Abstract

A broad selection of systems need reliable personal recognition schemes to either verify or decide the identity of an entity requesting their services. The cause of such schemes is to make sure that the rendered services are accessed only by a genuine user, and nobody else. It is widely acknowledged that the face identification has played a significant role in the observation system as it doesn't need the object's assistance. The definite advantages of face based recognition over other biometrics are distinctiveness and response. As human face is an active object having a high degree of unpredictability in its manifestation, that makes face detection a hard problem in computer vision. In this work we presented a novel Face Recognition feature Extraction Mode based on the combination of Linear Discriminant Analysis (LDA) and Gaussian Mixture Model (GMM). The proposed LDA and GMM based feature Extraction Model is utilized to search the feature space for the top feature subset where features are carefully selected according to a well-defined discrimination criterion. For the betterment of the feature classification a KNN classifier is used. The classifier performance and the length of choosing a feature vector measure for performance estimation using MATLAB in ORL face dataset.
References


Index Terms

Computer Science
Pattern Recognition

Keywords

Face Recognition, Feature selection, LDA, ORL Dataset, Authentication, Gaussian Mixture Model;