



Face
Detection
& Tracking

Accurate
Localization
of Facial
Feature
Points

Face Image
Quality
Assessment

Live
Face
Detection

Face
Identification
Capability

Justouch[®] Face Recognition Algorithm

Miaxis's Justouch® Facial Recognition Technology is one of biometric recognition technologies based on processing information of facial features, mainly used to automatically detect and track face then process each faces image in still images and video streams that captured by webcams or cameras and identify user's identity.

Available as a software development kit that allows easily integration into final products or biometric systems to realize identity management, national ID card verification and other functions based on advanced face recognition technology. Widely applied to smart finance,intelligent security scenarios.



» FEATURES



Face detection&tracking

Quickly and accurately detect the face and track location of each face in still image or video streaming.



Accurate localization of facial feature points

Accurately locate the key feature points on the face in the picture (5 key points such as eyes, nose, mouth, etc.), used to determine the face posture and face alignment.



Face image quality assessment

A quality threshold can be used during face enrollment to ensure that only the qualified face template will be stored into database to decrease the effect of image quality on matching performance.



Live face detection

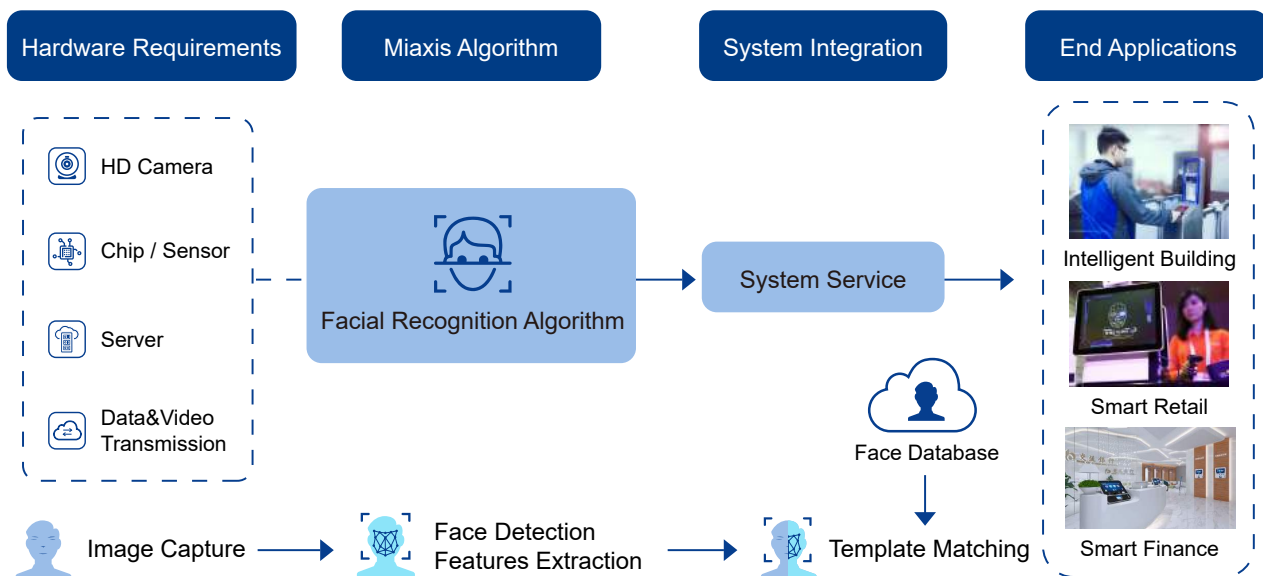
A conventional face identification system can be tricked by placing a photo in front of the camera. We are able to prevent frauds with using photograph or 3D printed mask with SDK as follows.

- 1) active mode with face images captured in visible light: SDK requires user actively assist to perform particular actions such as open mouth, head movements to judge it's a 'live' human or not.
- 2) Near-infrared version: using imaging features of Near-infrared to achieve high robustness of live face detection.



Face identification capability

It can be used for fast matching in 1:1 mode (verification), as well as 1:N (n= large database size) mode (identification). Verify if it's same person by calculates two faces's similarity based on features extraction. If the matching score is higher than the pre-defined facial matching threshold then the input template is said to have successfully matched with the stored template.



>> SPECIFICATION

Justouch® facial recognition algorithm is capable of fast processing speed, high accuracy and easy to integrate, available **as a standard and customized version software development kits for windows, android, linux platforms** to support our industry partners and system integrators.

A. Enrollment requirements

The facial authentication algorithm is based on the face recognition from two-dimensional images or videos.

The following corresponding basic requirements for images and videos.

- **Angle tolerance** Head Roll<35° Head Tilt<20° Head Yaw<30°Illumination
- **Illumination** Uniform illumination, can be identified if backlight and exposure are not seriously bad.
- **Blur** The contour of the face is clear and the locations of facial features can be recognized.
- **Integrity** It is necessary to ensure the integrity of the face, and the contour of face is all in the picture;and make sure the key parts of the face such as the eyes, nose and mouth would not be obstructed by any subjects.

B. Face algorithm performance

- Template extraction speed***
- Windows with i5-8250U processor ≤100ms
 - Android with RK3288 ≤ 300ms
 - ***(a single template) with a 640x480 image size**

Min. Image size ≥ 35 pixels between eyes for best performance

- Matching speed (1:1 mode)**
- Windows with i5-8250U processor ≤0.01ms
 - Android with RK3288 ≤0.1ms

Template size as small as 1 Kilobytes

- Algorithm accuracy**
- FAR ≤0.01%
 - FRR ≤1% (Still image 1-to-1 matching)
 - FRR ≤2% (Still image 1-to-1 matching against image stored onto person's ID card)
 - FRR ≤5% (1-to-N matching against the whole database,N=5000)

Multi platforms Windows, Android, Linux

Biometric Device Factory & Turnkey Biometric Recognition System Solution Provider



20+
20+ years of successful business



2000+
Trusted by 2000+ bank branches globally, over 60% market share in domestic financial market



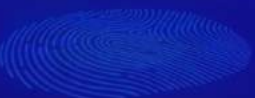
Qualified partner
by Government of China



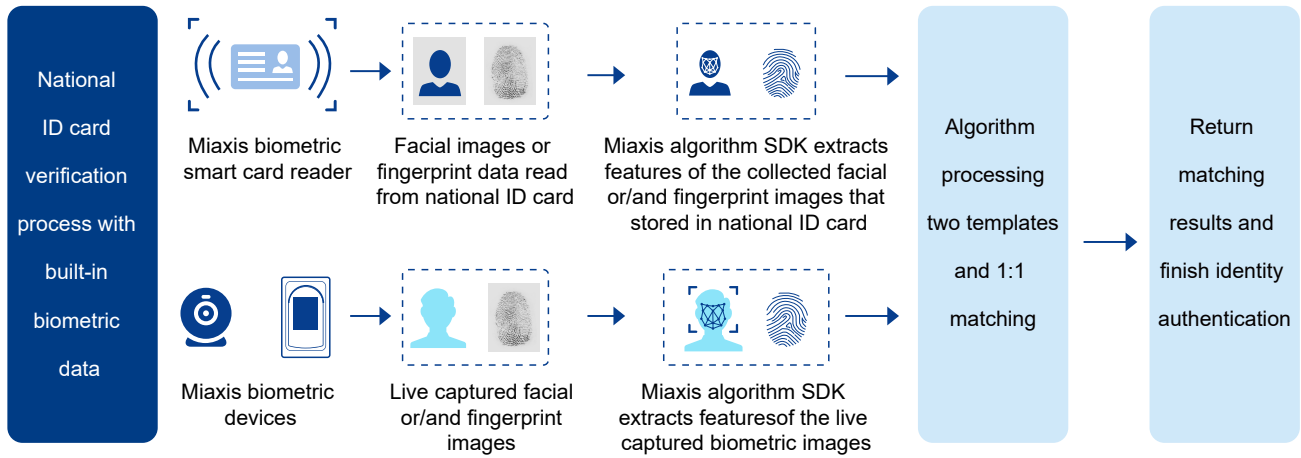
ISO9001/14001
Quality assurance



150+
150+ industry-leading patents and intellectual properties



»» CASE STUDY



Local police

Face recognition cloud platform
Face dynamic recognition/monitoring system



Finance/Payment APP user verification

Remote user verification with live human detection



Train station/airport/border control user identification

ID card/document check



Banks/telecom business hall and other business halls that required higher security



MIAxis BIOMETRICS CO.,LTD.

HQ ADD: 5F, Technology Bldg., East Software Park, No.90 Wensan Rd, Hangzhou, China

Tel: +86 571 8195 1610 Fax: +86 571 8195 1600 Web: www.miaxis.net E-mail: inquiry@miaxis.com