Abstract

In recent years multimodal biometrics plays vital role in real life scenarios. We have proposed a biometric verification system of universal acceptable hand based modalities. We have used the Dorsal Handvein and Palmprint traits that are recently emerging traits in the multimodal biometrics field. We used the well know texture methods like LBP, LPQ and Gabor filter to extract texture features on Handvein and Palm print databases. We compare results of texture methods individually and also we worked on combinations of all the features on both the modalities and which modality performs better on texture descriptors. We have shown results using GAR (Genuine Acceptance Rate) v/s FAR (False Acceptance Rate) with the threshold benchmark values of FAR (0.01%, 0.1%, 1%) to illustrate the performance of verification rate. At the last we have tested with Multi-algorithmic system to evaluate robustness of our system. From our experimental results, it is clearly evident that the LPQ+Gabor combination texture feature is more suitable for both modalities.
Texture Features to Evaluate Biometric Verification System using Handvein and Palmprint

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Index Terms

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Keywords

LBPV, Multi-algorithm, LPQ, Palmprint, Handvein