

Using Falcon facial recognition technology to combat human trafficking in South Africa

According to non-profit organisation *Stop Human Trafficking Now*, human trafficking is the second biggest profit-making crime in the world next to drug trafficking, and there are about 27 million people enslaved in the world today. In Africa, over two million people are trafficked annually, with an estimated 30 000 of these being children as young as 4.

The organisation, in partnership with the National Prosecuting Authority, SAPS, Hawks and departments of Education, Health, Justice and Social Development, aims to clamp down and spread awareness around the crime. The organisation's Jameel Essop says "Among the 30 000 children being prostituted in the country, half of these children are younger than 14 and as young as 4. There are up to 10 000 child prostitutes in Johannesburg and up to 1 000 girls trafficked to South Africa from Mozambique each year."

There is some light at the end of the tunnel, with a recent news report citing the case of the Police Force in the Indian city of New Delhi who have identified nearly 3 000 missing children within just four days of launching a trial of a new facial recognition system. Police began using the technology on 6 April 2018 and the facial recognition technology was used on approximately 45 000 children throughout the city, 2 930 of which were recognised as missing. India currently has almost 200 000 missing children and about 90 000 lodged in various child care institutions and it is almost impossible for anyone to manually go through photographs to match the children.

Forbatt's Falcon facial recognition technology from Kedacom is fast gaining popularity with government agencies throughout the world, with the Turkish Army and Police Force deploying various Kedacom facial recognition solutions along their 200 km border perimeter.

According to Vaughn Tempelhoff, product manager at Forbatt, the Falcon enterprise-solution facial recognition system comprises a combination of HD cameras, high-end DVRs and proprietary facial recognition software and is purpose built for high-volume areas.

“This is a large-scale system that can be deployed throughout the country. With the ability to register and support 10 million different faces, the possibility of finding missing persons would be greatly enhanced. Each time a face is detected by the camera, real-time notification is provided. If the person detected happens to be a missing person or the perpetrator of a crime, then a visible and audible alarm will appear on the monitor in the control room. In instances where the face was not already in the database, it will be automatically added,” says Tempelhoff.

Such is the sophistication of the Falcon system that the Kedacom Falcon big data platform was awarded a total of nine awards out of 10 at the AI Security Innovative Application Evaluation Event held by Asmag at the end of August. These awards included ‘*Compliance, Functionality, Applicability, Technicality, Security, Feasibility, Recognisability, Innovation and Reliability*’. This is very notable and speaks to the credibility and complexity of the system.

Tempelhoff explains that the ideal goal for South Africa is to register as many people as possible on to the facial database using the Falcon cameras. “Not only does this impact greatly on tracking and assisting with the apprehension of criminals, but its ability to identify missing adults and children is immense. If for example, a juvenile is reported missing, one can import a photograph of them into the system and then if the missing child is captured on camera at another location, a real-time alert will appear on the monitor. Because the system can detect up to 16 faces per second, it is perfect for deployment in high-volume traffic areas such as shopping malls, train and bus stations, and at airports.”

Tempelhoff adds that in some cases the system can be programmed to search for a specific colour of clothing and it will then highlight all people captured in an area wearing the same colour of clothing.

Depending on the scale of the deployment, the Falcon system can be placed at all points of entry and exit at specific public areas and/or at all border posts. Specifically, the system is optimised when installed in areas where masses of people come together, as this is generally where children go missing.

To date the Falcon system has been deployed in more than 400 judicial and law enforcement agencies worldwide and has helped to solve more than 2 500 cases. “The opportunity to find missing children and adults in South Africa is one that needs to be investigated as a matter of urgency. Forbatt has a team of technology specialists who are able to discuss complete solutions with government agencies and missing persons’ support organisations,” says Tempelhoff.