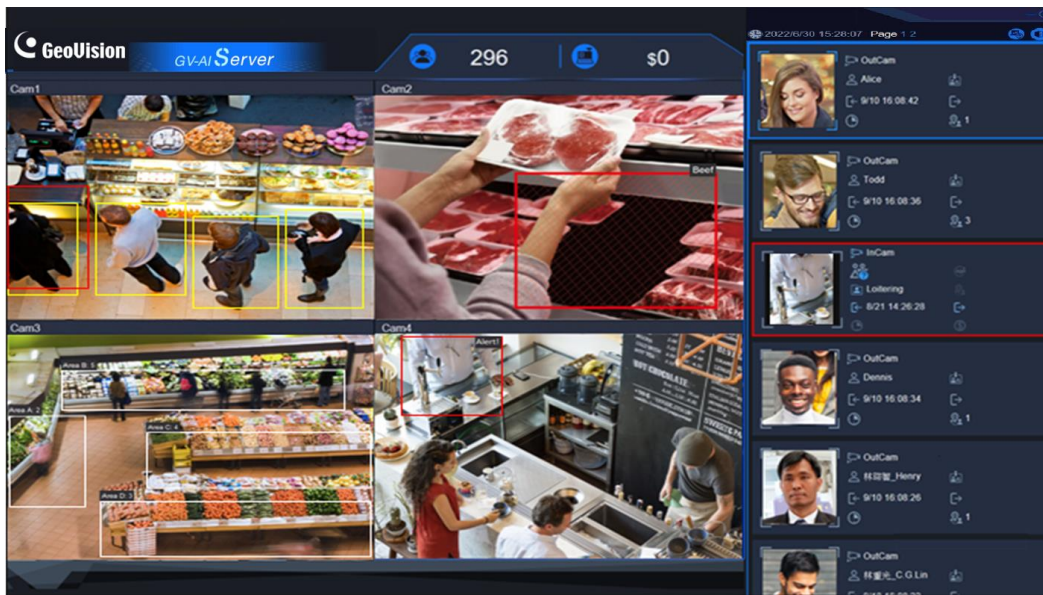# GV-AI Server

INTRODUCTION

GV-AI Server is a video analytic software designed to provide various VA features at a retail store for up to 8 channels of IP cameras. It is able to identify and compile customer statistics, such as age, gender and customer behavior for sales maximization, as well as automatically notify managers or security personnel of inventory shortages or upon detecting suspicious persons.

KEY FEATURES

- Support for up to 8 channels of IP cameras
- Realtime face recognition and tracking
- Realtime masked face recognition and tracking
- Average recognition speed of within 1 second per face when the recognition targets are moving toward the cameras
- Face profiling by age and gender
- Product Attention with heatmap display for monitoring product interest by foot traffic
- Short Inventory monitoring and alert
- Queue Management for monitoring the cashier checkout time and the number of persons waiting in line
- Suspect & Loitering Detection
- Human Counter for counting the number of people that enter and exit at the vicinity.
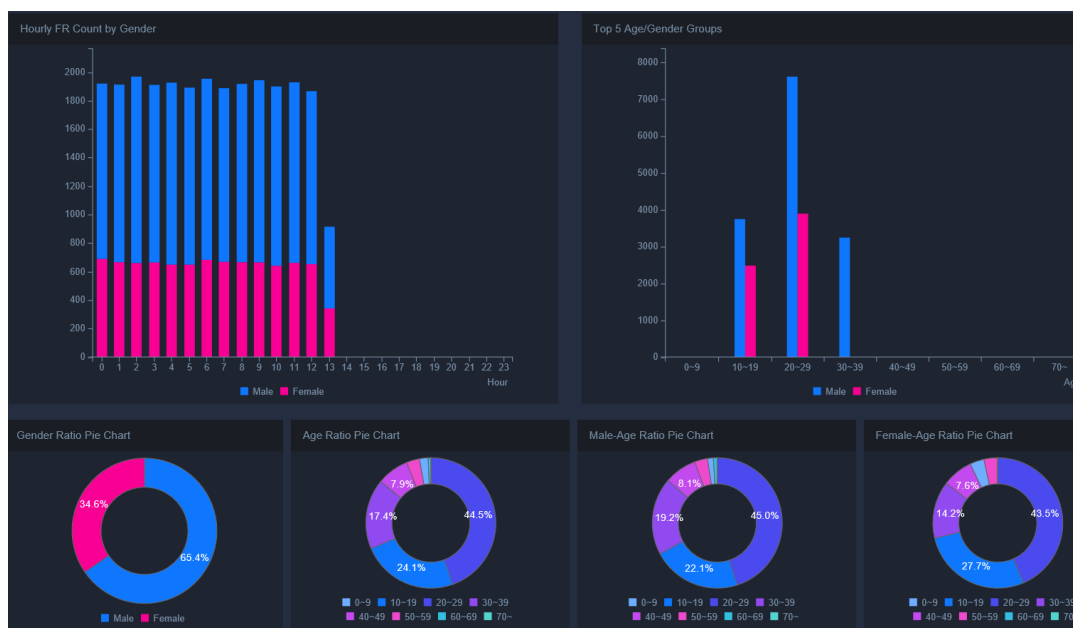
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- Support for GV-IP AI-capable cameras and 3D People Counter V2 for collecting people flow data In / Out / Stay
- Automatic compilation of statistical graphs for each type of VA event
- Exportable daily / weekly / monthly / yearly average hourly or daily visitor count
- Query by VA events
- Integration of GV-VMS for video recording and playing back face recognition events
- Master and Slave feature for interconnecting multiple GV-AI Servers with a centralized Face Database

Live Monitoring & Welcome

When a person enters the premises, the corresponding face attributes result, along with a predefined image, can be displayed on the connected Welcome screens, playing an advertisement, for greeting and/or commercial purposes.

Dashboard & Average Hourly / Daily Face Count

The **Dashboard** and **Hourly / Daily Face Count** features of GV-AI Server respectively display the distribution of age and gender of visitor face events within a day and an average hourly / daily visitor face count for a selected day, week, month, or year.

Visitor Face Attributes & Face Recognition

The **Face Attributes** / **Face Recognition** features can capture and store the faces of the visitors detected, along with their attributes, and can be enrolled into or compared with the face database of GV-AI Server.

Suspect & Loitering Detection

The **Suspect & Loitering Detection** feature can monitor for, capture, and play back suspicious persons and/or loitering activities at the vicinity.

Human Counter

The **Human Counter** feature can count the number of persons detected entering and exiting at the vicinity.

Product Attention & Short Inventory Alert

The **Product Attention** and **Short Inventory Alert** features allow for merchandising adjustment and sales optimization by monitoring and counting the numbers of persons dwelling at different product regions with a heatmap display, and also notifying store managers of inventory shortages.

Queue Management

The **Queue Management** feature can monitor the cashier checkout time and the number of persons waiting in line, and notify store personnel whenever either of the two exceeds the limits set.

LICENSE

GV-AI Server is a paid software that requires a GV-Dongle license, which is available in increments of 1 channel, from 1 – 8 channels.

Free License	N/A
Maximum License	8 Channels
Increment of License	1 Channel
License Type	1. **Face Recognition (FR) only** 2. **Video Analytics (VA) only:** includes Face Attributes, Product Attention, Short Inventory Alert, Queue Management, Suspect & Loitering Detection, Human Counter 3. **FR + VA features**
Dongle Type	Internal / External

Note: GV-USB Dongle comes in internal and external dongles. Internal dongle is recommended for its Hardware Watchdog function, which automatically restarts the PC when Windows crashes or freezes.

MINIMUM SYSTEM REQUIREMENTS

Below are the minimum PC requirements for connecting and performing face recognition and video analytics with up to 8 channels of IP cameras.

		1 – 4 Channels	1 - 8 Channels
OS	64-bit	Windows 10 / Windows 11	
CPU		8th-Generation Intel Core i7 / i9 or above	11th-Generation Intel Core i7 / i9
Memory		16 GB (8 GB x 2) DDR4 RAM	
Remote Access		Microsoft Internet Explorer 11 or later	

Note:
1. It is required to connect a monitor to the onboard GPU to ensure the operation of video analytics. Follow the specifications below for different channel numbers of IP cameras:
   a. For **1 to 4** channels of IP cameras, **8th-gen** Intel Core i7 / i9 or above is required.
   b. For **5 to 8** channels of IP cameras, **11th-gen** Intel Core i7 / i9 is required.
2. Only Intel Core processors are compatible with GV-AI Server; other brands of CPU do not work with GV-AI Server.
3. For remote access through a browser, Internet Explorer must be used, as some functions will be nonfunctional through non-IE browsers.
4. GV-AI Server does not support virtual machine installation.
5. GV-AI Server may not work properly if the minimum PC requirements are not fulfilled.

SPECIFICATIONS

Video Input		Up to 8 channels
Video Codec		H.264, H.265
Video Resolution		Up to 12 Megapixels per channel
IP Camera Supported		GV-Face Detection Cameras (GV-BX2600-FD / 2700 / 2700-FD / 4700 / 4700-FD / 8700-FD, GV-MD8710-FD), GV-Fisheye Cameras, IP cameras via ONVIF or RTSP, USB webcams
Networking		LAN, WAN, Internet
Video Analysis	Functions	Face Attributes, Face Recognition, Product Attention, Short Inventory Alert, Queue Management, Suspect & Loitering Detection, Human Counter
	Face Recognition Speed	Within 1 second per face when the recognition targets are moving toward the cameras
	No. of Face Profiles	100,000
	No. of Face Groups	Unlimited
	No. of GV-AI Server Interconnectable	11 (1 Master + 10 Slaves, sharing 1 Face Database managed by the Master)
VA Event Trigger		I/O Box Output, LINE Notification, Telegram Notification, Trigger Camera Output, Push Notifications from Mobile App, E-mail Notification

Software Integration	GV-VMS V18.1 or later (video surveillance)
Mobile App	GV-Assistant app GV-Welcome for Android TV boxes / mobile devices (for Welcome screen display)
Language	English, Traditional Chinese

Note: All specifications are subject to change without notice.

OPTIONS

Optional Devices	Description
GV-3D People Counter V2	GV-3D People Counter V2 allows for counting the numbers of persons entering, exiting and staying at the premises with high precision.
GV-IO Box (Ethernet) Series	GV-IO Box series (4E / 8E / 16E) provide 4 / 8 / 16 inputs and relay outputs and support Ethernet module, with 4E additionally supporting PoE connection.

GV-AI Server   *July 22, 2022*