

# Smartphone Based Eye Biometrics

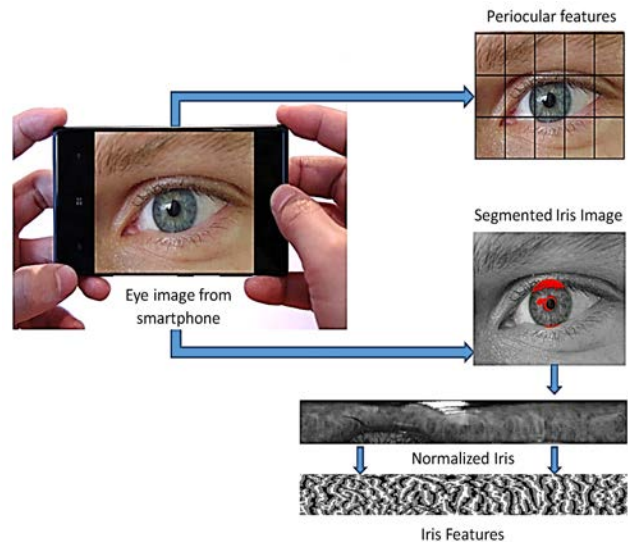
## SBEB- Smartphone cameras for eye recognition



### Motivation

SBEB aims at investigating smartphone as a biometric sensor for eye biometrics in visible spectrum. SBEB focuses on :

- Using innovative cameras for iris recognition
- Fusion of information from iris and eye region for boosted performance.
- Providing eye features for access control on smartphone authentication platform MBASSy.



### Research Questions

- Can iris recognition in visible spectrum be performed with smartphone cameras?
- What are the challenges in terms of computational complexity in bringing iris recognition on smartphones?
- Can the supplementary information provided by the biometric characteristics in the vicinity to iris region be used?
- Can video based iris recognition methods and new generation sensors such as light-field enabled smartphones aid us in achieving presentation attack detection (PAD)?

### Approach

- A subject is enrolled using iris and eye images acquired using a smartphone camera. The iris and periocular features are obtained to create the reference templates.
- Probe data is acquired using a smartphone camera and a template is created.
- The data is compared to obtain a score. The obtained score value is used to authenticate/verify the subject.
- Eye video acquired using the smartphone shall be used to detect the presentation attack and gauge the liveness of the subject under verification/authentication.



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