AI & Big Data Video Analytics

- Face: VIP Mary
- Age: 25
- Height: 175 cm
- Gender: Female
- Hair: Long

- Glasses: No
- Clothes: Red
- Race: White

- Baggage: Black
ABOUT US

Big Data Hush is the Global Leading Solution Provider to leverage Artificial Intelligence and Big Data for Video Analytics. We have served the fortune 500 and worldwide enterprise, especially in North America, Western Europe and Asia.

Our proven innovative technology outperforms traditional competitors and thus help your enterprises to create measurable business value.

We can leverage Big Data and AI to uncover and connect discrete and missing data into valuable information.

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AI & Big Data Video Analytics

WHAT WE OFFER

- Superior Detection Capabilities
- Wide Range of Detection Functions
- Smart & Powerful Investigative Modes

BENEFITS

✓ AI & Big Data Ready
✓ Non Intrusiveness
✓ Real-Time Alerting
✓ Public Safety
✓ Improved Security
✓ Process Automation
✓ High Speed and Accuracy
✓ Business Intelligence

TRADITIONAL VS AI & BIG DATA CAPABILITY

<table>
<thead>
<tr>
<th>Feature</th>
<th>Traditional</th>
<th>AI &amp; Big Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Accuracy</td>
<td>30%</td>
<td>99%</td>
</tr>
<tr>
<td>Facial Recognition Accuracy</td>
<td>70%</td>
<td>96%</td>
</tr>
<tr>
<td>Analytics Without Seeing Face</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>Feature Extraction: Colour, Age, Gender, Race, Height, Speed</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>Open Source &amp; Standard</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>Cost (Of Large Scale)</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>
AI & Big Data Video Analytics

1. FACIAL RECOGNITION & FEATURES EXTRACTION

Our technology can extract the following features and boost with overall accuracy up to 99%:

Facial Recognition: Registered Member/Guest
Gender: Male/Female
Age: 10<; 11-20; 21-30; 41-50; 51-60; > 61
Height: 160 < ; 160-180 ; > 180
Hair Type: Long/Short
Glasses: Yes/No
Race: White, Yellow, Black
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1.1. FACIAL RECOGNITION

- Traditional Method
  - Detect
  - Affine Transformation
  - Detect
  - Crop

- Hush Face 2 One-Step Tech
  - Detect
  - Affine Transformation into Crop

- One-Step Projection Technology
- Better and Faster Performance
- No Backdoor Problem
- Based on Open-Source
- Big Data Technology
- Suitable For Large
- Scale Application

1.2. PERSONAL FEATURE EXTRACTION

- Hair Type
  - Short
  - Long

- Glasses
  - Yes
  - No

1.3. OBJECT DETECTION

- People
- Board
- Bush
- Tree
- Table
- Bush
1.4. CLOTHING & BAGGAGE COLOR RECOGNITION

Main Clothing and Baggage Color is the most frequent color in histogram of colors.

1.5. HEIGHT ESTIMATION

By comparing with reference models with known height, we can estimate passengers’ height.

1.6. WALKING SPEED DETECTION

Our technology can estimate the walking speed of passengers:

- No active movement
- Medium Speed
- High Speed (Running)
2. CROWD & QUEUE MANAGEMENT

Automatic queue management system determines:

- Average Wait Time
- Total Wait Time
- Queue Length
- Idle Time

3. PEOPLE COUNTING

Users can arbitrary set virtual areas
For intrusion detection and people counting.
4. AIRCRAFT & VEHICLE PARKING DETECTION

Users can arbitrarily set virtual areas for intrusion and parking detection.

5. TAILGATING DETECTION

This strategy helps to detect somebody who try to tail a person and bypass the checking gate or line.

The tailgating alarm will be triggered when pre-defined virtual area contains more than one person.
6. INTRUSION DETECTION

Users can arbitrary set virtual areas for intrusion detection.

Malicious & Sabotage Detection:
Moving quickly, Knife & Gun detection
Policy Violation:
Reverse direction, Staff Restricted areas
Monitoring:
Open Spaces, Fences, Buildings and Entrances
Object Recognition:
Human, Dog, Cat, Car, Aeroplane
Facial Recognition:
Two-Factor Authentication for Restricted Areas

7. UNATTENDED OBJECTS DETECTION

Powering by Big Data Technology (e.g. Graph Databases) and machine learning algorithms (e.g. Streaming Clustering), discrete passengers and baggage are correlated and tracked.
E.g. Time, Location, Object, Color, People, Object owner tracking.
8. VEHICLE PARKING DETECTION

Users can arbitrarily set virtual areas for detection.

- Vehicle Restrictions Areas
- Monitoring of Parking Areas
- People Detection
- Abnormal Object Detection

Red - Spot is occupied
Yellow - Someone is parking
Green - Spot is free

9. LICENSE PLATE RECOGNITION

It is a new AI technology to recognize car-plate number at higher accuracy under dark and smog condition
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10. VEHICLE COUNTING & CLASSIFICATION

This ideal security application is a guidance system which collects statistics about the traffic flow to determine the parking and road strategy for a spe-

11. VIDEO ANALYTICS BY DRONE

Our AI Drones can automatically track objects, carry out video analytics and send alerts to control center.
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12. ABNORMAL EVENT DETECTION
This system is used to detect unusual objects and suspicious behaviors in a scene.

Entrance Gate: Wrong Direction

Passing Without Payment

13. TAMPERING DETECTION
The system will send an alert to a control center when the camera is tampered.

It works when:
The camera is hit or moved
The power to the camera is cut
Obscured camera focus blocked view.