

FINGERPRINT INDEXING AND VERIFICATION

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ABSTRACT

This paper presents fingerprint indexing based on graph information of minutiae, fingerprint classification and verification based on hierarchical agglomerative clustering technique. The proposed fingerprint indexing is invariant under translation and rotation. Its performance is evaluated in terms of several real-life datasets. The fingerprint database is clustered into five classes based on the ridge code (RC) of fingerprint for classification purposes. An efficient search method is proposed, where each of these clusters is divided into sub-clusters till each sub-cluster contain *maxobj* threshold or clustering similarity threshold T can no longer be increased. Searching of fingerprint is performed by matching profile of the cluster/sub-cluster. It has been found that the fingerprint classification sufficiently narrow down the search due to multi-level clustering of database.

KEYWORDS: Graph Index, Ridge Code, Clustering, Reference Point