



## **UNCONVENTIONAL DATA USAGE FOR THREAT RESILIENCE: A CASE STUDY**

**Date:** November 25, 2022

*Disclaimer: This briefing note contains the encapsulation of views presented by the speaker and does not exclusively represent the views of the Canadian Association for Security and Intelligence Studies.*

### **KEY EVENTS**

On November 25, 2022, Mr. Mark Masongsong, the CEO of Urban Logiq, a Vancouver-based data analytics company, presented on *Unconventional Data Usage for Threat Resilience: A Case Study*. The presentation was followed by a question-and-answer period with questions from the audience and CASIS-Vancouver executives. The key points discussed were the impact of the private sector as a contributor to threat resilience assessments and the evolving role of international datasets and the ethics associated with working with international data.

### **NATURE OF DISCUSSION**

#### **Presentation**

Mr. Masongsong's presentation focused on the development of data analytics technology, its utility in addressing recent security challenges, and the projected future of the data analytics industry. He centred the discussion on three issues: the ethical concerns surrounding artificial intelligence (AI) evolution; the vital role that private corporations play within the threat resilience model; and improved disaster mitigation as technology is better utilised.

#### **Question & Answer Period**

Mr. Masongsong postulated that there is an enormous power with using artificial intelligence and modern data sources to understand how communities behave and to better understand how to meet the needs of communities.

## BACKGROUND

### Presentation

Mr. Masongsong offered context from experts in the AI industry surrounding the manner in which data science is being used in government and could potentially be used in strengthening security. As different governmental departments collect different types of data, this can be layered with third party private sector sources, garnering new information regarding the observed communities. For example, as more vehicles are equipped with Global Positioning Systems (GPS), those GPS signals are shared with the manufacturers and become available for purchase. This data can provide insight as to how communities are moving and how different cities are connected to each other. Additionally, this data can be used for urban planning purposes, such as improving connectivity between and within communities, which can be crucial for mitigating and responding to natural disasters. However, as insightful as this information may be, protecting individuals' privacy is important and may raise ethical concerns regarding the collection and release of data.

There is currently an unprecedented amount of data produced, and the challenge is harnessing it to drive better insights. At present, there is a lack of personnel as well as issues surrounding access to different datasets to perform the analyses that can improve security. Although both governments and private companies collect data, each party focuses on its own and is sometimes reluctant to provide access.

Mr. Masongsong suggested that centralised data analysis in conjunction with AI has potential to improve security by illuminating unseen patterns. To begin, data must be collected from multiple layers of society—for example demographic, businesses, infrastructure, weather, mobility, and economic data—and compiled into a central database. Next, AI algorithm software can be trained to target patterns, eventually allowing one to measure variable changes and interactions in the data.

Lastly, while other states are developing more invasive technology for private data collection, Canada has yet to do so. Mr. Masongsong argued it would be better if nations like Canada took initiative to develop these technologies ethically and responsibly, as they will be developed regardless and under less ethically stringent conditions. Though this would require a major change in legislation, Mr. Masongsong suggested it would be strategically advantageous

for Canadian companies to begin integrating AI services allowed under current laws and regulations.

### **Question & Answer Period**

Mr. Masongsong expanded on how the use of data and AI technologies can aid in disaster mitigation and other security issues, such as hostile social movements. For example, municipalities can use infrastructure data to make predictions of potential areas of weaknesses and lessen the chances of fatalities by proactively performing building inspections and other risk assessments. At present, many smaller companies are single service and the AI industry is aiming to consolidate the space, allowing for greater predictive ability and services in integrated disaster preparation and risk modelling.

Mr. Masongsong restated that however helpful AI may be in fostering security, there are numerous ethical concerns that must be addressed. For example, deep learning remains a controversial topic in data science because it is not always clear how AI came to a specific conclusion. There are still questions regarding potential biases within AI, which raises new forms of ethical concerns. A significant challenge in the technology sector is that new technology is sometimes outpacing the ability to govern it, and further in-depth analysis and research on ethical applications of AI is needed.

## **KEY POINTS OF DISCUSSION**

### **Presentation**

- As insightful as data collection may be, protecting individuals' privacy is crucial and may raise ethical concerns regarding the collection and release of data.
- Modern technology makes it increasingly difficult for data anonymization to occur. Even after anonymization, it is possible to backtrack and discover personal information outside the data collected.
- Centralised data analysis in conjunction with AI has potential to improve security by illuminating unseen patterns.
- New technologies can outpace the legal system, creating potential cases of breach of privacy and data abuse.
- It would be beneficial for nations such as Canada to develop these technologies ethically and responsibly, as they will be developed regardless and possibly under less ethically stringent conditions.

### Question & Answer Period

- The AI industry is aiming to consolidate the space, allowing for greater predictive ability and services in integrated disaster preparation and risk modelling.
- There remain numerous ethical concerns in AI that must be addressed, such as potential biases within AI and questions surrounding deep learning.



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Published by the Journal of Intelligence, Conflict, and Warfare and Simon Fraser University

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