illumination and viewing direction are almost always larger than image variations. One person, with the same facial expression, can appear strikingly different when light source direction and viewpoint vary. These variations are emphasized by additional factors such as facial expressions, perspiration, hair style, cosmetics, and even changes due to aging. The proposed Face recognition technique is based on Energy discriminant mask obtained by thresholding DCT coefficients in low, mid and high frequency regions. The proposed approach analyzes all images of a database to know the discrimination ability of individual DCT coefficient and generates a database specific DCT mask. High recognition rate can be achieved by using the coefficients that have maximum discrimination power. To benchmark proposed techniques standard ORL and YALE face databases are used.


**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Biometrics, Face recognition, Discriminant, DCT, Mask, Energy.