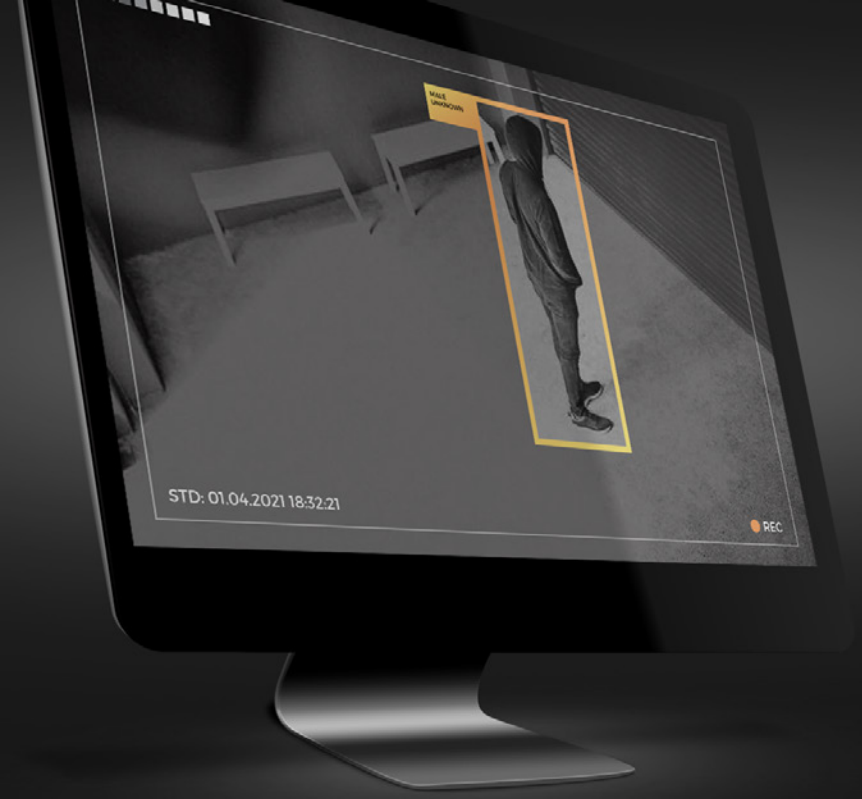

U-ALARM

AI DRIVEN VIDEO ANALYTICS

ENHANCING, EMPOWERING & AUTOMATING PHYSICAL SECURITY THROUGH ARTIFICIAL INTELLIGENCE

- Trained using deep learning
- Uses full body detection
- Identifies humans hundreds of meters away
- Automated surveillance
- Low false alarm rate
- Real-time event notification

WHAT IS U-ALARM?

U-alarm is an AI based video analytics solution. It is designed to analyze and automate IP camera event detection and notification in an actionable fashion. The U-alarm AI is trained to detect intrusion to restricted areas and measure crowds in confined spaces. Detected events are available via the U-alarm User Interface (UI) or through third-party Video Management System (VMS) dashboards as notifications. U-alarm runs on NVIDIA® Jetson™. Analytics and processing are handled on site for security, privacy, latency and storage purposes.

BUSINESS BENEFITS

Through the use of AI driven analytics, U-alarm turns security challenges into business benefits.

Low false alarm rate

Traditional Video Motion Detection systems produce a substantial number of false alarms. Various weather and light conditions, small objects, foliage and animals can all trigger false alarms. AI driven analytics focuses on telling humans apart from everything else providing high accuracy results.

Reasonable implementation cost

U-alarm offers a low footprint implementation to existing infrastructures, without the need of major changes. It enhances legacy IP cameras and technologies with Artificial Intelligence. Due to its simple configuration U-alarm can bring even 10 years old surveillance infrastructures up to speed with today's norms and demands.

Real-time event notification

Quite often events are only discovered during a footage audit, long after when they occurred. This works well for a forensics investigation but demonstrates the lack of real-time response capabilities. AI driven analytics generate event notifications in real-time as the event is happening.

Actionable response

When an event is noticed it is not necessarily enough to decide what to do next. U-alarm provides not just event notifications, but the relevant metadata as well, allowing security personnel to make rapid decisions and take corresponding actions based on them.

TOP 10 PRODUCT FEATURES

U-alarm comes with a large variety of built-in features and functions.

AI DRIVEN ANALYTICS

U-alarm's Artificial Intelligence is trained using deep learning algorithms to detect intrusion to restricted areas and measure crowds in confined spaces. It uses full body based person detection to tell humans apart from other elements even from hundreds of meters away and with limited visibility conditions. U-alarm can detect human appearance from 30 pixels height.

HIGH ACCURACY

U-alarm offers an extremely reliable and high accuracy when it comes to human detection and object classification. It can get an accurate reading on humans and objects even from hundreds of meters away even under demanding circumstances such as various and uneven weather and light conditions.

CUSTOM ALARMS

Setting up and customizing event notification rules is done via the U-alarm web interface. Set up Regions of Interest, alarm sensitivity, time schedules and third-party integration to interoperate with existing infrastructure and dashboards.

SCALABILITY

By default, U-alarm runs on NVIDIA® Jetson™ platform. Each device supports multiple IP cameras. Scaling can be done by simply adding multiple NVIDIA® Jetson™ devices. VMS support aids the central management of triggered alarms.

MULTIPLE OPERATION MODES

U-alarm is suitable for small sites via its standalone capabilities. through Integration is U-alam ideal for Enterprise environments. All happening seamlessly from a security personnel's point of view. Alaerts and metadata can be channeled into various custom workflows.

PTZ CAMERA SUPPORT

U-alarm's unique feature is to process streams from PTZ cameras. PTZ cameras use pan, tilt and zoom to provide both wide-area coverage and great detail with a single camera. Traditional person detection solutions cannot perform video analytics while the camera head is in motion.

CAMERA AGNOSTIC

U-alarm supports up to 10 cameras depending on the analytic configuration. It supports the majority of IP cameras through RTSP, a standard video streaming protocol. The general application of U-alarm is in combination with fixed in- and outdoor cameras. U-alarm can produce the same level of accuracy across multiple resolution settings and various light conditions such as day and night cycles.

VMS INTEGRATION

Video Management Systems (VMS), are a single pane of glass through which security personnel can centrally manage and monitor all surveillance related functions. U-alarm enhances VMS capabilities via AI driven analytics. U-alarm directly receives video stream, detects events and immediately sends notifications with metadata to the VMS through an open API via HTTP. U-alarm is an officially verified AI extension of Milestone XProtect, available on its Marketplace.

AFFORDABLE AND POWERFUL LOCAL APPLIANCE

U-alarm runs on NVIDIA® Jetson™ Edge platform. Edge computing allows to process large quantities of data on site without worrying about security, privacy or latency. Internet connection is not required. Edge devices are compact in size while having the same amount of processing power as a regular server. This allows them to work while placed in small compartments instead of huge server rooms.

FAST INSTALLATION

U-alarm implementation can be done in minutes instead of days or hours, and provides immediate results as the configuration is done. Solution is available on a pre-installed hardware making deployment rapid and effortless.

USE CASES

U-alarm focuses on two business critical use cases.

INTRUSION DETECTION

Institutions and facilities housing critical assets are considered a high value target for malicious individuals to infiltrate. In general, restricted areas or perimeters are protected by means lacking reliable or continuous surveillance due to either human errors and low attention spans. Even with motion detection systems in place intrusion is hard to identify. As various factors such as weather and light conditions, small objects, foliage and animals can produce false alarms. **U-alarm is built to solve these issues. As an AI based video analytics solution, it is designed to automate intrusion detection and event notification. An Intrusion detection notification is triggered whenever a person is detected inside a restricted area or perimeter. U-alarm uses full body detection to ensure high accuracy even at a high distance and during low visibility.**

CROWD DETECTION

Scenarios regarding confined spaces where sophisticated crowd control measures are needed to prevent potential accidents and injuries. Ensuring that confined spaces accommodate the optimal amount of people requires a system in place that can reliably determine the number of individuals in real-time. **U-alarm uses head and body detection to measure the number of individuals inside the Region of interest. It can dedicate multiple cameras to keep track of crowds. If the number of individuals exceeds the predefined threshold U-alarm triggers an alarm, informing the security personnel.**

HARDWARE SPECIFICATIONS

U-alarm is by default compatible with the following hardware devices.

Nvidia Jetson TX2

Manufacturer: ADLINK

GPU: 256-core NVIDIA Pascal™ GPU architecture with 256 NVIDIA CUDA cores

CPU: Dual-Core NVIDIA Denver 2 64-Bit CPU | Quad-Core ARM® Cortex®-A57 MPCore

Memory: 8GB 128-bit LPDDR4 Memory | 1866 MHx - 59.7 GB/s

Storage: 32GB eMMC 5.1 + 500 GB SSD

Nvidia Jetson Xavier NX

Manufacturer: ADLINK

GPU: NVIDIA Volta with 384 NVIDIA CUDA cores and 48 Tensor Core, plus 2x NVIDIA

CPU: 6-core Carmel Arm 64-bit CPU, 6MB L2 + 4MB L3

Memory: 8GB 128-bit LPDDR4x; 51.2GB/s

Storage: 32GB eMMC 5.1 + 500 GB SSD

For more details check out our extensive description on Supported Hardware.

CONTACT US

For more on AI driven video analytics feel free to get in touch with our professional experts, or visit our website.

ABOUT ULTINOUS

With a market presence of over half a decade, Ultinous is an Artificial Intelligence research and development company, headquartered in Budapest-Hungary. The Ultinous offerings range from video analytics software solutions to human-related detection and recognition services. The Ultinous product portfolio incorporates on premise and edge computing applications, development kits and Video Managed System integration.