

Hybrid Approach for Robust Fingerprint Recognition by Combining Local Binary Pattern And Principal Component Analysis

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Abstract—Fingerprint is used for real time application now days. So reliability is the more important thing for security. Fingerprint is rapidly becoming area of interest in computer science field. In this paper, fingerprint recognition is done using combination of local binary pattern and principal component analysis for better recognition result. The feature extraction is an essential step for image analysis, object representation, visualization, and many other image processing tasks. PCA is used for dimension reduction. LBP is used to measure the expression of Fingerprint. Hybrid approach will increase the recognition rate (RR) of Fingerprint and also decreased verification time and false match rate. So it is most suitable for real time application. We compared proposed method with both PCA and LBP to compute these changes that increased Fingerprint recognition rate and decreased recognition time and false match rate.

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Index Terms— *Fingerprint image representation; LBP; PCA; Recognition rate, False match rate*