

Reconstruction of Biometric Image Templates Using Match Scores

Researchers at the University of South Florida have invented novel techniques to model a face recognition algorithm and reconstructing biometric face image templates for face recognition system (FRS).

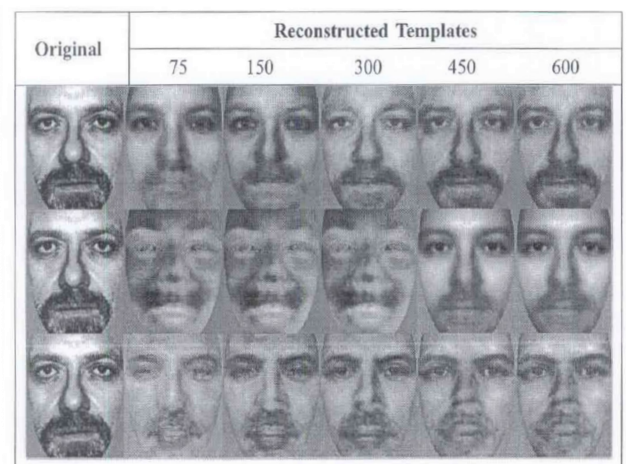
Biometric technologies have become an integral part of many secure access systems. Biometric based authentication systems are being deployed in both low-risk and high-risk security systems. Even though they are increasingly being used, biometric based systems like many other authentication technologies are still vulnerable to security breaches. Additionally, there is a possibility that with the help of face templates the identity of a person using a biometric access system at a highly secure facility could be revealed. Hence there is a need to improve the security of these systems to ensure privacy and safety.

Inventors at USF have developed a novel paradigm to reconstruct face templates from match scores while increasing security and privacy by utilizing a linear approach. The match score represents the distance between an image introduced to the FRS and the unknown image template stored in the FRS. Face templates are indexed using linear models which reduces the number of face template comparisons and requires little overhead. This technology increases efficiency, accuracy, and efficacy of facial recognition systems, providing more security and peace of mind.

ADVANTAGES:

- Minimize risk factor
- Enhance the confidence of users in the biometric based authentication technology
- Increased efficacy and accuracy

Reconstructing Image Templates of Biometric Recognition Systems Using Matched Scores



Variations in the Reconstructed Templates for Three Algorithms Using Five Different Break-In Sets

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