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Why It Won't Displace Police Analysts Artificial Intelligence

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Synopsis

Any concerns over Artificial Intelligence (AI) replacing law enforcement intelligence analysts are presently unfounded. Rather, AI and analysts would share a symbiotic working relationship.

Commentary

TECHNO-PESSIMISTS have argued that Artificial Intelligence (AI) technologies will eventually displace many jobs. Martin Ford, author of "Rise of the Robots: Technology and the Threat of a Jobless Future", opined that jobs that entail computer manipulation of data in routine and predictable ways are vulnerable to automation. For example, the predictive policing system (PredPol) deployed by the Los Angeles Police Department (LAPD) reportedly outperformed experienced LAPD analysts in forecasting crime.

Such zero-sum fears are not entirely unfounded as advances in Machine Learning suggest that AI can emulate and might even surpass human abilities. To manage the expected loss of jobs, a guiding framework for AI adoption was proposed at the World Economic Forum (WEF) Annual Meeting in January 2017, recommending approaches to determine and ensure that AI augments rather than replaces human workers. In the same vein, the plausible impact of AI on law enforcement jobs should be anticipated.

AI in Homeland Security

The mission of law enforcement is set to be more challenging given the confluence of burgeoning centrality of cities, evolving transnational crime and security threats.

With the use of ubiquitous police CCTV surveillance to counter urban terrorism, for example, police and homeland security functions are increasingly interwoven and data-driven.

Hence, law enforcement intelligence analysts would certainly benefit from employing both human and AI insights in the horizon-scanning and analyses of a multitude of strategic and tactical threats. AI technologies have been trailed in predictive policing and video surveillance, and have shown promise. Their strength is the ability to expeditiously process massive volumes of data, detect patterns even if complex and obscure, and emulate the human brain in learning from human inputs and from trial and error.

However, AI's ability to self-learn raises the concern that (human) analysts would eventually become obsolete. PredPol, for example, tried to assuage this concern by emphasising that its algorithms do not replace but require analysts' inputs to perform effectively and adapt to changing needs.

Bad AI

The current state of AI is that its learning capacity still needs to be honed; hence its reliability may not be unlimited. It can for example decipher many but not all aspects of criminal/human behaviour. The misbehaving chat-bot "Tay" that learned to spew racist rants demonstrated the potential risks of AI's limitations in terms of possible unintended consequences.

Similarly, an underperforming AI could potentially impair intelligence analysis and drive miscalculations in operational strategy and deployment with grave implications on public security. Given the fallibility of AI and that intelligence analysis is too critical a security function to be entrusted totally to it, there should be calculated human oversight of its use.

This requires law enforcement agencies to retain the tacit knowledge and experience of analysts. According to research cited in the book "Critical Knowledge Transfer" (2014) by Harvard Business School, high-level corporate executives remain doubtful that the deep knowledge and experience of human experts could ever be fully codified into algorithms.

Furthermore, society may be ambivalent about delegating machines with the responsibility to solve human (crime and security) issues, as exemplified by concerns over racial discrimination and false positives arising from the reported use of an AI technology (Beware) by Chicago Police to generate a "heat-list" of suspects.

Importance of HUMINT & Manipulation of Big Data

Subject to the nature of threat, AI's assessments might not be comprehensive if consumed in isolation. AI might not provide all the answers and analysts would find it necessary to question its assessments in certain situations.

For the purposes of corroboration and plugging of information gaps, analysts would have to fuse AI's assessments with information collected from other sources such as

human intelligence (HUMINT). Such information might reside outside databases yet appreciable as it could relate to criminal motivation, unreported incidents and first-time offenders (clean skins); therefore could shape operational strategies.

Adversaries may seek to outsmart law enforcement AI technologies to evade detection and arrest by manipulating the data inputs of big data and open-source information. Hence, the analysts' judgement and intuition could complement AI as bulwarks against intelligent adversaries.

Transforming the Profession

Analysts could be drivers rather than passengers of change by being co-developers of AI technologies. A study on "Exploring the Potential for using AI Techniques in Police Report Analysis" by the University of Gothenburg, Sweden highlighted the importance of incorporating analysts' insights to the iterative process of Machine Learning; to improve AI's ability to discern complex patterns. The prospects of AI learning everything and replacing analysts could be managed with a framework to re-design analysts' business processes to focus on two higher-value work-streams.

First, given the need for human oversight, analysts could double-hat as "algorithmists" who are internal auditors tasked to promote best practices in the application of AI and review its assessments to ensure standards and accuracy.

Second, analysts could support strategy formulation through qualitative research into the underlying and interrelated factors of threats such as cross-border, demographic, economic and terrain issues which may influence criminal/human behaviour. The insights distilled could enrich AI's data-driven assessment or develop directions for further analyses by AI. Given finite resources, analysts could support frontline policing by helping to prioritise threats flagged by AI. These tasks would require analysts to foster deeper collaboration with field officers and various stakeholders within security and non-security agencies.

Ultimately, AI would inevitably transform the intelligence analyst's profession in law enforcement just as how the patrol car and two-way radio revolutionised policing in the early twentieth century. Given the rapid pace of technological advances, analysts should plan forward for the changes.

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