



RedSpeed™ USA

ADVANCED VIDEO ANALYTICS (AVA) Artificial Intelligence Platform

RedSpeed is proud to present *AVA (Advanced Video Analytics)*, the most advanced artificial intelligence platform available to integrate with automated traffic enforcement systems or operate as freestanding units.

Only a product demonstration can properly convey the impressive scope and scale of results to aid law enforcement through this platform with instantaneous recognition of suspected culprits passing through this network of visibility, saving hours of human legwork and research. *Product demonstrations conveniently available by appointment.*

Vehicle Make & Model Recognition

Red Speed's Vehicle Make and Model Recognition can recognize over 200 makes and 2000 models. This enables one to search for or be alerted of a vast number of specific vehicle makes and models through multiple cameras and uploaded files. Alert rules can be strategically configured to send real-time notifications when the specific make and model is detected in the camera's field of view.

Common applications include forensic investigation, access control, loss/theft prevention, vehicle tracking, and much more. This function works even better in conjunction with other analytics such as License Plate or Face Recognition for highly specified results.

License Plate Recognition

RedSpeed's AI License Plate Recognition (LPR) is a real-time, high-performance software solution used to identify and analyze license plates from over 100 countries worldwide. LPR is an application module available in the RedSpeed platform, which is easy to deploy, maintain, and scale from small business to enterprise-level systems.

The LPR floating license enables one to use the networks of IP-based surveillance cameras for multiple AI functions to monitor suspicious or anomalous behavior, improve access control, and match against watch lists, especially at choke points where vehicles enter or exit a facility.

Face Search & Recognition

RedSpeed's AI Face Search enables the rapid search of a person in a video footage based on an input image of the person's face. By having the search engine based on artificial intelligence and deep learning, each search query can yield results within only seconds, which helps locating a person almost immediately in real time.

RedSpeed's AI Face Recognition continuously detects and recognizes faces from IP video surveillance cameras. The subject is detected regardless of motion or proximity to the camera. This Face Recognition solution relieves human operators from continuous monitoring with confidence. The RedSpeed platform provides a comprehensive user interface to easily and swiftly access the collection of events registered by

Video Search

RedSpeed's Video Search eliminates the need to manually inspect hours of video for objects or persons of interest and enables the user to locate the needle in the haystack of terabytes of video data. The user experience is intuitive and based on an easy-to-use natural language interface. The core abilities include:

- Object Search
- Vehicle Search
- People Search
- Animal Search

RedSpeed's deep learning video analytics are not based on computer programming. Instead, they are trained based on Artificial Intelligence neural networks.

People/Vehicle Counting

RedSpeed's People & Vehicle Tracking (PVC) solution also called AI Counting, quickly and accurately tracks and determines the number of people/cars in the camera's field of view.

RedSpeed's AI Counting can be used in many types of public access areas, such as transportation hubs, airports, theme parks, national landmarks, entertainment venues, retail shops, tourist attractions, banking, and corporate facilities. Able to process real-time, the AI Counting solution is valuable in service management analysis and forecasting for both security and business intelligence purposes.

Social Health Analytics™

RedSpeed's Social Health Analytics™ is a comprehensive suite of social health screening capabilities for organizations seeking to re-open and operate safely during the coronavirus pandemic.

RedSpeed can process images from just about any IP-compliant video camera to detect report and alert:

- Face Masks - No-mask Alert
- Distancing - Distance Alert
- Occupancy - Capacity Alert
- Temperature - High-temp Alert

Intrusion Detection

RedSpeed's Intrusion Detection automates the monitoring tasks for high-risk sites to provide a high level of security and security personnel monitoring efficiency. The simple plug-and-play setup enables our AI Intrusion Detection to be deployed in real-world applications.

Traditional intrusion detection systems detect objects based on size and location, but do not recognize the type of objects. RedSpeed's Intrusion Detection (Virtual Fence), with the built-in AI algorithms to recognize over 100 types of objects, can distinguish objects of interest, e.g., a person, from irrelevant objects in the Region of Interest (ROI), (e.g., animal, plastic bags, moving shadows at dawn/dusk). Thus, there is a significant decrease in the false-positive rate.

These analytics may be used alone or in combination.

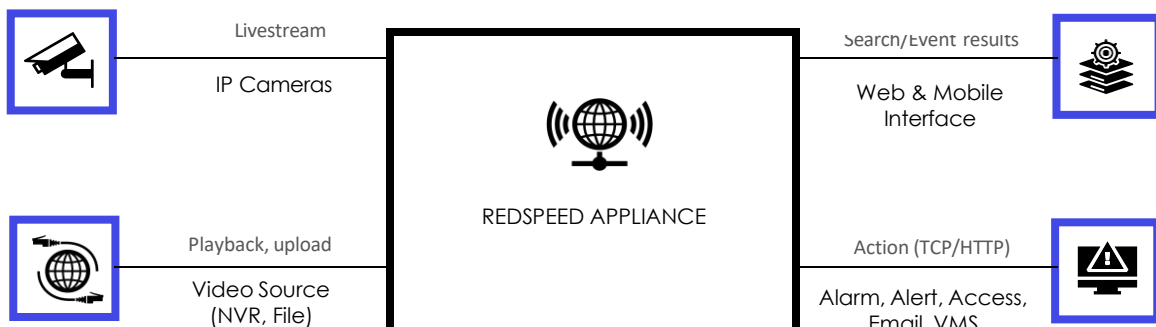


AI License Plate Recognition (LPR)



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The AI LPR floating license enables one to use the networks of IP-based surveillance cameras for multiple AI functions to monitor suspicious or anomalous behavior, improve access control, and match against watch lists, especially at choke points where vehicles enter or exit a facility.



FEATURES

- ❑ Identify license plates as they become identifiable in the camera field of view
- ❑ Select one of three available modes to optimize AI computing resources and accuracy
 - ❑ Parking Lot mode: car speed < 5 mph; require 2 AI resources per LPR channel.
 - ❑ City Road mode: car speed within 5-40 mph; require 4 AI resources per LPR channel.
 - ❑ Highway mode: car speed > 40 mph; require 6 AI resources per LPR channel.
- ❑ Processes videos from multiple camera live streams
- ❑ Match detected license plates with those on saved lists
- ❑ Utilize partial and full license plate search
- ❑ Search in recorded video and/or preconfigured lists
- ❑ Show the detected event on the map based on camera's location
- ❑ Track car from automatic mapping based on camera location and time of detection
- ❑ Set alert schedule to avoid unwanted notifications at specified times
- ❑ Support live view of vehicle entries / exits
- ❑ Display cropped snapshots of detected license plates and the corresponding 10-second clip of the event

BENEFITS

- ❑ Support license plate / automatic number-plate recognition (LPR/ANPR) at highway speeds
- ❑ Integrate with existing VMSs and NVRs such as Milestone, Panasonic, etc.
- ❑ Work with nearly all standard ONVIF IP-based cameras
- ❑ Receive floating license to enable flexibility in assigning LPR functionalities to choke points of high sensitivity
- ❑ Read license plate images at a slight angle (~20 degrees, not completely facing cameras)
- ❑ Adapt to different lighting and weather conditions
- ❑ Support the license plate formats and languages of 100+ countries
- ❑ Provide real-time alerts
- ❑ Save identified plates to lists for future use
- ❑ Record detected license plates with time stamps and camera names in history for easy review
- ❑ Improve safety, security, & situational awareness
- ❑ Reduce staff video monitoring time
- ❑ Finish forensic searches within seconds
- ❑ Eliminate false alarms by accurately identifying and filtering based on object type, color and quantity



100 Series Server

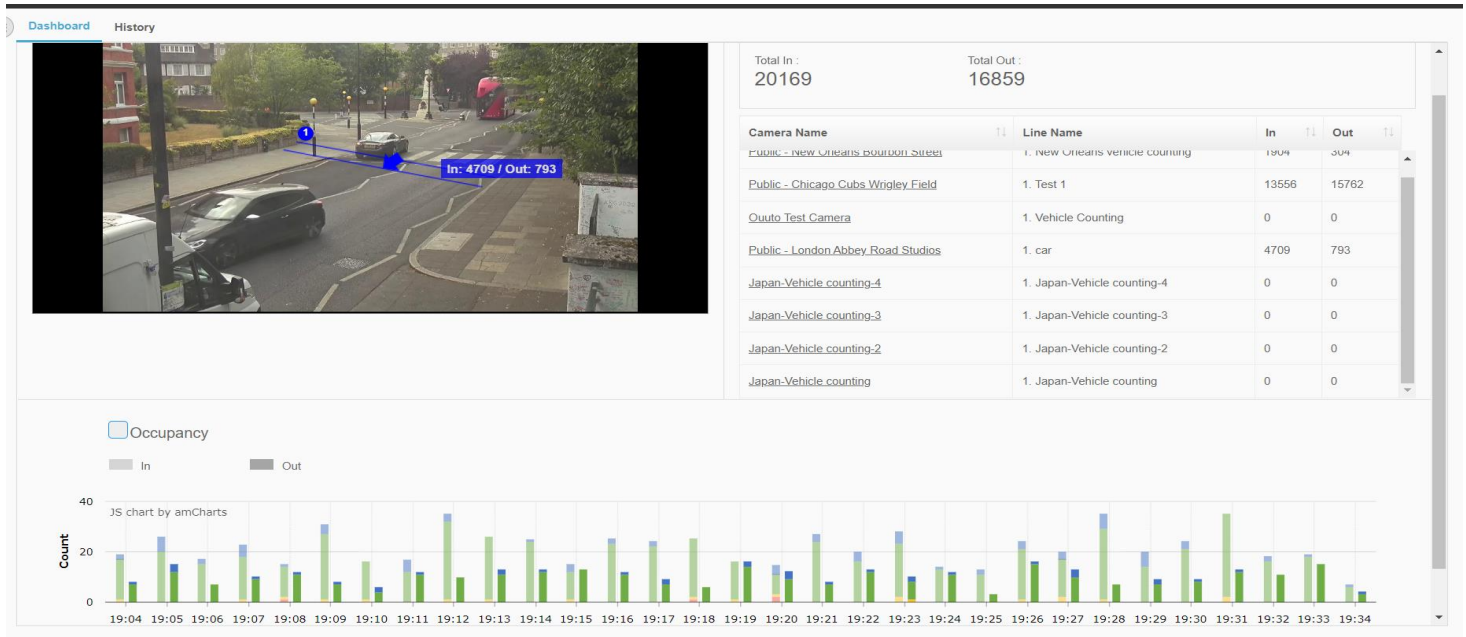
RedSpeed®

www.redspeedusa.com

Redspeed artificial intelligence for security and safety applications. The Redspeed platform delivers dependable accuracy and high performance across the industry's broadest array of analytics functions. We are deployed across tens of thousands of cameras worldwide.

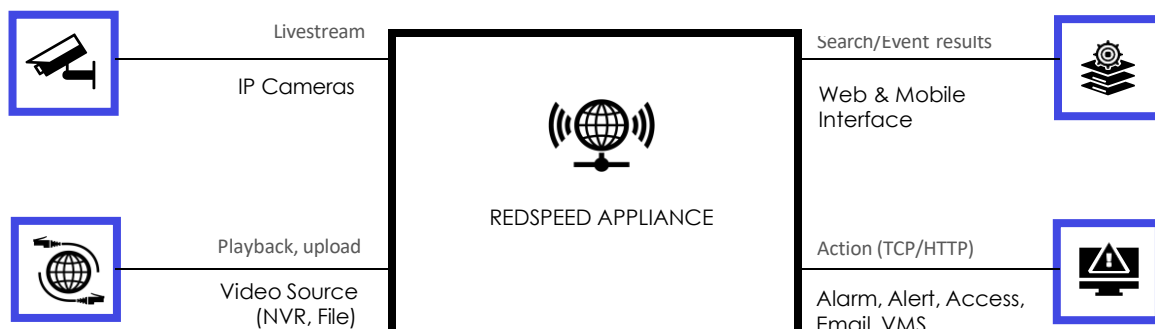


AI VEHICLE COUNTING



Redspeed's AI People & Vehicle Tracking (PVC) solution, also named AI Counting, quickly and accurately tracks, and determines the number of people/cars in the camera's field of view.

AI Counting can be used in many types of public access areas, such as transportation hubs, airports, theme parks, national landmarks, entertainment venues, retail shops, tourist attractions, banking, and corporate facilities. Able to process real-time, the AI Counting solution is valuable in-service management analysis and forecasting for both security and business intelligence purposes.



FEATURES

- ❑ Track vehicle counting
- ❑ Detect and trigger real-time alert for person/vehicle moving in the wrong direction and/or person falling
- ❑ Detect and trigger real-time alert for people loitering and/or vehicle illegally parked in certain areas of interest
- ❑ View real-time alert on the map: Show the detected event on the map based on camera's location
- ❑ View live streaming as Video Wall on AI NVR user interface
- ❑ Set alert for all vehicle that move in the wrong direction
- ❑ Create alert for person moving in the wrong direction and/or person falling
- ❑ Count vehicle (by types) and people in real time in inbound & outbound directions; provide real-time alerts for abnormal behavior (including loitering); provide statistics for easy review and export
- ❑ Customize event and alert management
- ❑ Record event data per each person or group count and customize alerts with various rules and conditions.

BENEFITS

- ❑ Upgrade on the server side for ease of maintenance and software upgrade
- ❑ Connect and integrate with nearly any third-party system
- ❑ Use with nearly any existing ONVIF IP-based camera, no need for expensive, preconfigured cameras
- ❑ Track people and vehicles at high speeds
- ❑ Set up with no programming or field knowledge required
- ❑ Utilize flexible camera set up with no need to be at doorway
- ❑ Draw ROI in any shape or size in the UI to detect and trigger real-time alert for loitering and illegal parking
- ❑ Draw counting line to go in any direction: vertical, horizontal, or diagonal, based on the camera's field of view; unlimited number of lines can be defined
- ❑ Receive alerts via email, mobile app, or HTML
- ❑ View counting statistics by time, camera, line setting, and object type
- ❑ Download analytics data for integration with various types of systems.
- ❑ Integrate with analog and 3D cameras to enhance performance, increasing the depth perception for improved accuracy



100 Series Server

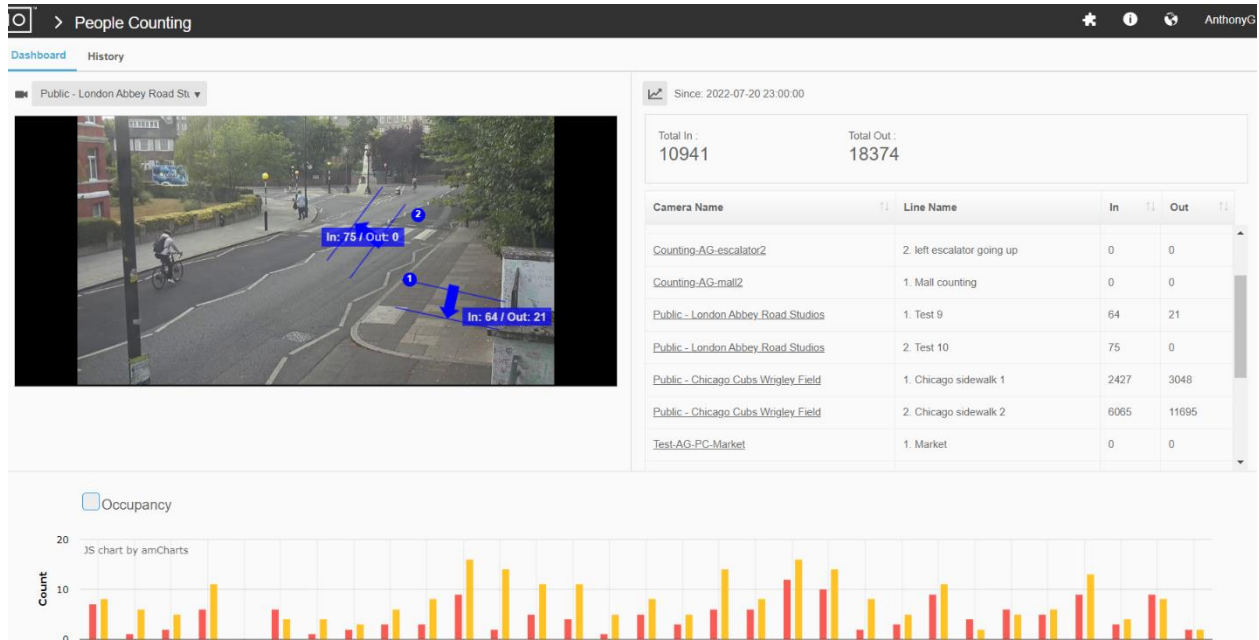
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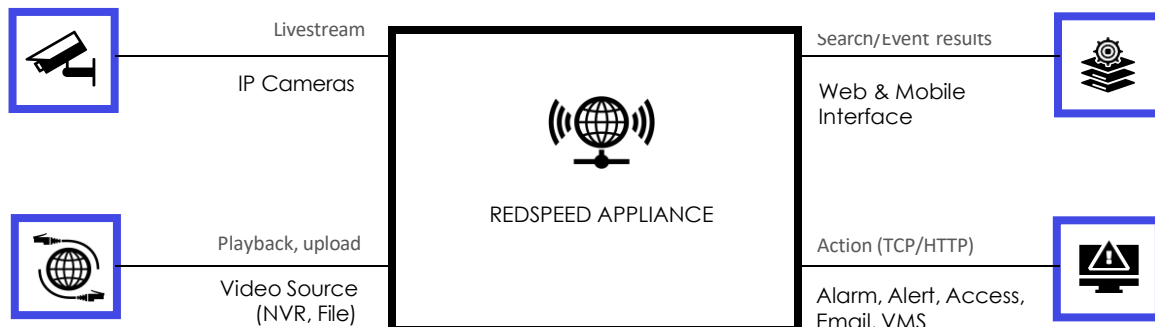


AI PEOPLE COUNTING



Redspeed's AI People & Vehicle Tracking (PVC) solution, also named AI Counting, quickly and accurately tracks, and determines the number of people/cars in the camera's field of view.

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