

Fingerprint Recognition Using a Hybrid of Minutiae- and Image-Based Matching Techniques

ABSTRACT

Biometrics recognition has been one of the standout research areas in the past decades as the demand for security systems increases. Fingerprint recognition remains as a popular choice for the ease of acquiring such data and it is universally accepted as a feature that is unique to all individuals. One of the limitations of existing fingerprint recognition techniques is that the systems tend to fall short when the available fingerprint is of low quality. This work describes a hybrid method that improves the performance of fingerprint recognition technique by using a combination of minutiae-based and image-based techniques, extracting features from both techniques to compensate the limitations of each of them. Results show that the proposed hybrid method is capable of achieving better recognition rate. Further analyses indicate that the percentage of similarity score and the Euclidean distance computation are both improved.