ENHANCED FILTERBANK ESTIMATION TO FINGERPRINT MATCHING

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ABSTRACT

Directional Gabor filter bank, a popular method for enhancing poor quality image is also used to capture global and local information available in the fingerprints. An improved region of interest has been experimented for feature vector compaction. Here, feature vectors are extracted from the directional representation of enhanced image. Matching is extremely fast as it computes only Euclidian difference between feature vectors to compute matching score. Feature vector requires less memory as compared to conventional minutiae based approach as it stores 64 intensity values only. This filter-bank approach has been tested on 880 images of DB1_a and DB1_b of FVC 2002. Here, Identification success rate accomplished 79.3%.

KEYWORDS: Filterbank, Fingerprint, Minutiae, Feature Vector, Gabor, Matching