

Signature Verification Based on Fusion of Online and Offline Kernels

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Abstract: Signature acts as a strong authentication feature of the signer to validate the identity of an individual and used to preserve their valuable assets such as banking, insurance, healthcare, ID security, document management. A person's signature is never entirely the same. Orientation of signature may varies. The signature can vary substantially over an individual's lifetime. An Off-line Signature Verification System (OSVS) with a novel feature extraction procedure has been described. Fusion of concentric squares having geometric features, zone based slope as well as slope angle have been considered as input patterns. The strong feature set thus obtained makes the OSVS accurate. Verification was performed by using Support Vector Machine (SVM) technique with different kernels. The developed SVM is successfully tested against 336 signature samples and the classification error rate is less than 9.7% and this is found to be convincing. The accuracy of proposed algorithm is achieved up to 90.30 %.

Keywords: Signatures, verification, fraudulence, feature Extraction, training

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