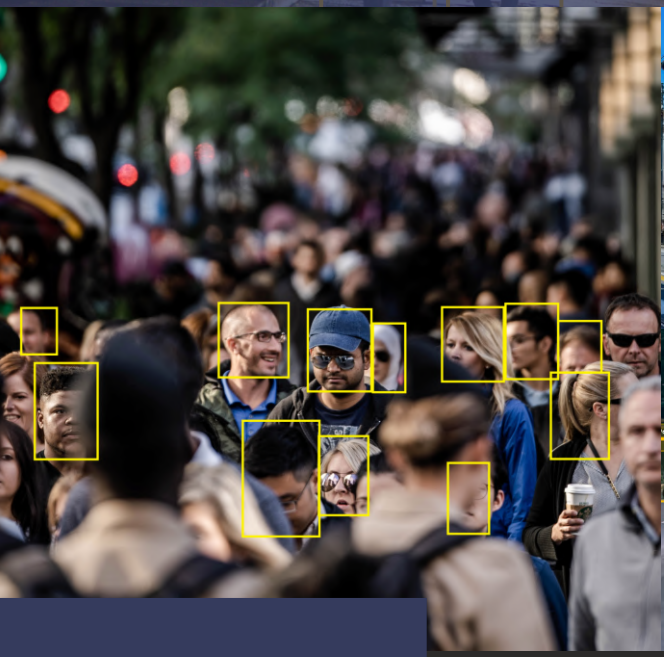
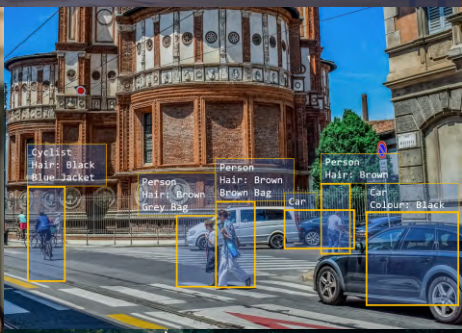
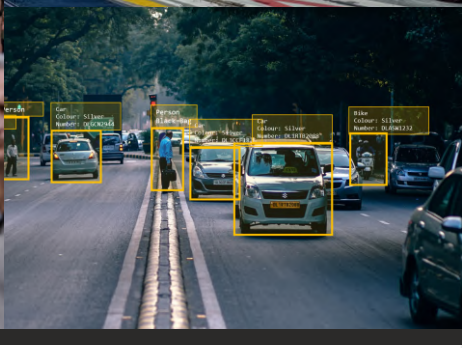
Real-time Video Analytics and Face Recognition







MISTRAL®
... Partners in Real Time

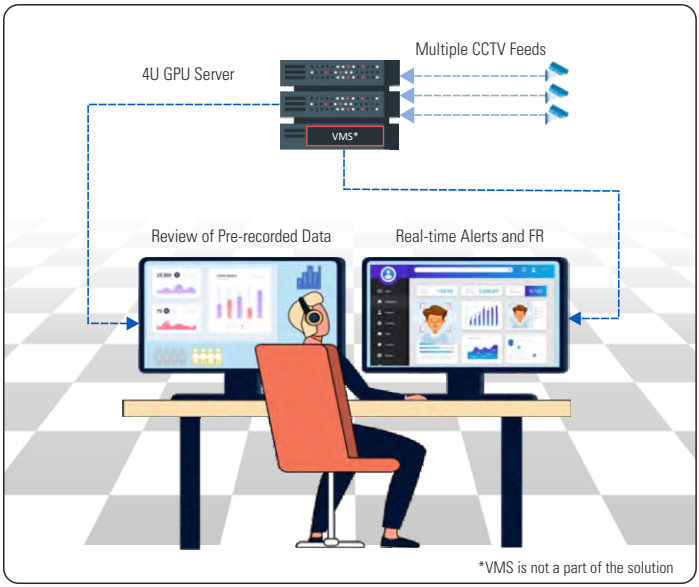
Artificial Intelligence and Machine Learning enabled Security Solution for Armed Forces, Law Enforcement and Enterprise

Introduction

With dynamically changing security situations and advent of new technologies like Artificial Intelligence and Machine learning, organizations must adapt their security infrastructure to the changing environment. Industries owning critical infrastructure (Refineries, Ports, Airports, etc.), Armed Forces, law enforcement agencies are increasingly adapting AI-based Analytics and Facial Recognition.

The Video Analytics and Face Recognition (VA-FR) System from Mistral is an AI driven solution that provides actionable real-time intelligence based on the input video. It is an ideal solution for Security, Defense customers and Enterprise that require quick, assertive decision-making. The solution supports both real-time analysis and/or post-event video investigations.

The VA-FR System from Mistral is an integrated solution that offers a structured method for analysis and management of the video content. It is an ideal platform for organizations looking to embrace facial recognition for people and infrastructure management. Human identification has never been more important to businesses and organizations. Benefits of leveraging digital identity has resulted in enhanced security, productivity, effective communication, and improved customer experience. Visual intelligence provided by our VA-FR solution addresses security and surveillance, people management, product management, personalized services, process automation and predictive analytics for any user.



Real-time VA-FR Solution

BEST IN CLASS VIDEO ANALYTICS AND FACE RECOGNITION

Highlights

Innovative and Extensible Platform
A robust, integrated platform for video analytics and Face Recognition

Unmatched Accuracy
Offers unmatched accuracy for detection and classification across object classes, attributes, faces and behaviour

Facial Recognition "in the WILD"
Face recognition accuracy of up to 98% in un-controlled outdoor environment

Superior Performance
Effectively supports both real-time and post-event analysis

Flexible Architecture
A scalable architecture that allows centralized, distributed, cloud, edge and hybrid deployment

Ease of Use
User-friendly GUI that offers an easy-to-use interface for requirement definition and offers quickest analysis and alerts based on activity monitored

Features

- **Highly Customizable** - Multiple variants to cater to different applications
- **Best-in-Class Facial Recognition**
  - **Modern AI Techniques:** Innovative AI techniques to identify faces at most angles in large scale
  - **N:N Face Recognition:** Recognize multiple faces across multiple camera streams (N:N) simultaneously in real-time
  - **Intelligent Analytical Framework:** Simplifies onboarding process, recognition, verification, and tracking
  - **Trained for Indian Faces:** Rigorously trained on the largest Indian face datasets of 200 million facial profiles
  - **Attendance Management:** Inbuilt automatic attendance with unauthorized entry / tailgating alerts
  - **Report Generation:** Customizable MIS reports for alerts, movements, area-access, attendance, historical comparisons, etc.
  - **Face Watchlists:** Create face watchlists by uploading images, enabling rapid identification of people in the list
- **Unique Video Analytics**
  - **Source:** Limit objects to specific cameras or files
  - **Time Range:** Limit the search criteria to specific time period
  - **Personal Attributes:** Identify based on lower wear, upper wear, bags, caps, mask, etc.
  - **Class:** Categorize differentiate and identify different types of people, vehicles, illumination changes, and animals
  - **Color:** Identify objects according to any combination of colors
  - **Appearance Similarity:** Identify people and vehicles with similar attributes
  - **Line Crossing:** Filter objects that cross a demarcation in a predefined direction
  - **Proximity:** Filter people based on their distance from other people and time spent with another person
  - **Direction:** Select objects according to their direction
  - **Size:** Select objects based on their actual size from a histogram of sizes relevant to a specific case
  - **Path:** Filter objects travelling along one or more user-defined paths
  - **Area:** Filter objects included or excluded within one or more defined areas
  - **Speed:** Select objects based on their actual speed from a histogram of speeds relevant to a specific case
  - **Dwell:** Select objects dwelling for longer than a certain period in a scene
- **Heat maps** - Activity, path, background changes, dwell
- **Scalable** - Easily scalable for additional cameras

Accelerate Investigations

The Video Analytics module takes the inputs from the files or VMS and simultaneously presents objects that have appeared at different times within the video based on the defined criteria. This results in a dramatically shorter video segment that fully preserves the viewer's ability to analyze the scene, enabling the **review of hours of video in minutes** and sometimes seconds. It organizes all assets related to a particular review in a single container, bookmark objects of interest, and summarize case findings (including all relevant exhibits) in an exportable report, while dynamically collaborating on cases with other users.

Alerts. Attendance. Visitor Management

The FR Module offers up to 99% accuracy offering a highly reliable solution for people management. It can recognize multiple faces across multiple streams (N:N) simultaneously in real-time and on an edge platform. A best in the class solution, allowing user a seamless experience across various touch points. The FR Module can be easily integrated with all types of access control protocols. This allows automated entry and exit based on FR, thereby detecting authorized entry/ tailgating across various zones in real-time.

Attain Situational Awareness

Define triggers for real-time, rule-based alerts for face recognition, unauthorized entry, line-crossing, people of interest and object count, in time sensitive situations. Enables users to respond to complex situational changes in the environment through buildable rule configurations, based on any number of search filters.

Derive Operational & Business Intelligence

Offers interactive, intuitive and easy to use dashboards for visualizing & analyzing data. Helps re-identify and track individuals across cameras based on FR to measure unique visit duration and site navigation; quantify repeat and bounced visitor traffic, number of people with or without mask; differentiate between employee and visitor traffic; provides insights about area occupancy (analyzing queues, people traffic flow) to help optimize space utilization.

Applications

- Critical Infra Protection - Govt. Institutions, Factories, Airports, Railway Stations, Oil Refineries, Military Bases etc.
- Attendance Management
- Visitor Management
- Smart and Safe City Control Rooms

VA-FR Variants

Mistral offers various combinations of the VA and/or FR solution, to cater to different customer requirements.

Description	VARV-FRLV-2GP-1US	VARV-FRLV-2GP-5US	VARV-FRLV-ATD-2GP-5US	VA-FR-LV-ATD-4GP-5US	Optional Add-ons	
					FR-ATD-SW-2CAM	FR-VM-SW-2CAM
Video Analytics and Review on Recorded Video Files	✓	✓	✓	✓	x	x
Facial Recognition (FR) on Recorded Video Files	✓	✓	✓	✓	x	x
Real-Time FR Alerts	20 Camera Streams	20 Camera Streams	20 Camera Streams	20 Camera Streams	✓	✓
Real-Time Video Analytic Alerts	x	x	x	10 Camera Streams *	x	x
Video Analytics Support	On Recorded files	On Recorded files	On Recorded files	Up to 100 Cameras	x	x
Live & Historical Data Trends	✓	✓	✓	✓	✓	✓
FR based Attendance Management	x	x	10 Camera Streams	10 Camera Streams	2 Camera Streams	x
FR based Visitor Management	x	x	x	x	x	2 Camera Streams
# of Users	Single User	5 Concurrent Users	Single User	5 Concurrent Users	Single User	Single User
GPU Server Hardware	✓	✓	✓	✓	-	-

*Available for supported VMS Platforms. Please contact the Sales for supported VMS Platforms
* Camera not included

ABOUT MISTRAL

Mistral is a technology design and systems engineering company catering to customers in domains of Defense, Homeland Security and Product Engineering all over the world. Mistral's Homeland Security division offers a variety of security and surveillance solutions such as Command and Control Centres, Mobile C4ISR Vehicles, Drone Detection and Neutralizing Systems, Video Analytics, Tactical Communication Systems & Special Purpose Drones that are designed for the use of Special Forces, Police and Para-Military for Emergency Response Management, Disaster Management and Border Surveillance.

Since 1997, Mistral has been enabling the government to upgrade and modernize their Homeland Security systems with the latest technologies and equipment. Our Homeland Security solutions provide information in real time, enabling quick decision making.

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