Abstract

Illumination variation is a challenging problem in face recognition research area. Same person can appear greatly different under varying lighting conditions. This paper consists of Face Recognition System which is invariant to illumination variations. Face recognition system which uses Linear Discriminant Analysis (LDA) as feature extractor have Small Sample Size (SSS). It consists of implementation of Feature Extraction Module using Two Dimensional Maximum Margin Criteria which removes “Small Sample Size (SSS)” problem present in existing Face Recognition System.

In statistical pattern recognition, high dimensionality is a major cause of the practical limitations
of many pattern recognition technologies. Large number of features degrades the performance of classifiers if the number of training samples is small relative to the number of features. This is referred to as the "peaking phenomenon", is caused by the "curse of dimensionality". The dimensionality of images after feature extraction for storing feature database is reduced in this paper. The input for the system is images from standard database. Features are extracted of given images using Two Dimensional Maximum Margin Criteria from row as well as column direction. Finally matching is done using Euclidean Distance for test image and stored image features.

Reference

- http://www.face-rec.org

**Index Terms**

Computer Science  
Pattern Recognition

**Key words**

Robust  
2D Face  
Illumination Variations