Moscow to Weave AI Face Recognition into Its Urban Surveillance Net

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This year, Moscow will join a growing number of global cities whose populations are monitored by AI-enabled facial recognition programs.

More than 160,000 cameras already watch the capital city's 12 million people on the streets and in its sprawling subway system, one of the world's largest. Now Russia's artificial-intelligence development companies will vie for the chance to have their programs run the show. This points to the growing sophistication of the country's AI developers and the confidence the government has in implementing such technologies across the country.

Among the top contenders for the job is NtechLab, an AI startup whose FindFace face recognition technology won IARPA's Face Recognition Challenge Prize in 2017. The following year, it was deployed for the World Cup, and supposedly uncovered property theft and prevented other crimes. In a recent interview with the Russia daily RiaNovosti, CEO Artem Kuharenko said FindFace operates as part of pilot surveillance programs in various Russian cities; in the Tartarstan region alone, he said, nearly 2,000 crimes were solved last year with the help of video surveillance.

Another contender is IVA Cognitive, which develops the IVA CV video analytics system. In the RiaNovosti interview, IVA's CEO Alexey Tsessarsky speculated that "perhaps the city will choose one company or organize something like a consortium of several companies. The officials will divide the cameras between companies to see how each copes with the task. Thus, the competition will continue, and the technology will continue to develop."

Tsessarsky said Moscow authorities want the facial-recognition system primarily to prevent and solve crimes. "The video stream from all connected cameras is analyzed, faces are recognized and saved for some time in the database," he said. "Then a photo of a person from the wanted list is loaded into the system and a search is performed among the accumulated history. The program shows which cameras and when they saw this person. You can restore his travel route, determine where and when he was last, download a video from there and see what he did there."

Tsessarsky said city police can also upload a photo into the database, and get notified as soon as the right person appears. But he said his system goes far beyond mere image-matching; it includes predictive analytics to identify patterns of human behavior.

"The system can be trained to search for crowds of people where a given individual could appear, or to identify suspicious actions: someone very quickly waving his arms, running, grabbing an object that resembles a weapon. It is, in fact, the monitoring of potentially dangerous situations," he said.

Kuharenko said a combination of applications of facial recognition—searching for people on the wanted list, counting people, and evaluating behavior—will take the security of public events to a "fundamentally new level."

The NtechLab CEO concedes that facial recognition technology is not entirely harmless. FindFace, created to search a person for a photo among the open profiles of Russia's popular VKontakte social media network, has enabled the de-anonymization and harassment of users, prompting legal action. Yet he sees his technology as a force for good, despite stumbles: "This happens with any technology. We, as developers, see a lot of useful options for its use, but there are always those who think differently. And yet the benefits are incomparably more than harm."

Kuharenko said he believes that the Moscow city authorities who store and manage the data will not abuse their power nor allow the information to fall into the hands of hackers. He said access to the data of the video analytics system is limited to employees of the processing center and special services, and the collection and storage of such information requires large resources and data centers. Finally, the images taken from the cameras will be destroyed after analytics are performed.

He also said he believes Moscow authorities will not use his face-recognition technology to monitor everyone in the city. "Searching for criminals [using facial recognition) is understandable; you can spend money on it," he said. "But why store a photo of each person and monitor all people who moved around the city?"

Tsessarsky also concedes that facial recognition could allow the government to track and control people similar to monitoring social media networks and mobile phones, something he said would violate the right to privacy. But he, like Kuharenko, says facial-recognition technology brings greater good.

"Potentially, this opens up more access to some part of our personal life, but it is meaningless to stop progress," he said. "I know that my email can be hacked, someone can listen to my conversations, but I still use a smartphone, because it's convenient, and there are more advantages than not using it. In an ideal world, someone can monitor me only after receiving a court order. If I don't break the law, none should be eavesdropping on me. In real life, the situation is a bit worse, and sometimes misuse takes place."

Russia is certainly not the only country that is busy installing facial recognition technology to monitor the population. China is busy applying AI-enabled facial recognition tech across the country, and its practice of large-scale monitoring of minority Muslim population has earned it a global rebuke.

The RiaNovosti interview is also purposefully shy on details about who exactly will be monitoring Muscovites as they go about their business. Given the city's eminence as Russia's financial, economic, and social hub, it's unlikely that municipal authorities will be the only government officials granted access to the AI-powered surveillance system. The country's domestic security agencies – FSB, the Interior Ministry and maybe even the new National Guard—may also have a role.

The article strongly implies that once this technology proves successful in Moscow, it can be scaled up across other Russian cities and towns. Perhaps, as NtechLab and IVA Cognitive CEOs note, this is "progress." Time will tell.

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