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RESEARCH ARTICLE

An Efficient Approach to Improve Response Time in Multibiometric Patterns Retrieval from Large Database

S. Balgani[1], S. Sangeetha[2]
[1]Department of Computer Science and Engineering, V.S.B Engineering College, India
[2]Department of Computer Science and Engineering, V.S.B Engineering College, India

[1] balganiselvaraj@gmail.com; [2] sangi.vs@gmail.com

Abstract— Biometric technologies are automated methods of verifying or recognizing the identity of a living person based on a physiological or behavioural characteristics. In a biometric identification system, the identity corresponding to the input data (probe/investigation) is typically determined by comparing it against the templates of all identities in a database (gallery).Exhaustive/in-depth matching against a large number of identities increases the response time of the system and may also reduce the accuracy of identification. One way to reduce the response time is by designing biometric templates that allow for rapid matching. An alternative approach is to limit the number of identities against which matching is performed based on criteria that are fast to evaluate. In the Existing system the search space is reduced by partitioning the database into several bins. Following such binning, the biometric database will be partitioned such that the templates in each bin are similar and correspond to some natural or statistical class. In case of the traditional 1: N comparisons for identification, the time needed for the system would be to determine the distance between the test template and the N templates in database. Thus the total time needed in such a case could be given as: Q (N). The proposed work focuses on reducing the search space using Gittins index algorithm and also improves the accuracy of identification.

Key Terms: - Biometrics; feature extraction; image retrieval; indexing; pattern matching

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