OFF-LINE HANDWRITTEN SIGNATURE VERIFICATION

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Off-line handwritten signature is broadly used for personal identification in financial, commercial and legal document bindings. The automatic verification of human handwritten signature is a key research area with respect to improve the verification of forged signature and to reduce the crimes. The objective of this research is to provide a fast, reliable, and easy method to verify off-line handwritten signatures. Image processing techniques and Artificial Neural Network (ANN) are used in this research to achieve a better performance. This research is evaluated on a benchmark dataset, which contains 24 people's signatures. Five genuine and five forged signature samples of an individual were obtained from the dataset. In the proposed approach, for each person, six signature samples (three genuine signatures and three forged signatures) were used for training and four signature samples (two genuine signatures and two forged signatures) were used for testing. The signature images were in different sizes and different colours such as black, grey, and blue. Therefore, a pre-processing technique was applied in the initial stage. Then, the Speed-Up Robust Features (SURF) were used to extract the information of individuals and then an ANN is used for classification. This research was implemented in MATLAB. Experimental results showed that proposed approach achieved 95.42 % accuracy to identify the genuine signature of an individual.

Keywords: signature verification, speed-up robust features, artificial neural network.