

Metrics

July 15, 2016

1 Presentation Attack detection (PAD)

Automated determination of a presentation attack. PAD is a component of biometric system (sacado de PDF de metrics).

Some examples of PAD are artefaction detection, altered biometric detection... (del pdf de antes)

Anti-spoofing, biometric fraud, spoof detection are some others terms that are used. (tambien del pdf de antes).

2 Matching performance metrics

- False match rate (FMR): percentage of fingerprint pairs from different people (imposters) that match.
- False non-match rate (FNMR): percentage of fingerprint pairs from the same person/finger (genuine) that do not match
- True match rate (TMR): $TMR = 100 - FNMR$

3 Performance Metrics

- Normal Presentation Classification Rate (NPCR): percentage of normal presentations (live fingerprints) that are accepted as normal presentations.
- Attack Presentation Classification Rate (APCR): percentage of attack presentations (spoof fingerprints) correctly classified as attack presentations
- Attack presentation error rate (APER): percentage of attack presentations that are accepted as normal presentations ($100 - APCR$)

4 Confusion Matrix

5 FAR and FRR

FAR: Error that is produced by acceptance.

FRR: Error that is produced by rejection.

ERR: Equal error rate: Is the value when $\text{FAR}(\%) = \text{FRR}(\%)$. It is very used in papers.

TRR: True rejection rate.

TAR: True acceptance rate.

$\text{FRR} = (1 - \text{TRR})$

$\text{TAR} = (1 - \text{FAR})$

5.1 ROC curves

It is represented FRR and TAR, also can be visualized the EER.