

Online Handwritten Signature Recognition by Principal Components and Support Vector Machine

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Abstract

With the rapid development of capture devices such as smart phone and tablets, there is a big trend towards online handwritten signature applications being used as behavioral biometrics. Online handwritten signature encounters difficulty in the verification process because an individual rarely signs exactly the same signature sample whenever he/she signs, which is referred to as intra-user variability. This paper presents a new technique for handwritten signature verification. The operation starts by normalizing the signatures samples to similar lengths of enrolled and authenticated samples without affecting to the signature shape. And then, Principal Component Analysis (PCA) is exploited for features' extraction and Support Vector Machine is utilized as classification operation. The experiment has been conducted on a SIGMA database on 200 users that comprises more than 6000 online handwritten signature samples; the result demonstrated 96% as successful recognition rate.