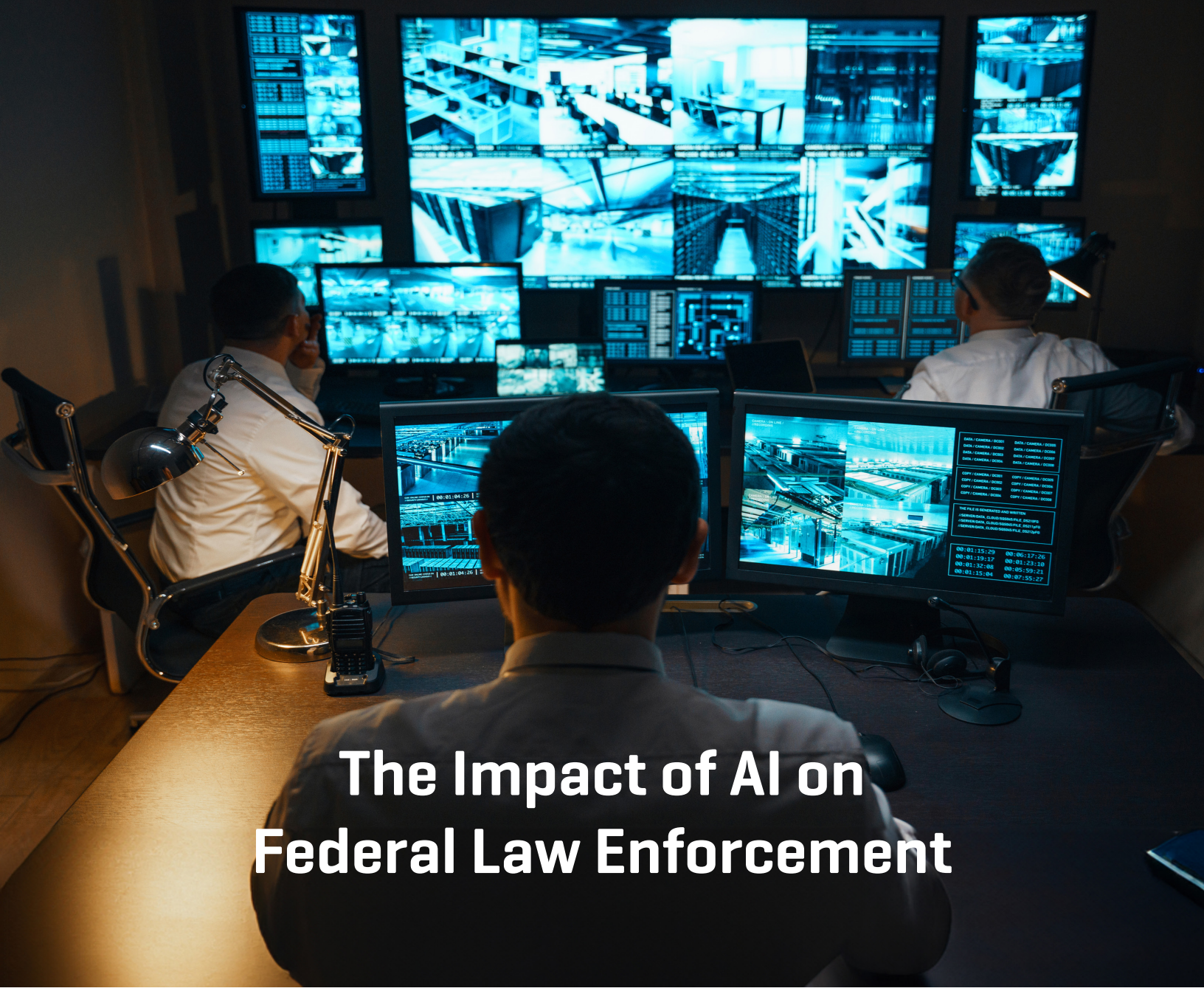
Protecting the Future



The Impact of AI on Federal Law Enforcement

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Protecting the Future: The Impact of AI on Federal Law Enforcement

AI has taken the world by storm.

We're already seeing its impact in nearly every industry, especially finance, healthcare, and law.

It's taken many by surprise. In 2021, the Software National agenda predicted that artificial intelligence (AI) would be a copilot to do things like help author software within 15 years. Instead, it happened in just a few months.

Federal law enforcement is likewise rapidly integrating AI technology into its practices, which provides major implications for efficiency, crime analysis, and civil liberties.

But its implementation is complicated. In October, President Biden issued an Executive Order on the safe, secure, and trustworthy development and use of AI. As such, harnessing the power of AI must be put in the hands of experts who can deploy the technology with precision and security in mind.

To ensure that government agencies and law enforcement continue to provide optimal services to the public, they must continually explore AI-driven solutions.

AI history and background

While the launch of ChatGPT in November 2021 brought AI to the forefront of international discussions, its use in law enforcement is not new.

The FBI began pilot programs to adopt basic predictive analysis for hot spot mapping of crime locations in major cities—as well as forms of facial recognition software—as early as the 1990s. It found its way into data processing too, like in 2001, when machine learning (ML) assisted in the Enron investigation.

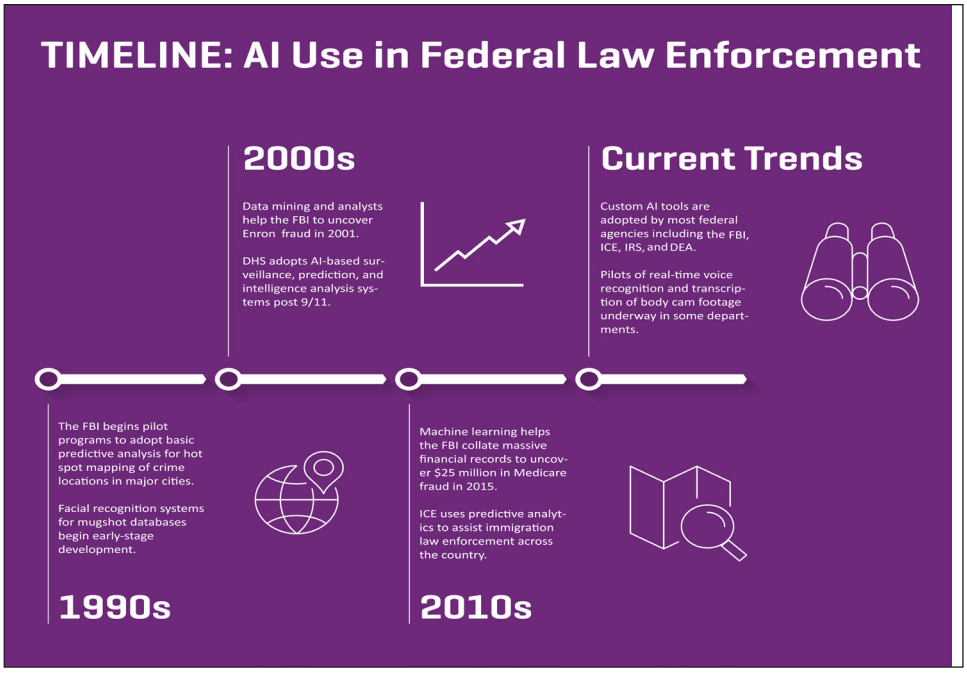
Since then, predictive policing has been on the rise. Accenture reported that 76% of police departments use AI and ML tools for video analysis, and Capgemini found that roughly 40% of agencies use AI to combat cybercrime, fraud, and theft.

$3.62 Billion

projected budget for AI in law enforcement by 2025

The future of AI in law enforcement

EM360 reported the use of AI in law enforcement is expected to grow at an annual rate of 19.6% through 2025. By



then, that industry's projected budget for AI tools will be $3.62 billion.

And with good reason. Mordor Intelligence reports AI technology could potentially reduce the workload for investigators by 30% just by implementing it in facial recognition practices alone. A UC Berkeley study found that AI integration in Shreveport, Louisiana resulted in a 35% reduction in burglaries and a 26% reduction in vehicle thefts.

Here are some ways SOSi predicts AI will continue to impact law enforcement practices:

Enhancement of predictive policing

Machine learning algorithms can analyze historical crime data to identify patterns and trends to forecast crime hotspots and potential criminal activity. For example, the Santa Cruz Police Department in California uses an ML system to forecast where burglaries are likely to occur. The system analyzes data on past burglaries, weather patterns, and other factors to identify areas with a high risk of burglary. Since implementing the system, the department has seen a 19% reduction in burglaries in the forecasted areas.

Investigations and intelligence

AI tools can scan massive sets of data from various sources to uncover connections in cases that humans may have missed. This can generate new leads and evidence.

Image recognition tech can also be used to match faces and license plates to databases.

Surveillance

The increasing use of AI in analyzing footage from body cameras, street cameras, and drones can enhance officers' situational awareness and ability to respond better.

SOSi Director of Law Enforcement Services Mark Nemier said he believes AI can do this by improving agencies' ability to process the large-scale processing of lawfully intercepted voice communications.

SOSi CEO Julian Setian

on how SOSi is implementing AI and ML tech

Emerging technologies are almost all driven by the need to make faster, more informed, and more trusted decisions. At SOSi, we're using AI and ML to help the government make decisions faster.

This is done by providing real-time analysis and insights on millions of data points daily.

Security and trust is paramount when implementing these new technologies, and blockchain-based security provides an exciting approach for establishing and maintaining trust across decentralized systems. Blockchain's innate auditability and encryption can improve security and accountability in government operations involving identity management, benefits distribution, record-keeping, and a host of other areas.

But to fully realize the benefits of these emerging technologies: sustained investment is needed for updating legacy systems, training civil servants and developing supportive policies.

The key is integrating AI, blockchain, and other innovations natively into government infrastructure workflows.

Technology can be transformational, but human oversight and ethics have to remain central to its implementation.

"The most immediate impact AI will have in law enforcement will be in the area of transcription and translation," Nemier said. "If you have a recorded conversation, you can use the technology to process it almost instantly. Then, you can use human intervention for quality control."

Nemier also said he predicts that as AI tech improves over time, transcription and translation processing could also be applied to Title III surveillance as well—assuming all legal hurdles are cleared and there's a cultural acceptance of the AI-assisted evidence among investigators and prosecutors.

Analytics and authentication

Data mining and analysis of incident reports, crime stats, and resource allocation can help identify inefficiencies and inform better strategies.

AI and ML can also help authorities authenticate information faster.

SOSi VP of Civil Solutions Charles O'Brien said, for example, that AI could greatly improve the processing of newly arrived non-citizens at the U.S. border.

3 Ways AI and ML are Impacting SOSi Customer Missions:

1 – AI-powered Cyber Defense

We deliver AI and ML-enabled cyber capabilities to key customer missions such as defending warfighting U.S. coalition data systems in the global Mission Partner Environment

2 – SOSi's subsidiary Exovera's ExoINISIGHT

A platform that unleashes generative AI and ML to provide organizations with a near real-time picture of key patterns and developments within the foreign information environment.

3 – Leverage AI to support operations at the border

From language translation to providing access to medical services, our AI-powered solutions help support agents at the border deliver needed services to migrants.

"As we're trying to process non-citizens, they're presenting all kinds of documents to confirm their identity," O'Brien said. "But how do we know they are who they say they are? By implementing AI into our processing systems, our point-of-contact communications could be almost instant, which will not only improve efficiency but also limit our country's risk exposure."

Training and retention of institutional knowledge

One area that AI will be especially helpful to law enforcement agencies is training and knowledge retention. The percentage of agents who are eligible for retirement has increased over the last several years, and though agencies such as DHS have doubled down on recruiting efforts to maintain workforce quotas, efficient and effective training will become a critical component to their success.

AI simulations and virtual environments provide alternative methods for training law enforcement to make quick decisions in complex situations, meaning that they'll be able to reach peak performance in a quicker timeframe.

Likewise, AI's predictive and pattern-identifying capabilities can also help to retain institutional knowledge within agencies—even as the workforce turns over.

"I've seen Border Patrol agents who are amazing at catching narcotics because they've spent 25 years patrolling one spot," SOSi Operations Manager Ramiro Garza said. "They know when a sensor hits in a certain way, there's a high probability there's going to be a narcotics load in that area. But once the agent retires, that knowledge retires with them, and it will take time for a

SOSi CTO Kyle Fox

on how corporate experimentation furthers AI progress

Technology is advancing so fast, and it is important to understand its limitations and how to use it effectively. Many companies lack a culture of experimentation, which can hinder progress. It is crucial for everyone to understand that experimentation is necessary for success in any role. Building a diverse team of creative problem solvers, including IT professionals with various backgrounds and skill sets, can lead to a stronger team. Compliance experts and out-of-the-box thinkers can help drive innovation. By working together, the team can achieve optimal results.

new agent to learn the same tricks."

Garza said that integrating more ML tech will ensure such institutional knowledge will stay with the agency. Sensor activity can be instantly cross-referenced with narcotics capture statistics and deliver any agent the probability of a narcotics load being present.

Trusting AI

A key focus of taking next steps in AI implementation will be trust on many levels.

Security is paramount to safe adoption. SOSi Chief Technology Officer Kyle Fox said applying techniques such as the Zero Trust security framework—which assumes all users, devices, and network traffic are untrusted and require continuous authentication and validation—is a promising approach.

Another consideration is ensuring that law enforcement officials can rely on AI-generated results. Concerns about the accuracy and fairness of AI algorithms—as well as the potential for bias in the information used to train AI machines—must be addressed by continually training and testing them on large and diverse data sets and implementing quality control measures to detect and correct errors.

It's also important to remember that as law enforcement develops its AI capabilities, so do lawbreakers.

"We're already seeing criminals employ deepfake tactics to perpetrate crimes and spread misinformation," SOSi Capture Director Ivan Veskov said, pointing to several examples where cybercriminals used AI-generated deepfakes to impersonate company executives and direct employees to transfer funds into illicit bank accounts. "We'll have to develop countermeasures to combat red herrings and synthetic media."

The first step in solidifying that trust is for agencies to work with developers who understand their unique difficulties and complexities of their processes.

"There are many tech companies who can develop AI solutions but not many who have had such a long-term, multilayered relationship with federal law enforcement agencies," Fox said. "Working with companies like SOSi allows for better transparency and collaboration when building solutions, which guarantees the tools will make a difference in the lives of those who are using it."

SOSi Senior Cyber Security Engineer Sean Paul

on how AI will impact software development

AI is rapidly changing the way we develop software. AI-automated tools are beginning to take over many of the tasks that were once done by human programmers—especially the tedious ones.

Letting AI do the repetitive tasks results in freeing up human programmers to focus on more creative and strategic work.

AI is also having a major impact in the field of software development through code generation. You can now use AI to generate code from natural language descriptions.

This makes it easier to establish the early development of code to standards. It can also be dynamic to the programmer's needs.

There's also bug hunting. AI could identify bugs in code, comparing it to good examples. They can also fix bugs automatically, so when you're using it as a part of the automatic code testing process, it can identify and eliminate bugs early in development.

Let's not forget security. Some AI models are programmed to detect the tech security vulnerabilities in code. They can also generate code that is more secure by default.

While the impact of AI on coding is still unfolding, AI is certainly here to stay. It makes coding easier, faster, and more secure. Believe it or not, this is good news for both the developers and users.