An Efficient Offline Signature Verification System using Local Features

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Authors:
Basheer Mohamad Al-Maqaleh, Abdulbaset Mohammed Qaid Musleh

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Abstract

The most common secure personal authentication in biometrics is handwritten signature. It's widely used in many fields as banks, business transactions, and documents which are being authorized via signatures. The main challenging problem in design offline signature verification system is the phase of extracting features that distinguish between forged and genuine signatures. In this paper, a novel feature of extraction method based on static image splitting is proposed. The center of density of the signature image is used for the splitting. In the proposed system, a new feature called Pixel Length (F4) is suggested. This feature is used in combination with other three features: Pixel Density (F1), Cell Angle (F2), and Pixel Angle (F3) which are common features in the offline verification signature process. Euclidean distance measure was used for classification. The proposed system is implemented and tested using GPDS database. The performance of the proposed system is measured and the experimental results show the usefulness and effectiveness of the proposed system.
References


Index Terms

Computer Science  Pattern Recognition

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Biometrics, Offline Signature Verification, Feature Extraction, Euclidean Distance Model.