Palmprint identification is one of the evolving technologies for personal authentication. Multispectral palmprint over the years have been widely used for authentication and security. This paper investigates the use of hybrid of Gabor filter and information sets for multispectral palmprint feature extraction. The Gabor feature vector has high dimensionality and it increases the time complexity of the identification. To overcome this we have extracted the information set based features from the Gabor features. Till now the hybrid of Gabor filter and information set based features has not been implemented. The rigorous experimental results ascertain that these features outperform the state-of-art features for multispectral palmprint. After this feature level fusion is performed, this converts two or more feature vectors into one feature vector and thus increases accuracy. Then in classification process individual’s palmprint is compared with the enrolled user’s palmprint in database by using K-nearest neighbor classifier. The performance of K-nearest neighbor classifier is compared with the SVM classifier. Accuracy of SVM classifier is more than the K-nearest neighbor classifier.
References


Index Terms
Feature Level Fusion of Multispectral Palmprint

Computer Science  

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Keywords

Biometrics, Fusion, Gabor filter, Information sets, Multispectral palmprint.