Gradiant Face Mobile

Face recognition technology

Gradiant Face Mobile SDK integrates latest Gradiant's proprietary face recognition technology especially designed for user authentication in mobility scenarios

Gradiant Face Mobile comprises a set of libraries ready for biometric system integrators and application developers. GradiantFace Mobile can fully be executed in mobile platforms (iOS, Android) without the need of Internet connection.

- ✓ **Award-winning proprietary** face recognition technology
- ✓ **Designed, created and optimised for mobile devices:** fully mobile-embedded processing enabled
- ✓ **Built-in anti-spoofing modules, comprising both collaborative and automatic techniques:** ranked first in IJCB'2017 international competition on face presentation attack detection
- ✓ **Biometric template protection for enhanced security** and privacy through advanced cryptosystem technology
- ✓ **Robust to appearance variations** due to the presence of glasses (even thick-rimmed glasses)

Functionalities

Image & Video acquisition

Acquisition and camera control functionalities for mobile devices allowing fast integration and development of third-party applications.

Face detection

- ✓ Fast face detection and tracking, optimised for mobile devices.
- ✓ Head pose estimation.

Face template extraction module

- ✓ Face template extraction from static images or video sequences.
- ✓ Face templates can be built from single or multiple face images.
- ✓ Internal facial landmark detection for face alignment.
- ✓ Face image quality assessment to ensure the acquired faces meet the requirements for system security.

Matching module

1:1 biometric template matching (both single-face and multiple-face templates supported), allowing an easy development of verification and identification applications.

Anti-spoofing

Combined liveness check (collaborative and non-collaborative): fusion of methods to differentiate live faces from spoofing attacks (e.g. photos, videos).

Template protection

Template protection for enhanced security and privacy protection in mobility scenarios through advanced cryptosystem technology.

Requirements

iOS

- ✓ Minimum OS: iOS device (iPhone, iPad) with iOS 8 or above.
- ✓ Minimum hardware requirements: Apple A7 processor or higher (iPhone 5s or above).
- ✓ Programming language: ObjectiveC API.

Android

- ✓ Minimum OS: Smartphone or tablet with Android 5.0 OS or above (API 21).
- ✓ Minimum hardware requirements:

  - 1.5 GHz dual core processor or higher.
  - Reference devices: mid-range Android devices with frontal camera quality similar to the Google's Nexus 5 or higher.

- ✓ Programming language: Java API

Performance

Recognition rates:

- ✓ Controlled authentication (selfie verification): FRR = 0.0023; FAR = 0.001.

Performance

- ✓ For an iPhone 6, 1.4 GHz ARMv8-A reference device:

  - 0.119 seconds per face template extraction
  - 3125 face template matchings per second.

- ✓ For a Samsung Galaxy Note 5

  - 0.1328 seconds for template extraction.
  - 1758 template matchings per second.

Package

Developer SDK for integration and deployment.