Abstract

Iris recognition technique has come a long way since a comprehensive method was first proposed by Daugman two decades back. But with evolution of technology and processing environment, several techniques are being proposed and tested. The study clearly shows that IRIS segmentation based on the Daugman’s technique and IRIS recognition based on the Gabor features extracted from the segmented IRIS images is the most efficient technique for recognition. IRIS recognition research can be understood as two point agenda: extracting better features from segmented IRIS images and use a better classifier than the Hamming distance based classification. With the increase of number of features recognition error decreases and accuracy increases, but other complexities like space complexity for storing the features and time complexity for optimizing the features by kernel based classifier is difficult. Hence in this work we emphasize on extracting the most significant feature set from the segmented IRIS and project the features in a high dimensional space using KPCA dimensionality reduction technique. The features are classified using Multiclass support vector machine. Results show that the recognition rate and FAR of the proposed technique are very high when compared to Multi Class SVM.

References
IRIS Recognition based on Non Linear Dimensionality Reduction of IRIS Code with KPCA and SVM based Classification

- CASIA iris image database, available from http://www. cbsr. ia. ac. cn/IrisDatabase.htm
Index Terms

Computer Science

Keywords
Reduction Of Iris Code KPCA And SVM.