



# IVA CV Automatic Face Recognition System

IVA CV is a Russian biometric facial recognition system designed to raise security level at enterprises, strategic facilities and urban environments. The operation of the system is based on convolutional neural networks and machine learning. The IVA CV solution has extensive integration capabilities, allowing it to be installed on existing IP security cameras and connect to various databases.

IVA CV runs on any hardware (GPU, CPU), can use any video sources, physical servers and virtual environments. Scaling out is available when operating a large number of cameras and photo stocks. The IVA CV system uses neural network optimization algorithms to increase the speed of data processing without precision loss.

## Platform Description

The face recognition platform enables the implementation of complete biomechanical video analytics projects, providing all the necessary functionality:

- Face detection;
- Identification of persons;
- Medical mask detector;
- Image and video processing;
- Video stream processing;
- Image quality assessment tool;
- Face detection filter as per the angle;
- Face detection filter as per image quality;
- The Liveness tool for identifying a real face among the printed faces or the ones displayed on mobile phone screen;
- A tool to search for duplicates in an existing search list when adding a new face;
- Recording and storage of video archive with reference to found persons;
- Processing of the real-time recognition and historical search results;
- Customizable user roles.

## Solution Architecture

- Distributed client-server.

## Main Components of the System

- Image and video data sources Back end;
- Server hardware;
- Cross platform front end as a web application.

## Hardware

Server hardware resources of the subsystem are implemented on the basis of computer platforms, including personal computers with Intel processors (functional expansion of AVX512 and AVX2 command system and NVidia graphics cards with CUDA technology, version 6.1 or higher).

## Integration

Solution includes an API and SDK for integration with other information systems.

## Supported Data Formats

### For card file and searching:

- \*.jpg (\*.jpeg), \*.png.

### For IP cameras:

- MJPEG;
- H.265;
- H.264 Baseline/Main/High profile.

### For video recordings:

- \*.mp4;
- \*.avi;
- \*.flv;
- \*.mkv;
- \*.ts;
- \*.mpeg;
- \*.mpegts;
- \*.mov.

## Supported Operating Systems

- Ubuntu;
- Debian.

**64-bit.**

## Supported Virtual Environment:

VMWare, Microsoft Hyper-V, KVM, Oracle VirtualBox.

## Scalability and fault tolerance:

- Database sharding and replication support;
- Horizontal scaling;
- Software balancing.
- Microservice architecture.

## Security:

- Authorization of users;
- User rights assignment;
- Encryption of neural network model and parameters;
- Code encryption.

## Language support:

- Russian;
- English.

**Russian manufacturer of  
high-tech it equipment  
and software**

**109316 Volgogradsky  
Prospekt 43, bld 3, Moscow  
en.iva-tech.ru  
info@iva-tech.ru**