Abstract

This paper discusses about Multimodal Biometric System which are used to overcome some of the problems of unimodal systems like noise in sensed data, intra-class variations, distinctiveness, and spoof attacks. Multimodal biometrics is the combination of two or more modalities such as signature and speech modalities. In this work an online signature verification system and speaker verification system are combined as these modalities are widely accepted and natural to produce. Although this combination of multimodal enhances security and accuracy, yet the complexity of the system increases due to increased number of features extracted out of the multiple samples and suffers from additional cost in terms of acquisition time. So these days the key issue is at what degree features are to be extracted and how the cost factor can be minimized, as the number of features increases the variability of the intra-personal samples due to greater lag times in between consecutive acquisitions of the sample also increases. Increase in variability of the system will further increase FAR. Thus to resolve these issues an effective fusion level and fusion mode is required. This paper presents
a novel user authentication system based on a combined acquisition of online pen and speech signals.

Reference


Index Terms

Computer Science Security

Key words

Biometrics

Multimodal
intra-personal variability

False Accept Rate (FAR)

False Reject Rate (FRR)