Presentation Attack Detection for Smart Phone Based Biometrics

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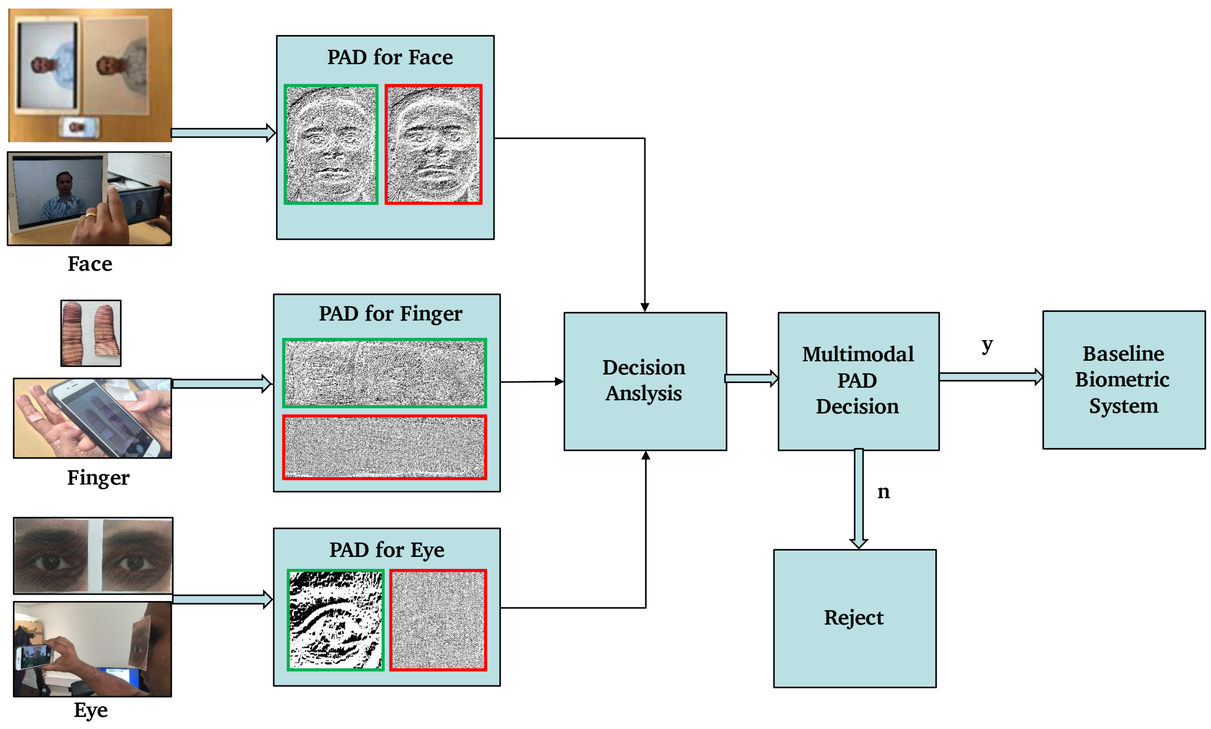
Objective

- The study aims to provide highly accurate smartphone based multimodal biometric system.
- Investigating new attacks and artefacts.
- Formulate a robust and accurate PAD framework which can address new evolving attacks.
- To generalize the PAD framework for real – world applications.



Research Questions

- Can smartphone based multimodal biometric characteristics such as Face, Finger, and Eye constitute into an accurate and reliable biometric system for real –world application?
- Can we accurately manage individual PAD decisions to construct a robust and accurate PAD framework?
- Can we use smartphone features like a flashlight, slow motion capture to detect the liveness?
- Can we develop robust countermeasures using the proposed PAD framework to generalize it for different types of unknown presentation attacks?

Approach

- A subject is enrolled using multiple biometric characteristics (2D face, eye and finger photo) acquired by the subject himself using a smartphone.
- Trustworthiness of captured data is validated using intelligent PAD decision system to create a reference template.
- Probe data is captured using a smartphone and analyzed through PAD system to create probe template.
- On successful multimodal PAD decision, probe template is sent to proposed biometric system.
- The comparison is made using proposed algorithms to authenticate the subject.

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