Abstract

Automatic signature verification is a well-established and an active area of research with numerous applications such as bank check verification, ATM access, etc. This paper proposes a novel approach to the problem of automatic off-line signature verification and forgery detection. We have designed offline signature verification and recognition system (SVRS) using Adaptive Resonance Theory-1 (ART 1). In this paper a standard database of 250 signatures is used for calculating the performance of SVRS. The training of our system is done using ART-1 that uses global features as input vector and the verification and recognition phase uses a two step process. In first step, the input vector is matched with stored reference vector which was used as training set & in second step cluster formation takes place. If our given pattern matches with the stored pattern, it is accepted otherwise new cluster is formed. The presented approach achieved a classification ratio of 97.9%. The false acceptance rate (FAR) and false rejection rate (FRR) for given sample signatures is 2.7% and 3.9%.
- Jingbo Zhang?Xiaoyun Zeng, Yinghua Lu, Lei Zhang, and Meng Li, "A Novel Off-line Signature Verification Based on One-class-one network," Third International Conference on Natural Computation (ICNC 2007).

Index Terms

Computer Science  
Security

Keywords
An Offline Signature Verification using Adaptive Resonance Theory 1 (ART1)

Offline signature verification  Global features  Neural Network  Adaptive Resonance Theory-1