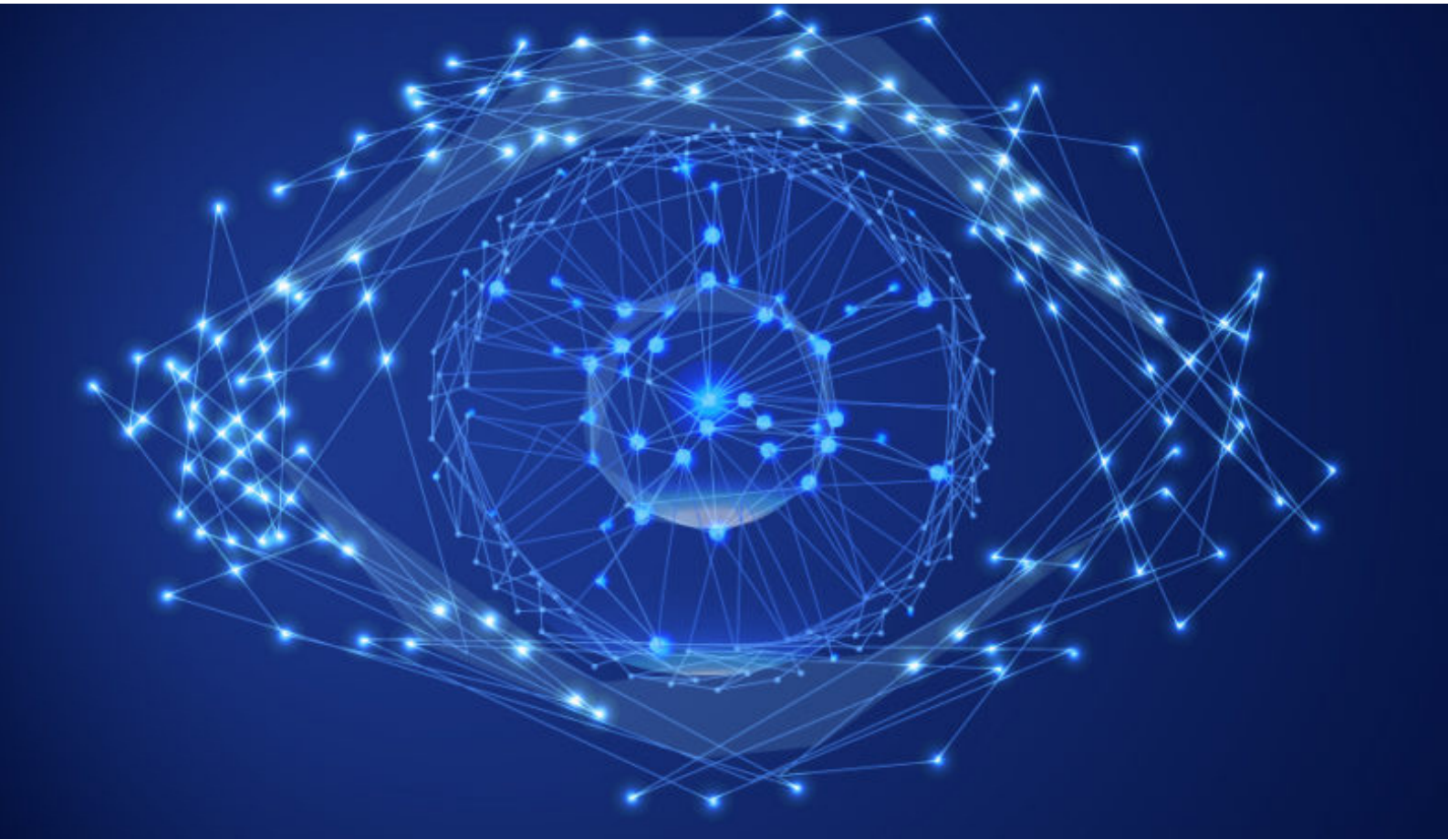
Digital Eye - A Brief Overview

Visual Analysis of CCTV content Via Artificial Intelligence and Machine Learning

June 2022

→ issm.ai



AI-Powered Monitoring and Analytics to Manage Risk and Drive Operational Excellence

AT A GLANCE

- Reduce costs
- Prevent accidents
- Ensure compliance
- Improve quality
- Enhance security
- Increase productivity
- Analyze performance
- Achieve HSE goals

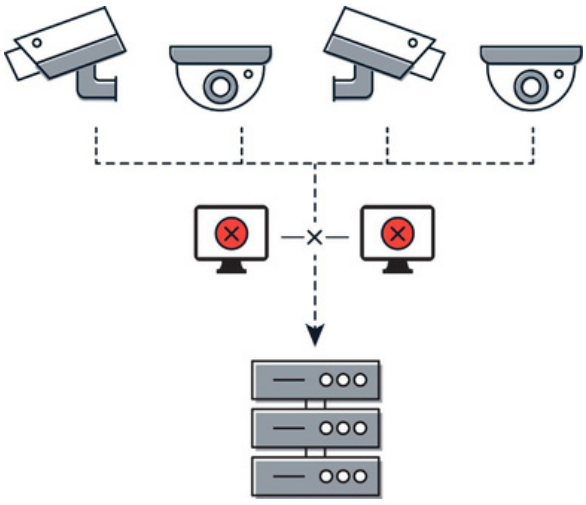
UNLOCK VALUE FROM YOUR EXISTING CCTV NETWORK WITH ADVANCED COMPUTER VISION TECHNOLOGY

There are billions of camera systems currently deployed worldwide, including drones, home surveillance systems, and CCTV cameras, to say nothing of mobile phones. Many are used as passive surveillance systems for collecting and storing visual data, requiring active human interaction to make use of their value.

But what if you could transform your underutilized video feeds with a dynamic, proactive visual AI platform—using computer vision technology to identify and classify objects and determine the next best actions based on what your cameras "see?"

Now you can, with ISSM Digital Eye. Tap into your existing camera infrastructure to generate actionable analytics and alerts that unlock new value for your organization through visual AI advantages.

OLD TECHNOLOGY



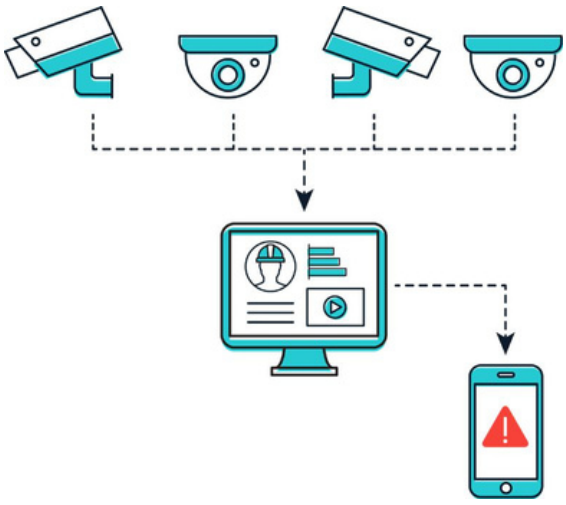
→ Collects and stores visual data

→ Dead digital feed—no insights or actions

→ Playback is retrospective (i.e., used for post-incident/accident investigation)

→ No corrective actions issued; no real time risk dashboard

NEW TECHNOLOGY



Active monitoring of defined violations or other relevant datapoints

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Alerts sent to designated manager / foreman

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Immediate feedback / corrective action taken

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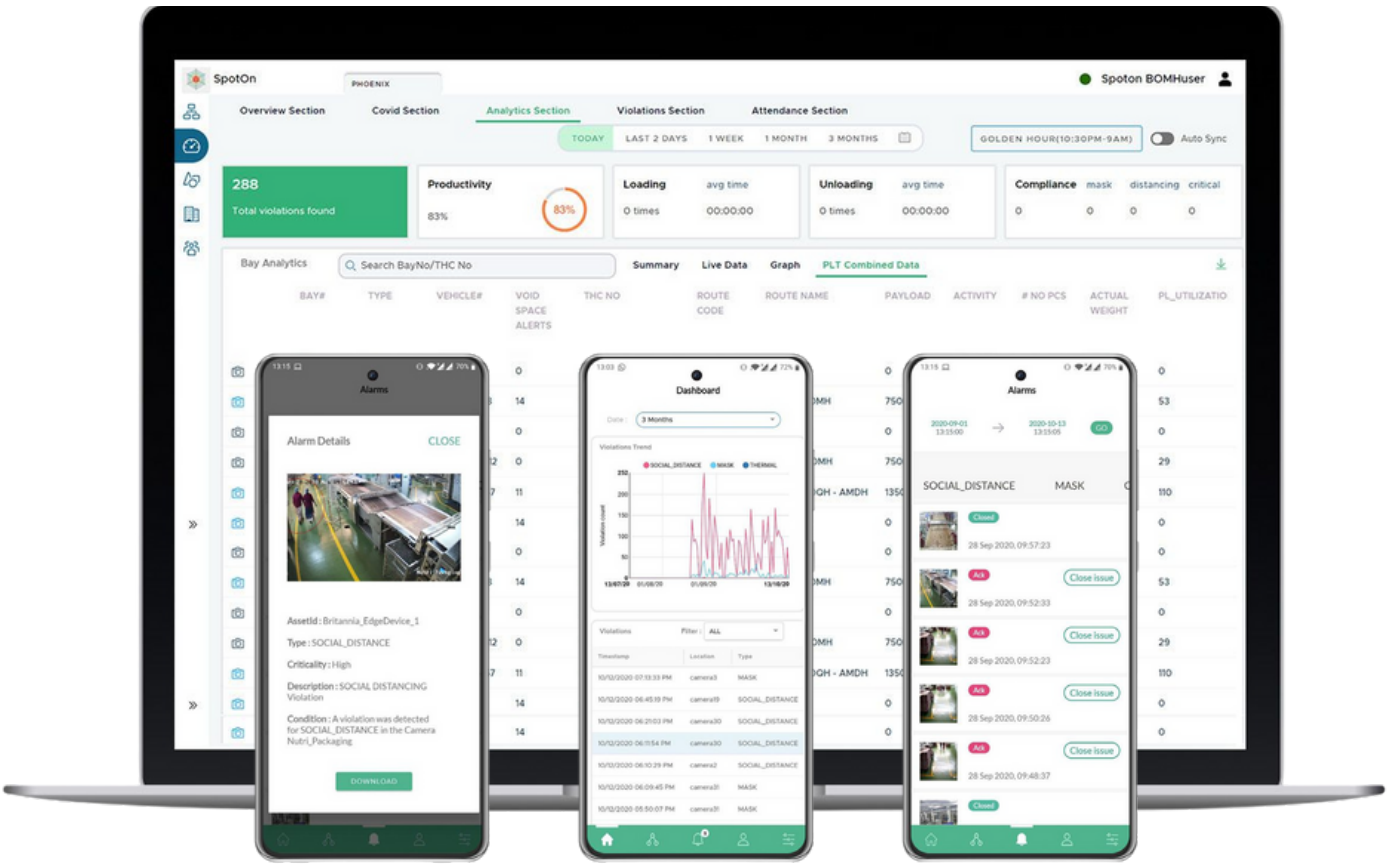
Reduced incident/ accident rates and increased productivity



INCREASE PRODUCTIVITY

Visually track and analyze everyday use cases like vehicle utilization, loading efficiency, quality inspection, etc, to improve utilization.

REDUCE ACCIDENTS

Transition from reactive to proactive corrective actions to eliminate preventable safety incidents before they happen.

STRENGTHEN SECURITY

Enact visual AI-enabled security measures using facial recognition. Detect and alert on instances of unauthorized access or suspicious activity

ENSURE PPE COMPLIANCE

Monitor and enforce proper use of hard hats and other personal safety equipment, hygiene, equipment usage, etc

ISSM Digital Eye scales with your existing camera infrastructure and can be customized to serve your most critical use cases. It allows you to monitor and collect valuable data on performance, people, and assets using configurable web, iOS, and Android-based dashboards.

Get role-based alerts via your web dashboard, mobile app, email, SMS, WhatsApp, and on-site alarms for immediate notification of computer-vision detected instances like stock-outs in stores, fire alerts, security breaches, safety non-compliance, and hundreds more.

About Digital Eye

ISSM AI solutions allow organizations to predict future outcomes, optimize processes, and prevent cyberattacks. We partner with the industry leaders to analyze, optimize, and learn from data, augment human intelligence, drive profitable growth, and achieve operational excellence. Our patented AI, machine learning, and natural language technologies lead the industry in innovation and accelerate digital transformation. Our solutions allow organizations to solve critical challenges—prevent unexpected downtime, maximize asset performance, optimize prices, and ensure worker safety while avoiding zero-day cyberattacks on essential IT and OT infrastructure.

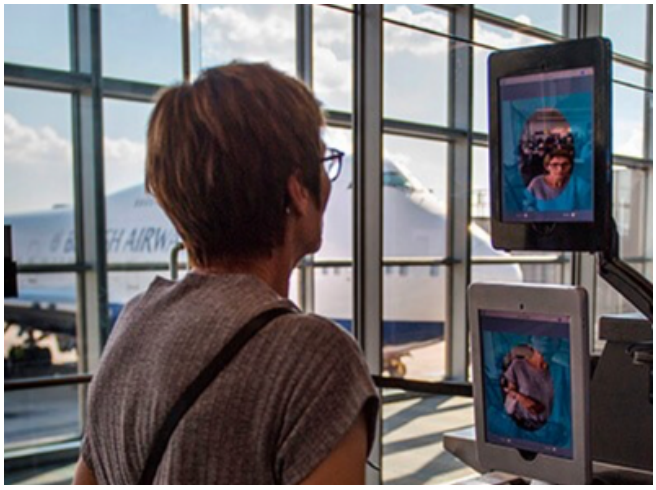
Applications of Digital Eye

Digital Eye can be integrated with your current visual monitoring ecosystem to get insights that optimize the workflow of the organization. Digital Eye removes the need for human intervention and introduces objective measures to monitor your processes that can range from person recognition to activity monitoring and much more.

FACIAL ATTENDANCE

Traditional attendance systems mainly operate on fingerprint biometrics and involve manual personnel verification. As humans can be prone to error i.e they can forget to mark their attendance on time due to hastiness or other factors, we introduce a system that removes the human in the loop and marks attendance based on facial recognition. It works through a combination of AI algorithms including facial detection, face landmarks detection and facial features comparison.

PRIORITY CUSTOMER DETECTION



Being a customer-centric institution helps to outgrow other businesses in the competition. Providing custom experiences to priority customers can lead to a better customer experience. Our solution identifies customers as soon as they enter the infrastructure premises through the use of facial recognition and notifies relevant personnel on the premises.

PEOPLE TRAFFIC MONITORING

Measuring the number of people visiting a branch on a daily basis can lead to a better analysis of the brand footprint in a particular geographic area in addition to the number of accounts or sales being maintained in a particular branch. We propose a branch traffic monitoring solution that measures the footfall of people on specific building premises in order to quantify the value proposition of a branch location. This application can also be used for identifying anomalies such as the identification of days when the customer footfall is low.

QUEUE TIME MONITORING

Queue length and time monitoring can be critical for high-traffic areas. It can lead to increased employee productivity or insights related to customer satisfaction. It is achieved through AI-based person tracking in combination with identification of queue areas.

AREA ACCESS MONITORING

Monitoring high areas of risk which may lead to theft or robbery can be a key aspect of maintaining security. Instead of relying on subjective measures such as humans in the loop, we propose an AI-based person detection system that will identify any intrusion detected in restricted areas on a real-time basis and will notify relevant authorities for countermeasures to be initiated.

AGE IDENTIFICATION

Identifying the age of visiting customers can be used for personalized customer experiences. Age identification of customers lets the organization cater their products to a specific target audience and helps optimize sale processes. Age group identification can lead to the better pairing of sales executives with customers through a real-time notification on the mobile dashboard for increased sales.

Other Applications

Customers can also plug in their external ML models or build and deploy new models into Digital Eye, using this, many other applications can be built on top of an easy to use GUI. Some of these applications that our customers have built include the following.

ACTIVITY MONITORING

Identifying areas that are high activity through heat maps and other factors can lead to the identification of high-selling products and generate insights leading to increased ROI for organizations. Retail stores can utilize this application for identifying which shelf products are in high demand and correlate the activity insights with sales for an increase in revenue.

THERMAL MONITORING

Monitoring of high thermal activity in industrial processes can be fatal to the safety of the employees. Our AI-based system automatically monitors thermal temperatures of high-risk areas and reports to the monitoring personnel in real-time. This application can also be extended to use with the detection of high temperature customers for COVID-19 filtering

PARKING MONITORING

Visual feed from parking lot cameras can be used to determine the presence of available parking spaces. For this, we use object detection algorithms for detecting if a car is present in the defined parking space and report to the central control room for better car management.

PRODUCT QUALITY MONITORING

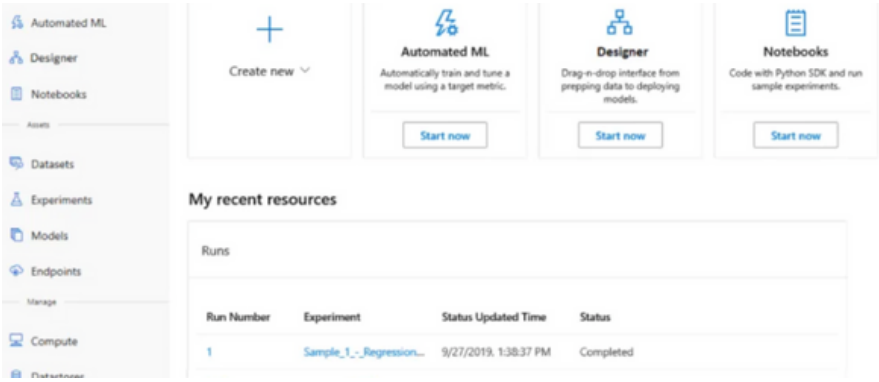
Manually verifying product quality can be strenuous in case of high volume production systems. Our visual AI system automatically verifies the integrity of the manufactured product through the use of object detection and segmentation algorithms and can be integrated into the production line to discard faulty products.

PROCESS MONITORING

Manufacturing products involves a certain number of steps to be performed. These steps can be defined in the Digital Eye system and AI-based algorithms can be used to ensure accountability or quality of the each step performed. This helps organizations automatically monitor processes and improve machine or employee efficiency based on user-defined workflows.

CUSTOM APPLICATIONS

In addition to the applications mentioned above, the Digital Eye platform gives users the ability to build their own applications through a GUI-based dashboard. Our proprietary algorithms which have been developed at ISSM are accessible through the platform and can be used for building applications that are not pre-built on the platform.



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