



# DEEP LEARNING BASED FACE RECOGNITION

Nevalabs is a high technology company established in 2015 in Istanbul, initially to provide homeland security solutions. Today, we are proud to be one of the pioneers of deep learning based face recognition systems, providing high accuracy rate solutions. *Corvo Identify, Access and Verify* are the three pillars of the Nevalabs' product family *Corvo*. In addition to homeland security area, *Corvo* provides face recognition solutions for various industries such as telecommunications, banking, and retail.



**NEXT GENERATION SAFETY SOLUTIONS** 



## **FACE RECOGNITION**



Corvo Identify provides the highest level of accuracy through the use of deep learning based technology. Its enhanced capabilities include fast face detection, advanced face tracking, and high accurate face recognition to identify, from still images, cameras and archived videos, persons of interest, criminals and missing people.

Corvo Identify's advanced technology works under uncontrolled, real life conditions. The system overcomes real life challenges, which frequently constrain most of the face recognition algorithms; such as pose, age and illumination variations. With its advanced face recognition engine, Corvo robust to exaggerated expressions, occlusions, eyeglasses, hats and scarfs too. Corvo Identify provides the best face recognition solution for homeland security.

Corvo Identify Expert and Corporate editions are developed for varying scales of projects. Corvo Identify Expert is designed for fulfilling face recognition needs of medium scaled projects. Corvo Identify Corporate provides highly scalable software for mission critical and large scaled systems.

#### **Corvo Identify Expert:**

Up to 1M enrollment

Up to 50 cameras

Easy to use and maintain web-based thin client

Responsive and intuitive design

Central management

Monitoring all operations via dashboard

Creating an album involving multiple photos of a person

**Bulk** import operations

Searching persons of interest from watchlists

Searching suspicious person from face detection history

Suspect investigation from still images and archived videos

Smart alarm dispatch

Real time on screen alerts via cameras

Fast alarm verification

Camera and server management

**ONVIF Profile S compliant** 

ATM (At The Moment) error notifications

Automatic disk cleanup

User, role and group based authorization

Reporting

Audit logs

Multi platform support (Linux and Windows)

Multi language support

#### **Corvo Identify Corporate:**

Corvo Identify Expert's Features +

1M+ enrollment

50+ cameras

Automatic camera discovery

LDAP integration

High availability

Load balancing

Failover handling



## **ACCESS CONTROL**



Corvo Access is an API (Application Programming Interface), which can be integrated with controllers and staff attendance systems. It takes its power from Corvo's deep learning based technology. It is able to verify an identity in less than 100 ms, with the highest rate of accuracy.

Corvo Access can be used to increase the security level of an access control system via adding second level of authentication. Combination of access control systems with Corvo Access prevents the usage of stolen/lost cards and security violations in restricted areas. What distinguishes our technology from other solutions is that it is non-intrusive and it does not require any interaction, which makes this technology inescapable.



# **IDENTITY VERIFICATION**



Corvo Verify API is a powerful verification system that integrates with ID control systems. Corvo Verify enables fraud prevention by verifying a person through an identity card. It is also an ideal solution to automate passport or any other ID control systems. With its high level of accuracy, Corvo Verify overcomes challenges such as low quality image and variation of expression, age and pose.





#### HOMELAND SECURITY

It has always been a big challenge to identify suspects/ criminals in uncontrolled and crowded public places. Face recognition technology is the only solution that can detect persons of interest with high accuracy in real time, without need for interaction. *Corvo Identify Corporate* is able to thoroughly pinpoint suspects so that preventive action can be taken.



## **BORDER GATES**

Both national and international security depends on reliable border control. Borders with *Corvo Identify and Verify* are able to detect criminals and prevent the entry of persons with false identities. For high level of border security, our product family ensures fast, accurate and secure passenger processing.



#### **GOVERNMENTAL BUILDINGS**

As public offices are very vulnerable to attacks, facial recognition is the key solution to protect public offices and public officials. Our systems play a vital role in security.



#### **AIRPORTS**

The proliferation of national and international travel is making conventional methods of passport control and security obsolete. *Corvo Verify* offers efficient and prompt passport control while *Corvo Identify* enables the detection of criminals. Additionally, *Corvo Identify* enhances customer service through face recognition solutions in lounges by enabling personal services.



#### PUBLIC TRANSPORTATION

Everyday, masses of people go in and out of metro and train stations. These sites have become potential targets for terrorists attacks making the use of *Corvo Identify* essential for heightened security.



#### **PORTS**

Ports are both tourism and trade hubs. Employing *Corvo Identify and Verify* enhance the safety level of travel and prevent illegal immigration.



#### CRITICAL INFRASTRUCTURES

Sites such as oil refineries and other critical premises are vulnerable to potential attacks. Highly accurate face recognition systems make possible the safeguarding of such highly-valued sites.



#### **STADIUMS**

Sports arenas being places of entertainment where outdoor sports, concerts or other events take place unfortunately entail a perceived risk of violence and terrorism too. The first step to eliminating this risk is identifying unauthorized persons accessing stadiums via automatic identity control systems. Detecting hooligans, barred offenders or terrorists in/around large arenas by analyzing and identifying faces help to create a violence-free environment.



## **MEGA EVENTS**

Due to the large number of attendees it is extremely difficult to ensure the security of summits, fairs, exhibitions, races, concerts and other organizations. With our next generation face recognition solutions, it's possible to control VIP access and detect the entrance of unauthorized or criminal persons.



#### **TELECOMMUNICATION**

Telecoms are now digital service providers, which contribute significantly to digital transformation. We are pleased to provide face and object/scene recognition software in an effort to ease this transition. Fraud prevention, automatic album creation, customer recognition, identity verification, home and office safety are some of the solutions enabled by our advanced software technologies.



#### **BANKING**

The banking sector frequently experiences fraud, more so after the digitalization of bank transactions. Nevalabs offers *Corvo Verify* in order to prevent actions such as fraudulent loan applications while also offering *Corvo Identify* to secure branches, data centers and ATMs.



#### **BUSINESS CENTERS**

Corvo Access provides a second level of identity verification for each and every person going in and out of business centers to create a secure working environment. It also helps to improve staff attendance systems.



## **SCHOOLS & DORMITORIES**

Students are able to carry on their education in a secure and comfortable environment when their campuses and dormitories are protected from all threats through the use of innovative solutions. Our face identification and verification systems contribute to increasing class and dorm participation by closely monitoring absenteeism. Additionally, our smart ID verification systems generate a secure and fair exam setting in both formal and online education.



## **HOSPITALS**

It is vital to create secure hospitals and to overcome the ever increasing acts of violence in hospitals. We enable the identification of people on black lists in order to construct a safe and comfortable atmosphere. Furthermore, by integrating our system into the Hospital Information Systems, we are able to make sure that only authorized personnel and doctors are able to see the confidential information of patients.



#### SHOPPING MALLS

Marketing directly to target audience significantly enhances sales and conversion rates. Anonymous information gathered through our deep learning based software focusing on gender and age range provides detailed statistics on segments of customers visiting shopping malls on specific days and time. Additionally, by increasing security levels via *Corvo Identify*, a pleasant shopping atmosphere is generated.



#### **HOTELS**

Hotel management can boost customer satisfaction by simply identifying VIP customers through our face identification system. Moreover, events such as conventions, meetings, celebrations can be organized in a secured environment.



#### **CASINOS**

It is imperative for a casino to be able to recognize their VIP customers in order to sustain them. In such a setting, it is also vital to keep an active black list. *Corvo Identify* prevents fraud with its high accuracy recognition capability while enabling the recognition of VIP customers.



#### **RETAIL**

Every customer wants to feel special. By integrating face recognition technologies into CRM systems, tailor made personal promotions can be offered resulting in higher sales volumes and expansion of customer portfolio.



# **G20 Antalya Summit Mobile Face Recognition Project**

Turkish National Police preferred Nevalabs to secure the G20 Antalya Summit. Nevalabs provided the security for the G20 Antalya Summit with our face recognition software *Corvo Identify*. Our solution was used by 220 cameras located in Antalya Airport, bus station, summit entrance, red zone and critical places. It was an honor for Nevalabs to ensure the security at a global summit.



# Turkish National Police Central Face Recognition Project

Corvo Identify Corporate software is being used by Turkish National Police for homeland security. Corvo Identify's realtime alarm management and suspect investigation modules are used for the identification of the criminals in 81 cities.



## **Turkcell Lifebox Application**

Our face, object and scene recognition services are used in the development of Lifebox. More than one billion photos have been processed in a highly available system, which has been enabled by our software since January 2018.



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