Abstract

Signature is critical for authentication and authorization in commercial, financial and legal transactions and fittingly, it is one of the most commonly used biometrics for authentication. Hence, an accurate and efficient signature verification system is required. The objective of signature verification is to discriminate the original signatures from the forged ones. It is a challenging task as even two signatures of the same person possess variations in different areas such as the starting and ending positions, the angle of inclination, relative spacing between letters, height, width etc. Offline signature verification is even more challenging as it is devoid of the dynamic information about the signing process. Although numerous research works have been done in the area of offline signature verification in last decades, it still remains an open research problem. There are three common phases in signature verification system: image preprocessing, feature extraction and verification. In this paper, two novel features have been presented that can be extracted from preprocessed signature images in the feature extraction phase. The proposed features are: i) Stroke angle and average intersected points ii)
Pixel density of the signature nucleus. The goal of this research is to strengthen the feature set with the proposed features what will help to get more accurate verification of the signatures.

References


Index Terms

Computer Science Security

Keywords

Offline Signature Verification, Biometric Authentication, Forgery Detection, Neural Network, Novel Features.