AI supercharges surveillance, enabling access to petabytes of untapped data

Introducing AI to surveillance means providing it with a ‘digital brain’ that is able to analyse images, videos and data recorded for more efficient security.

Surveillance has reached the next level, with the introduction of artificial intelligence (AI) and the Internet of Things (IOT) supercharging this technology. The use of connected devices, with the added ability to analyse live video through AI techniques like deep learning, means that untapped footage from existing, passive cameras can be reclassified as data, which is then used to identify patterns, trends and anomalies.

“The surveillance procedures of yesteryear, which saw human operators (often the lowest paid staff within an organisation) watching your biggest, most valuable assets, are a thing of the past. Watching hours of video can be tedious and tiring, and there’s always a risk that something important could be missed,” explains Stephanie Rosenmayer, business unit manager at Datacentrix, a high-performing and secure ICT solutions provider.

The introduction of AI to surveillance means that data generated by cameras can be sorted and classified based on a number of factors, including colour, facial recognition, object identification, direction correlation, automatic number plate recognition, and more.

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“We’re essentially taking your existing surveillance camera investment, meaning that the foundational infrastructure is already in place, and providing it with a ‘digital brain’ that is able to monitor and analyse images, videos and data recorded by the video devices,” adds Rosenmayer.

Through self-learning, behavioural analytics look at normal human behaviour and movement patterns, as well as the environment, and classify the data accordingly, using defined rules and normal patterns to detect any unusual behaviour. An alarm is then raised, which could be in the form of a production stoppage should an issue on a production line be recognised; the identification of an action that contravenes health and safety regulations; being alerted to a fire breaking out; or using group and cellphone detection to track staff behaviour.

“This approach dramatically reduces the amount of video to be monitored by an operator by 95%, as they can now view video on an event basis, and not as a constant stream. Video data is thus turned into useful information to assist in optimising operations while delivering valuable business insights,” says Rosenmayer. “It also increases the number of cameras an operator can monitor by between 10 and 100 times.

“By mining data for specific credentials using AI, we’ve been able to move past watching hours of video to effectively responding to alerts. Because these image and pattern recognition technologies assist AI in identifying anything that is not the norm, such as a small change in behaviour, it is also now possible to proactively prevent potential incidents,” she adds.

Furthermore, post-event analyses tools can provide critical operational information, such as dwell time, common paths and activity heat map, providing actionable business intelligence.

“AI is set to be a game-changer, not just for SA but for the entire continent,” states Rosenmayer, “and will indeed create massive change in many industries over the next decade. By introducing the power of these technologies to the surveillance field, we are taking more positive steps towards more efficient security measures.”

Stephanie Rosenmayer, business unit manager at Datacentrix

Datacentrix provides a comprehensive portfolio of security solutions aimed at maintaining a safe environment to integrated communities, mining environments and cross-sector business premises. The offering, which includes perimeter and compliance CCTV, control centres, access control, visitor management and security infrastructure, reduces maintenance, enhances compliance and simplifies service management through multiple service provider aggregation.