Facial recognition server software using deep learning technology

Facial recognition server software matches the faces captured by the network camera against the faces of persons already registered in the database. In addition, using operations from a client terminal, it is possible to search for the face of the person subject to the notification, and check the image which captured that person.

Key Features

**High performance facial recognition**
- High performance Deep Learning facial recognition function distinguishes face orientation, sunglasses, surgical mask, facial aging change

<table>
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<tr>
<th>Facial aging change</th>
<th>Surgical mask</th>
<th>Sunglasses</th>
<th>Vertical range : ±30°</th>
<th>Horizontal range : ±45°</th>
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<tr>
<th>Minimum size of the face image*</th>
<th>30 pixel (Eye Distance : 15 pixel)</th>
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**Facial recognition function**
- Issue notification if there is a match with a registered person. Display history in list format.

**Registered face detection function**
- Alarm issued for registered persons

**Use Case**

You do not want to overlook the store arrival of a regular customer because you want to be ready to provide priority service.

Register the faces of regular customers, and have a notification sent when one is detected.
Unregistered face detection function (detection of suspicious persons)

- Register faces by area and issue notification if an unregistered person is detected. Display history in list format.

Use Case

You want to monitor suspicious persons about to enter an area where only certain persons are allowed.

Cost Reduction

- Up to 20 cameras can be connected to one server. Reduce the system total cost such as server cost, network cost etc.

  *The number of cameras that can be connected is determined by the number of people passing and the retention period of the face image.

System expandability

- Up to 30,000 faces can be registered and WV-ASF950 can be used in large facilities.

New

[Important] • When you install WV-ASF950 (Ver.2.0), please select “Registered face detection function” or “Unregistered face detection function.” Only one of these functions can be used on a single server.

• When the “Unregistered face detection function” is used, the time that it takes to issue the alarm is several seconds longer than the conventional recognition function.

Best shot (optimum image extraction) function equipped camera

Send only necessary images (best shot images)

Image analysis
- Face matching, report alarm
- Age and gender evaluation

Facial Recognition server Low load

• Up to 30,000 faces can be registered and WV-ASF950 can be used in large facilities.

Small system

Large system

Primary Server (WV-ASF950)

Max 10 servers up to 2,000 cameras

Up to 20 cameras per server*

Secondary Servers (WV-ASF950)

Up to 20 cameras per server*

*The WV-ASF950 includes license for 4 network cameras. To connect more than 5 cameras to the WV-ASF950, purchase WV-ASFE901 or WV-ASFE904 sold separately.

When unregistered face detection function is selected, up to 10 cameras.
### Basic System Connection Example

- **Camera**
  - Video Stream
  - Extract and delivery best shot face images

- **Recorder**
  - Video Stream

- **WV-ASF950**
  - In case of WV-ASM300
  - Alarm notification
  - Primary Server (Max. 10 Primary Servers)

- **9 Secondary Servers / 1 Primary Server**
  - Image processing part
  - Register the face image in the database
  - Face matching, report alarm
  - Age and gender evaluation

- **Search results**
  - Statistical report

### Face search
- Face images that camera detected are stored, and it can be searched later.
- By searching the face database, you can display the result of each cameras in chronological order and find movement locus of persons.
- Specify camera or date in detected face images and display the result in the list in similarity order.

### Face Matching
- When it is matched with registered people, alarm of face matching is output in real-time, and display an alarm history in the list.
- Specified screen image can be played back on control monitor with double-clicking on an alarm history.

### People counting, Age and Gender Statistics
- Count people of detected face and evaluate their age and gender
- Display the result on the screen with statistical graph
- The statistical data can be saved as a CSV file* for analytical use.

*CSV file: A file that can be edited using a spreadsheet software such as Microsoft® Office Excel®

### Industry examples

- **Airport**
- **Retail**
- **School**
- **Office**
Specifications

Basic Specifications

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<th>Network Disk Recorder</th>
<th>Tested Lenses</th>
<th>Network Camera (face detection)</th>
<th>Hardware</th>
<th>Network Camera (face detection)</th>
<th>Tested Lenses</th>
<th>Management Software</th>
<th>Products Lineup</th>
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<tr>
<td><strong>Specifications</strong></td>
<td><strong>Installation Type</strong></td>
<td><strong>Registered Face Detection</strong></td>
<td><strong>Unregistered Face Detection</strong></td>
<td><strong>CPU</strong></td>
<td><strong>Memory</strong></td>
<td><strong>Input-Output (I/O)</strong></td>
<td><strong>Product Name</strong></td>
<td><strong>Model No.</strong></td>
</tr>
<tr>
<td><strong>Basic</strong></td>
<td><strong>Face matching speed</strong></td>
<td><strong>At 1 second in 30,000 registered faces</strong></td>
<td><strong>At 5 second in 30,000 registered faces</strong></td>
<td>Intel® Xeon® or Core™ i7 series 3.40 GHz or faster (4-core 8-thread or better)</td>
<td>32 GB or more</td>
<td>1 TB or more</td>
<td>Genetec Security Desk + Extension Software for WV-ASM300, VI MonitorPlus, Additional Face Registration Kit</td>
<td>Additional Camera Kit</td>
</tr>
<tr>
<td><strong>Max. number of face in matching list</strong></td>
<td><strong>Max. number of face in history</strong></td>
<td></td>
<td><strong>Graphic</strong></td>
<td>NVIDIA® QUADRO® P5000</td>
<td>Power supply</td>
<td>550 W or more</td>
<td>WV-ASE900, WV-ASE901, WV-ASE901W</td>
<td>WV-ASE900, WV-ASE901W, WV-ASE901W</td>
</tr>
<tr>
<td><strong>Face searching speed in database</strong></td>
<td></td>
<td></td>
<td><strong>OS</strong></td>
<td>Microsoft® Windows® 10 Pro RS4 (64 bit), Microsoft® Windows Server® 2016 Standard Edition</td>
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<td>WV-AS900U6W</td>
<td>WV-AS900U6W</td>
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<tr>
<td><strong>Face with sunglasses</strong></td>
<td><strong>Face with surgical mask</strong></td>
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