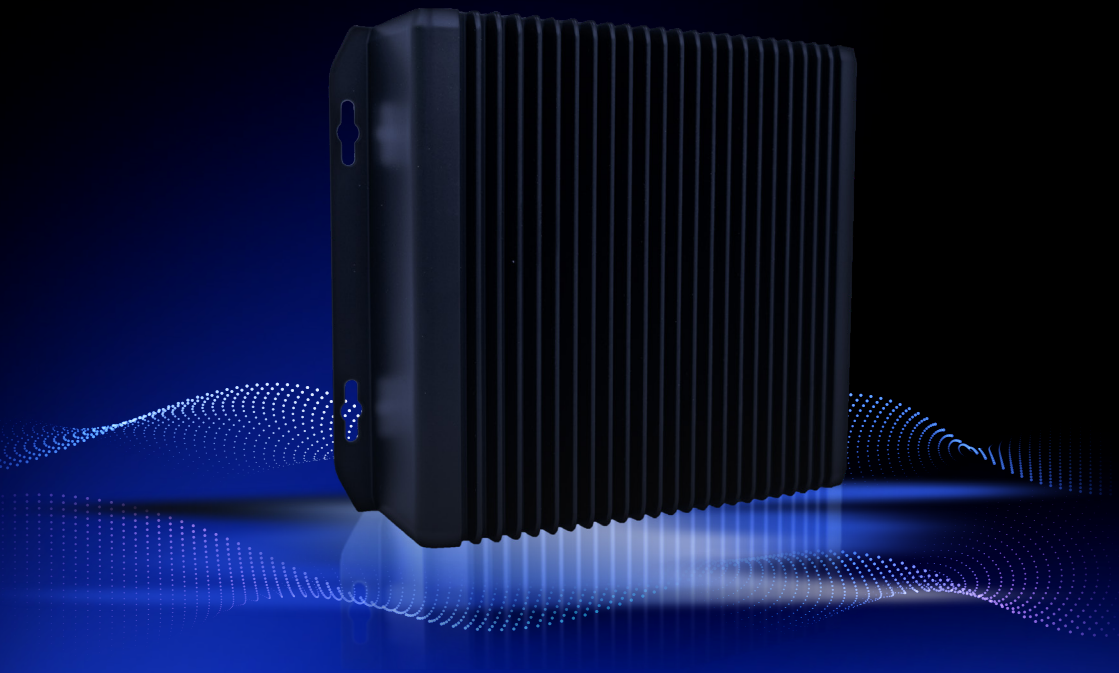
Concept Pro

Exclusively at Videcon

ARTIFICIAL INTELLIGENCE

AI BRIDGE



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Concept Pro

Launched in 1998 and renowned across the industry for its quality, the Concept Pro brand encompasses all areas of CCTV. Continually evolving and manufactured to our specific design, each Concept Pro product is influenced by feedback and input from our customer base.

Concept Pro is a professional CCTV & Video Solutions manufacturer built upon integrity, reliability & trust. We have been supplying products in to the UK, USA & European security markets for over 20 years, our key focus is to understand what installers and end users really need from Camera's, Recorders, Monitors and Artificial Intelligence and bring them to the market.

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AI BRIDGE

The Concept Pro AI Bridge provides dedicated processing to allow for powerful algorithms. These can be deployed to enhance security as well as generate a return on operational efficiencies, health & safety and provide a suite of business intelligence to drive better decision making.

Available in Professional & Enterprise models.

Designed to be installed on existing sites or implement as a stand alone solution, it can accept up to 16 channels of video from IP cameras or video recorders.

The professional model includes a suite of AI packages that are ideal for security and commercial applications and the Enterprise model has an extended set of algorithms as standard to provide deeper analytical analysis.

The device has a powerful connection interface as well as deep integration with leading third-party systems, making the AI Bridge the perfect option to deploy advanced artificial intelligence.

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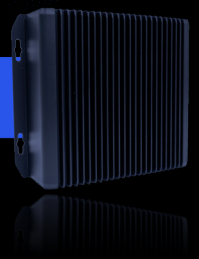
AI BRIDGE
PROFESSIONAL



Concept Pro AI Bridge Professional

CP-AIBRIDGE-PRO

AI Bridge Professional - Up to 16 channels of AI Video analytics. Ideal for Security and Commercial Applications.

PROFESSIONAL

- Ideal for Security & Commercial applications
- 15 Algorithms focused on human & vehicle detection
- Up to 8 channels with a 16CH mode

Intrusion Detection
Virtual Fence
Loitering Person
Stopping Detection
People Counting
Vehicle Counting
Zone Counting
Stay & Go (Enter & Exit)

Occupancy Counting
Combined Counter
Combined Counter Trigger
Dynamic Privacy Mask
Basic Attributes (Clothing Colour)
Queue Management
Basic Heatmap

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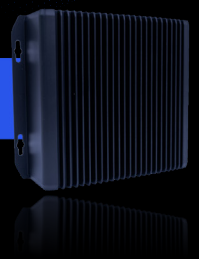
AI BRIDGE
ENTERPRISE



Concept Pro AI Bridge Enterprise

CP-AIBRIDGE-ENT

AI Bridge Enterprise - Up to 8 channels of AI Video Analytics. Includes advanced algorithms ideal for solving complex commercial challenges

ENTERPRISE

- Ideal for solving complex commercial challenges
- Includes all professional level algorithms plus additional advanced package of algorithms below for more detailed analytics
- Up to 8 channels

Crowd Detection
Advanced Visitor Analysis
Hand & Foot Intrusion
Intentional Body Gaze Detector
Imminent Threat
Fallen Person Detection
Animal Detection

Vehicle Type Counting
Thermal Intrusion Detection
Drone View
Fisheye Camera Support
Corridor Mode Support
Advanced Attributes
Fire & Smoke Detection

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AI BRIDGE

PROFESSIONAL

The Concept Pro AI Bridge has an comprehensive list of human & vehicle detection algorithms, perfect for false alarm filtering and built to solve a multitude of site challenges. The following AI packages are included by default:

- Intrusion Detection
- Virtual Fence
- Loitering Person
- Stopping Detection
- People Counting
- Vehicle Counting
- Zone Counting
- Stay & Go (Enter & Exit)
- Occupancy Counting
- Combined Counter Trigger

When used in Pro 8 Channel mode, the following packages are added:

- Dynamic Privacy Mask
- Basic Attributes (Clothing Colour)
- Queue Management
- Basic Heatmap

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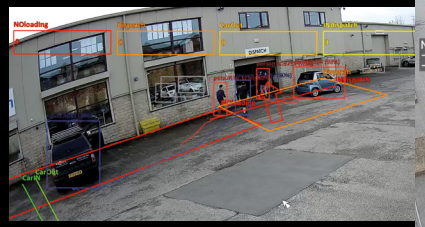
AI BRIDGE PROFESSIONAL

ALGORITHMS BUILT-IN AS STANDARD

INTRUSION DETECTION



Area intrusion detects when a human or vehicle is within a custom-drawn zone and sends an event notification to the system.

Considerations:

Objects remaining inside the area will continue to trigger the intrusion detection alarm until they leave, this algorithm is most effective at closer distances to the camera. Consider using Line Crossing Algorithms for perimeter defence applications at long distance.

Applications & Benefits:

Retail Environments:

Store Perimeters: Detecting after-hours intrusions in stores and shopping centres.

Stockrooms and Restricted Areas: Monitoring access to areas where high-value goods are stored.

Healthcare Facilities:

Hospitals: Monitoring restricted areas such as operating rooms, pharmacies, and patient records rooms.

Clinics: Ensuring security in sensitive areas to protect patient privacy and prevent theft of medical supplies.

High-Security Buildings:

Government Buildings: Detecting unauthorized entry into sensitive areas within government facilities.

Financial Institutions: Monitoring restricted zones within banks or data centres to prevent unauthorized access.

Schools and Universities: Ensuring that only authorized individuals access school buildings and grounds.

Other applications of Intrusion Detection algorithms include - Public Event Spaces & Venues, Parking Facilities, Residential Areas, Infrastructure Sites & Transportation Hubs.

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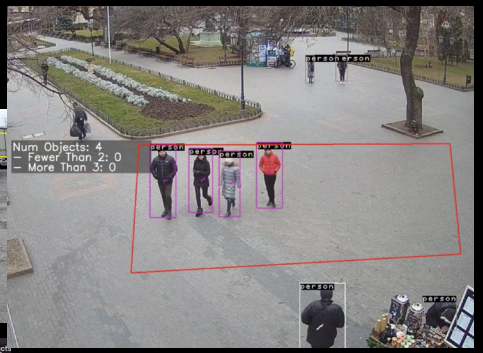
ZONE COUNTING



Live counting of people and vehicles in a customer drawn zone. Can be used as multi-zone to combine zones across different camera channels to give an overall figure of number of objects are within the area

Considerations:

Placement in high-density areas can lead to occlusion where an object blocks another from being detected. Camera angle and placement are important factors in ensuring effective deployment of this algorithm.

Applications & Benefits:

Retail Environments:

Footfall Analysis: Counting customers entering and exiting the store to determine peak hours and improve staffing.

Heat Mapping: Understanding which areas of the store have the most foot traffic to optimize product placement and store layout.

Event Venues:

Entry and Exit Points: Counting attendees entering and exiting the venue to ensure capacity limits are adhered to and to manage crowd control.

Concession Stands: Monitoring foot traffic to optimize staffing and reduce wait times.

Smart Cities:

Public Spaces: Monitoring the number of people in parks, plazas, or other public areas to manage events and ensure public safety.

Traffic Management: Counting vehicles in specific zones to optimize traffic flow and reduce congestion.

Other applications of Zone Counting algorithms include - Public Event Spaces & Venues, Parking Facilities, Residential Areas, Infrastructure Sites & Transportation Hubs.

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STAY & GO (ENTER & EXIT)

Detect objects that stay in and out of the surveillance area for more or less than a certain amount of time

Applications & Benefits:

Parking Facilities:

Vehicle Monitoring: Detecting parked vehicles that have stayed beyond allowed time limits or identifying illegally parked cars in restricted areas.

Security Surveillance: Monitoring for suspicious activity around parked vehicles, such as someone loitering or tampering with cars.

Retail Environments:

Customer Behaviour Analysis: Understanding customer movements and identifying areas with high foot traffic or places where customers tend to stay longer can help optimize store layouts and product placements.

Theft Prevention: Detecting unusual patterns, such as a person lingering near high-value items for too long, can alert security personnel to potential shoplifting.

Industrial and Construction Sites

Safety Compliance: Ensuring workers are not staying in hazardous areas for too long and monitoring compliance with safety protocols.

Equipment Monitoring: Detecting if equipment is left unattended or in operation without supervision, which could indicate a potential safety risk or inefficiency.

Other applications of Stay & Go algorithms include - Transport Hubs, Educational Institutes, Public Spaces, Events Spaces, Healthcare and Office Buildings.

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VIRTUAL FENCE

Virtual Fence detects a human or vehicle moving across a drawn line or perimeter. This can be bidirectional or trigger on specific directional events. Forward of reverse.

Applications & Benefits:

Public Transportation and Infrastructure:

Railway Tracks: To detect if someone crosses railway tracks, which is critical for preventing accidents and unauthorized access.

Airport Runways: For monitoring unauthorized access to airport runways and other sensitive areas.

Retail and Commercial Spaces:

To monitor and control entry and exit points in retail stores, helping to prevent theft and unauthorized access.

Aisle Monitoring: To keep track of customer movement which can aid in loss prevention.

Industrial Sites:

Factory Floors: To ensure that only authorized personnel enter certain sections of a factory or industrial site.

Construction Sites: For monitoring boundaries and preventing unauthorized access to potentially dangerous construction areas.

Other applications of the Virtual Fence algorithms include - Public Event Spaces & Venues, Parking Facilities, Residential Areas, Infrastructure Sites & Transportation Hubs.

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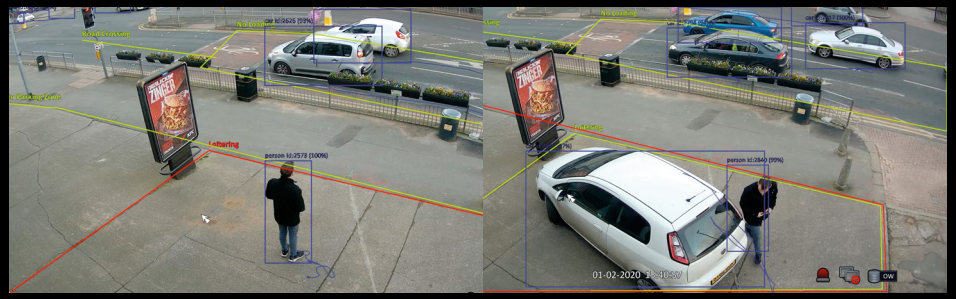
LOITERING PERSON

This alarm triggers when a target object remains in a custom drawn area for a configured time period.



Applications & Benefits:

Retail Environments:

Anti-theft Measures: Detecting individuals who spend an unusual amount of time in a particular area can help prevent shoplifting.

Staff Monitoring: Ensuring employees are attentive and not loitering during working hours.

Airports:

Security: Identifying potential security threats by monitoring areas such as terminals, baggage claims, and entrances for unusual loitering behaviour.

Operational Efficiency: Managing crowd flow and detecting suspicious behaviour.

Stadiums and Event Venues:

Crowd Control: Managing large crowds and detecting individuals who may pose a threat by lingering in restricted or sensitive areas.

Operational Efficiency: Ensuring smooth entry and exit flows by identifying and addressing any potential disruptions.

Other applications of Loitering Person algorithms include - Parking Facilities, Residential Areas, Government Buildings, Hospitals & Educational Institutes

Concept Pro

STOPPING DETECTION

This alarm triggers when a target object enters and stops within a custom drawn area for a configured time period.

Applications & Benefits:

Retail Environments:

Loss Prevention: Detects if someone stops for an unusually long time in aisles, particularly near high-value items, which could indicate potential shoplifting.

Customer Service: Identifies when customers are waiting for assistance in specific areas, such as at customer service desks or checkout lines, enabling staff to respond promptly.

Construction Sites:

Safety Compliance: Ensures workers do not stop and remain in hazardous areas, promoting adherence to safety protocols.

Theft Prevention: Detects unauthorized personnel or vehicles that stop near equipment and materials, helping to prevent theft.

Public Spaces and Critical Infrastructure:

Safety and Security: Detects unusual stoppages in sensitive areas such as near power plants, water treatment facilities, or government buildings, which could indicate potential threats.

Emergency Response: Identifies people who have stopped in hazardous locations, such as railway tracks or industrial sites, enabling rapid response to prevent accidents.

Other applications of Stopping Detection algorithms include - Parking Facilities, Airports & Transportation Hubs, Banks & Educational Institutes.

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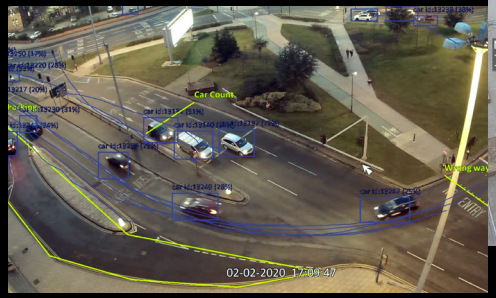
PEOPLE & VEHICLE COUNTING

People & Vehicle Counting detects when the amount of humans or vehicles in a defined area is above or below a pre-determined number. Alternatively, this can be set to alarm every multiple of a configured count (e.g every 5th object detected).

Considerations:

Camera angle and installation height are important considerations to getting the most of out of this counting algorithm. Consider camera placements that reduce object overlap



Applications & Benefits:

Retail Environments:

Foot Traffic Analysis: Counting the number of customers entering and exiting the store helps in understanding peak hours and optimizing staff allocation.

Queue Management: Monitoring the length and movement of checkout lines to improve customer service and reduce wait times.

Smart Cities:

Traffic Flow Analysis: Counting vehicles at intersections to optimize traffic signal timings and reduce congestion.

Public Space Utilization: Monitoring the number of people in parks, public squares, and other communal areas to enhance urban planning and improve facilities.

Security Infrastructure:

Intrusion Detection: Counting unauthorized entries in restricted areas to enhance security measures.

Perimeter Monitoring: Tracking the number of objects or people crossing predefined boundaries to detect potential security breaches.

Other applications of the People & Vehicle Counting algorithms include - Public Event Spaces, Factories & Warehousing, Industrial & Construction Sites, Schools, Hospitals & Transport Hubs

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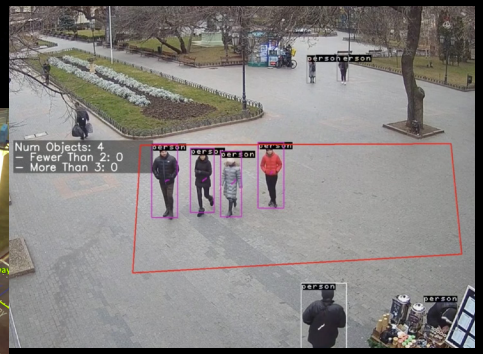
OCCUPANCY COUNTING



Combines several line crossing rules from different camera channels to give an occupancy figure

Considerations:

Camera angle and installation height are important considerations to getting the most of out of this counting algorithm. Consider camera placements that reduce object overlap

Applications & Benefits:

Retail Environments:

Customer Flow Analysis: Tracking how many customers are in a store at any given time can help optimize staffing levels, improve customer service, and enhance the shopping experience.

Queue Management: Monitoring queues at checkout counters or service desks helps in managing wait times and improving overall efficiency.

Event Venues:

Crowd Management: At concerts, sports events, or conferences, occupancy detection helps in managing crowd density, ensuring safety, and providing real-time updates to event organizers.

Emergency Response: Quick detection of overcrowding or unusual movements can aid in emergency response and evacuation planning.

Manufacturing Facilities:

Worker Safety: Monitoring occupancy in different areas of the plant can help in ensuring that safety protocols are followed and that workers are not in hazardous areas.

Operational Efficiency: Analysing worker presence and movement patterns can aid in improving work flow and operational efficiency.

Other applications of Occupancy Counting algorithms include - Office Buildings, Public Transport Hubs, Educational Institutes, Healthcare, Residential Buildings & Museums Spaces.

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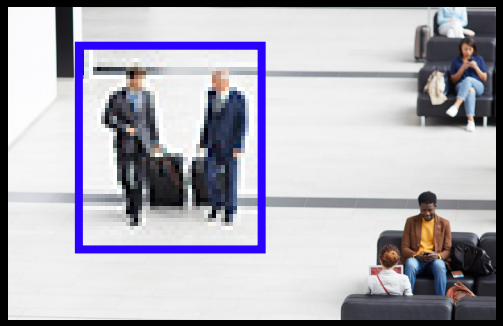
DYNAMIC PRIVACY MASKING



Blur people and or vehicles in or outside of a defined zone

Applications & Benefits:

Retail Environments:

Retail CCTV systems might capture customers during transactions or in fitting rooms.

Performance: Privacy masking can be used to block out transaction screens or fitting room areas, protecting customer privacy without compromising store security.

Residential Security:

CCTV cameras installed in residential areas often capture footage of private properties, like gardens, windows, or backyards.

Performance: Privacy masking algorithms can blur or block out these areas, ensuring that the surveillance focuses only on public spaces, like sidewalks or streets, without infringing on the privacy of homeowners.

Financial Institutes:

In banks, CCTV cameras often cover areas where customers perform transactions, potentially capturing personal data like PINs or account details.

Performance: Privacy masking can block out screens or transaction areas, ensuring that sensitive information is not recorded, while still keeping the overall area under surveillance.

Other applications of the privacy masking algorithms include - Public Event Spaces, Factories & Warehousing, Industrial & Construction Sites, Schools, Hospitals & Transport Hubs

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QUEUE MANAGEMENT

Define waiting and a cashier zones to allow an estimated wait time based on the number of people in the zones

Applications & Benefits:

Retail Environments:

Monitoring checkout lines.

Benefit: The algorithm can analyse the length of queues at different checkout counters and trigger alerts when queues become too long, prompting the store to open additional counters. This ensures better customer service and prevents bottlenecks.

Airports:

Managing security checkpoints or boarding gates.

Benefit: At security checkpoints, the algorithm can monitor the flow of passengers, providing real-time data on wait times and queue lengths. This information can be used to adjust staffing levels or direct passengers to less crowded areas, improving overall efficiency and passenger experience.

Healthcare Facilities:

Managing queues at registration desks, pharmacies, or waiting rooms.

Benefit: Queue management algorithms can help hospitals optimize patient flow by monitoring waiting areas and alerting staff when queues become too long, ensuring that patients are seen promptly and reducing overall wait times.

Other applications of Queue Management algorithms include - Office Buildings, Public Transport Hubs, Educational Institutes, Events Spaces and Venues, Government Offices, Toll Booths & Car Parks.

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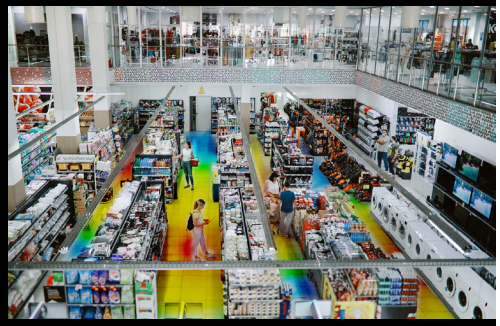
HEAT MAPPING



Heatmap of where people have spent time in a defined zone

Applications & Benefits:

Retail Environments:

Customer Behaviour Analysis: Heat maps can identify the most visited areas in a store, helping store managers optimize product placement, signage, and store layout to increase sales.

Queue Management: In areas where customers tend to queue, heat maps can help identify peak times and locations, enabling better staff allocation and customer flow management.

Smart Cities:

Urban Planning: Heat mapping of pedestrian and vehicle traffic in public spaces can inform city planners about high-traffic areas, helping design better roads, sidewalks, and crossings.

Public Safety: Monitoring areas prone to overcrowding can help in disaster management and emergency planning.

Airports:

Security Checkpoints: Heat mapping can track passenger flow through security checkpoints, identifying bottlenecks and optimizing the placement of staff or equipment.

Terminal Traffic Flow: Understanding where passengers congregate or move most frequently helps in the placement of amenities, signage, and potentially reducing congestion.

Other applications of the privacy masking algorithms include - Public Transportation Hubs, Event Venues, Work Places, Healthcare Facilities & Educational Institutes.

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AI BRIDGE

ENTERPRISE

The Concept Pro AI Bridge Enterprise has ALL the comprehensive list of human & vehicle detection algorithms from the professional model included by default and the below list of behavioural algorithms to provide analytics in more complex applications.

- Crowd Detection
- Advanced Visitor Analysis
- Hand & Foot Intrusion
- Intentional Body Gaze Detector
- Imminent Threat
- Fallen Person Detection
- Animal Detection
- Fire & Smoke Detection
- Vehicle Type Counting
- Thermal Intrusion Detection
- Drone View
- Advanced Attributes

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AI BRIDGE ENTERPRISE

ALGORITHMS BUILT-IN AS STANDARD

IMMINENT THREAT

Description: Sends a system alert when a person exhibits defensive behaviour when another person is in close proximity

KEY APPLICATIONS: Critical Infrastructure Protection, Airport & Transportation Hubs, Public Event Security, Schools & Campuses, Retail and Commercial Spaces, Border Control & Healthcare Faculties

ADVANCED VISITOR ANALYSIS

Description: Report on visitor demographics via the cloud portal to assist with business decisions.

KEY APPLICATIONS: Retail Stores, Airport & Transportation Hubs, Corporate Offices, Public Events Spaces, Smart Cities, Educational Institutes & Healthcare Facilities.

CROWD DETECTION

Description: Triggers an event when an area exceeds it's maximum capacity. The algorithm will trigger events as soon as the threshold is reached and has additional features to ignore people quickly passing through the area.

KEY APPLICATIONS -

Retail - Monitoring these areas helps in assessing foot traffic, ensuring that evacuation routes are clear, and detecting unusual gatherings that may indicate security concerns.

Public Safety - At large-scale events, such as music concerts, festivals, or sports games, crowd detection algorithms can help monitor the density and movement of people, ensuring safety by detecting overcrowded areas, preventing stampedes, and identifying emergency situations.

Transportation Hubs, Public Safety, Educational Institutes.

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HAND & FOOT INTRUSION

Description: Alert is generated when a hand or foot breaches the threshold of a defined area.

KEY APPLICATIONS -

Security - Be alerted when someone attempts entry to a premises rather than simply being in the vicinity

Museums - Detects when visitors attempt to touch or interfere with exhibits that are meant to be viewed only.

Retail - Measure product traction to evaluate placement success rates.

Industrial Machinery - Monitors safety zones around heavy machinery where workers' hands or feet should not be present during operation.

Data Centers, Banks, Border Security, Research Labs

ANIMAL DETECTION

Description: Notifies the system when an animal is detected.

KEY APPLICATIONS: Urban Areas with Frequent Wildlife Encounters, Perimeter Security, Farm & Agriculture Surveillance, Nature Reserves & Zoos, Airport & Runways.

FIRE & SMOKE DETECTION

Description: Detects potential fire and smoke breakouts in cameras field of view.

KEY APPLICATIONS - Industrial Facilities, Public Spaces, Critical Infrastructure, Residential Buildings, Remote or Unmanned Premises.

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VEHICLE TYPE COUNTING

Description: Understand flow and type of traffic across singular or multiple camera channels.

KEY APPLICATIONS - Traffic Management, Car Parks, Border Control, Events Management, Smart Cities, Logistics, Retail Facilitates & Airports.

THERMAL INTRUSION DETECTION

Description: Adds intelligence to thermal camera images by detecting humans in the cameras field of view.

KEY APPLICATIONS - Perimeter Security in low light or night time conditions, Harsh Weather Environments, Wildlife & Forests, Border Security, Urban Security, Remote Surveillance & High-Security Environments.

INTENTIONAL BODY GAZE DETECTION

Description: Event is triggered when a person directs gaze towards a drawn area for a determined amount of time and captures data such as duration & quantity.

KEY APPLICATIONS -

Retail - Shoplifting Prevention: The algorithm could detect suspicious behaviour, such as when a person is frequently looking at store employees or security cameras instead of merchandise. This could indicate that they are planning to shoplift.

Airports - Security Screening: At checkpoints, the algorithm can be used to detect if passengers are unusually focused on security personnel or specific areas, which might indicate potential malicious intent.

Banks - Robbery Prevention: The algorithm can detect suspicious behaviour, such as individuals frequently glancing at security cameras, exit routes, or cashiers, which might indicate planning for a robbery.

Museums & Art Galleries, Prisons, Public Events Spaces, Corporate Offices & Healthcare Facilities

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FALLEN PERSON DETECTION

Description: Fallen Person Detection can detect if an individual has fallen within the cameras FOV or a defined area.

KEY APPLICATIONS -

Elderly Care Facilities - In environments like nursing homes or assisted living facilities, where residents are often elderly and at high risk of falls, a fallen person detection system can quickly alert caregivers. This ensures prompt assistance, potentially reducing the severity of injuries or preventing complications.

Factories & Warehouses - In industrial settings, where workers may be at risk due to the physical nature of their job, a fallen person detection system can be vital. For example, detecting falls from heights or slips in areas with heavy machinery.

Hospitals & Rehab Centers, Public Transport Hubs, Residential Buildings & Retail Stores.

ADVANCED ATTRIBUTES

Description: Distinguish attributes such as Age, Gender, Clothing colour & Accessory. Trigger an even based on any of these attributes and use meta data to search for them.

KEY APPLICATIONS - Smart Cities, Retail, Critical Infrastructure, Healthcare, Banking, Education & Industrial Sectors.

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ADDITIONAL ALGORITHMS

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AI BRIDGE

ADDITIONAL ALGORITHMS

Finally, the following optional licences can be purchased on per channel, per package basis for Professional or Enterprise 8 Channel modes:

- Licence Plate Recognition
- Advanced Heatmap
- No PPE (Safety Helmet/Vest)
- Illegal Dumping
- Illegal Parking
- Aggressive Detection
- PTZ Tracking
- Human Prolonged Stay
- Bullying Detection
- Forklift No-Helmet
- Forklift Non-Driver Detection
- Forklift Detection
- Staff Exclusion People Counting

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