"The key with CCTV-based systems is not just what is detected, but also in knowing what to ignore"

Ivy Li, *co-founder and managing director, iOmniscient Corporation*

Raytheon is known for its security technologies. As well as license plate recognition systems, in its armory it also boasts radiation detection, x-ray scanning of vehicles for potentially hazardous materials, vehicle tracking technology, and so on. But the usefulness of such solutions has to be questioned if their potential is diluted by people's wariness of using the information they gather. What use is tracking a potential terrorist on the road network if nobody will act on the data? Ramirez has a rather worrying anecdote to illustrate this problem: "I recently had a meeting with the head of a large DOT, and I mentioned to him that his DOT monitors vehicles that carry dangerous loads, meaning people have to register to carry these loads on the road. Once they register their trip, the DOT has no idea where they are – they know they're going from point A to point B in a particular timeframe, but that's all. So we pointed out this public safety hazard and explained that we could track those vehicles and let the DOT know exactly where they were. He was absolutely not interested."

SEE THROUGH THE CROWD

Mercifully, this attitude is not preventing companies from working on ways to deal with potential threats to the transport network. iOmniscient is one such company that is heavily involved in technology for border security. Ivy Li, co-founder and managing director of iOmniscient, explains her organization's approach: "The entry point for most countries consists of airports, ports, and railway stations. These tend to be very crowded areas. Traditional motion detection-based video analysis is useless in such places as it operates on the basis of comparing two images and seeing if there is a difference [the difference being classified as someone moving]. In an airport there could be hundreds or even thousands of people moving around. To be of any use, a system has to be able to detect abnormal behavior in such a crowded scene." iOmniscient has internationally patented software that copes with crowded scenes, which is able to detect suspicious bags that may have been abandoned.

"A really useful feature is the Nuisance Alarm Minimization System (NAMS), which is based on artificial intelligence," Li says. "The key with any CCTV-based system is not just in what is detected, but knowing what to ignore so that you don't get thousands of false alarms each day."

The recent introduction of iOmniscient's IQ Hawk system enables detection and identification to be conducted at the same time on the same camera using a facial-recognition capability to identify people who may be on a 'wanted list'. This is a highly useful tool for any border checkpoint. iOmniscient's CEO, Rustom Kanga, makes an interesting point about why IQ Hawk goes beyond traditional surveillance systems: "We have found that PTZ cameras can easily be defeated by anyone who understands them. If a camera is watching a scene and someone jumps over the fence on the right-hand side, the camera will zoom in on him. However, if he is a decoy then another five people could jump over the fence on the left and they will be missed. We developed IQ Hawk to overcome this."

Technological innovations such as this are good news. But until enough people in the transport sector start making Homeland Security an integral part of their remit, and start communicating more effectively with other modes of transport, our road networks will not be as well protected as they could or indeed should be. ■

EXTRAS ONLINE

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