Abstract

In recent technological world lot of devices are invented. Moreover the focused topic is on security system. Even with lot of security system like finger print based, eye-retina based, pin-code based systems are available, face recognition based security system has vital role of advanced technology. Feature based Face authentication requires feature extraction, feature selection and classification. Face recognition process performance is mainly depended on the
selection of such extractor and classifier. Feature extraction process gives the feature points of the face in the image. From that important fiducial points are extracted using feature selection process. One have to reduce the feature points, in order to obtain the fast response of recognition. In this work we proposed the feature extraction process with Gabor filter where it is convenient as a biometric filter. Before going to verification process face localization is important one, then only we can reduce the unnecessary feature points. This is done by Neural network classifier. After the face image is obtained, we go for the authentication process with modified Euclidean distance of each fiducial points that made coefficient model for each person. Best optimized Euclidean distance coefficient of images are obtained through PSO algorithm. Thus the coefficient of test and trained images are given to the classifier and the minimum mean difference profile made as the matching profile. By this work, we reduced the perception time at significant level compared to previous work and we made the recognition rate of the work as 91.81 percent with PIE database.

References


Index Terms

Computer Science        Security

Keywords

Feature Extractor      Pso-particle Swarm Optimization      Fiducial Points      Neural Network Classifiers.