Abstract

Face recognition is a complex visual classification task which plays an important role in computer vision, image processing, and pattern recognition. SMWT is proposed to extract the features in images before using the PCA and histogram based method classifiers. SMWT will be used in the recognition process to minimize the size of the data base. Since left direction poses equal to the right direction poses, and as it is a translation invariant, so it has the same data, so one can delete some images that have such direction in poses, so the size of the database will reduce. Also SMWT will be used to enhance the recognition rate. In this approach the recognition rate was 94.5% by using the Histogram Based Method, and a 63% when using (PCA), when the numbers of training and test images are both equal five images.

References

- S. Lawrence, C. Lee Giles, A. Chung Tsoi, and A. D. Back, "Face Recognition: A Convolutional Neural Network Approach," IEEE Transactions on Neural Networks,
Special Issue on Neural Networks and Pattern Recognition.


**Index Terms**

Computer Science 
Pattern Recognition

**Keywords**

Face Recognition 
Stationary Wavelet Transform (SWT) 
Stationary Multiwavelet Transform (SMWT) 
Histogram Based Method 
Principle Component Analyses