FindFace Enterprise Server SDK Documentation

Release 2.5

NtechLab

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Contents:

Miracle provides professional face recognition services based on neural networks. Implement these services to your ecosystem to take full advantage of them.

Features

- Fast and robust face detection and database enrollment. Possibility of enrolling faces in bulk.

- Intelligent video face detection and analytics.

- Fast and accurate face identification and verification based on neural networks.

- Gender, age and emotions recognition.

- Dynamic person creation and 'friend or foe' identification.

- Almost infinite scalability due to integration with Tarantool.

- Truly RESTful API available in an embedded user friendly framework.

- Possibility of formatting API-responses.

- Highly intuitive web user interface.

- Network or on-premise licensing.

Miracle will be of interest to independent software vendors (ISVs), system integrators, enterprise IT customers, and original equipment manufacturers (OEMs). It can be harnessed in numerous areas, such as retail, banking, social networking, entertainment, sports, event management, dating services, video surveillance, public safety, homeland security, etc.

Being integrated into specific solutions or Android applications, Miracle empowers businesses to accomplish such goals as biometric identification and access control, customer analytics, customer offer tailoring, offline retargeting, managing white and black lists, sorting and optimizing media libraries, borrower scoring, fraud prevention, employee productivity control, and many more.

This guide is intended for developers and system integration engineers who are going to integrate face recognition services into their systems. Prior to deploying a development environment, explore the 9 steps to face recognition. This will give you a general idea of the deployment process.

Let's get started!

Get Started

A typical Miracle-based biometric system is shown on the diagram below:

Miracle consists of the Biometric Data Analysis and Recognition Server (hereinafter referred to as Miracle Server or Server) and, optionally, the video face detector. Besides the latter, you can also install the other additional components. The Miracle Server functioning is provided by interaction of the following components:

Service	Description
findface-facenapi	Python daemon which runs HTTP API. This daemon executes face detection functions, interfaces with MongoDB and findface-nnapi and tarantool@FindFace daemons.
tntapi (tarantool@FindFace as a shard)	Daemon which enables interaction with the face descriptors index.
findface-nnapi	Daemon extracts a feature vector (based on neural network). Requires the package with models <findface-data>.deb.
MongoDB	Database which stores faces metadata, galleries details, settings, etc.
findface-upload	Nginx web server used to receive images using WebDAV.
NTLS	Local license server which interfaces with the Global NTechLab License Server (for the network licensing) or a USB dongle (for the on-premise licensing) and passes a license to licensable components.

Follow the diagram below to deploy Miracle and get ready for delivering face recognition services to your customers.

The 9 steps to face recognition:

1. Choose deployment architecture

2. Prepare hardware

3. Install prerequisites

4. Install Miracle

5. Create a token and test the system work

6. Configure video face detection

7. Increase performance by setting up 'nginx load balancing and fast index

8. Add advanced features

9. Finalize the system with coding

CHAPTER 2

System Requirements

Prior to installing Miracle, ensure that the host(s) meet the following minimum requirements.

Standalone installation of Miracle is recommended when the number of faces in the database **does not** exceed roughly 1 million. Otherwise you should install Miracle in a cluster environment and configure fast index search.

Deploy FindFace Server

Hello world!

Video Face Detection

Hello world!!!

CHAPTER 5

Advanced Features

CHAPTER 6

Indices and tables

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