



Member Success Case Study

Axon

Visualize a future full of opportunity that is devoid of life-altering weapons and where bullets are obsolete. CSAIL Alliances member Axon has made it their mission to develop public safety technology that encourages connections between communities and law enforcement officials, enabling both constituents to securely defend a life over taking one away.

CEO and founder Rick Smith founded Axon in 1993. The company launched as the developer of the TASER device and quickly moved on to become the world's largest manufacturer of conducted energy weapons. Today Axon is known as a pioneer in public safety solutions, however, its founding principle has remained the same, "matching technology to public safety needs in order to make the world a safer place."

Axon joined CSAIL Alliances in 2018 to pursue CSAIL's renowned research areas in artificial intelligence, machine learning, networks and vision technology to enhance their current product lines, such as the police body-worn cameras, digital evidence management systems, disaster relief efforts and self-defense tools. By adapting CSAIL research technologies into their product streams, the upgraded commodities will assist in advancing secure solutions for public safety personnel, militaries and residents worldwide.

Axon's machine learning expert Chuck Cho further reflects on how CSAIL's approach to developing new technologies complements Axon's vision for implementing these new advances.

"We view Axon's mission to protect life, make the bullet obsolete and enable a fairer justice system to be closely aligned with CSAIL's mission of pioneering new approaches to computing that will bring about positive changes in the way people around the globe live, play and work," Cho said. "Ultimately, we feel that a partnership with CSAIL is the best way to advance these goals."

Incorporating AI into all levels of industry serves as the predominate goal for companies today. Axon is no exception.

"At Axon, we have made a considerable investment in enhancing the technology we are bringing to the public safety industry with AI."

Chuck Cho
Machine Learning, Axon



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The company finds ways to connect approaches to AI through automated redaction, accelerated reviews of compliance, timely feedback, and automated reporting from video and audio assets. By implementing AI technologies more diligently into their company's framework, Axon continues to review additional areas in which machine learning methods could improve products and expand their outreach.

"As we continue to provide body-worn cameras and digital evidence management systems for the public safety industry, we're interested in applying AI and ML technology to this vision," Cho said. "That includes the incorporation of AI/ML into audio, language understanding and drone technology."

Axon is also interested in furthering the conversation on the ethical development and use of this technology (explainability, interpretability and visualization of ML models), according to Cho.

While keeping ahead of the latest technology trends, Axon has also been proactive in considering the psychological impacts behind the development of defense weapons and how they could potentially affect the end user and the receiver.

The company has taken steps to connect mental health services with law enforcement departments and first responders to combat and prevent residual psychological consequences from the use of weapons. Smith dives into the concept further in his latest book, [The End of Killing: How Our Newest Technologies Can Solve Humanity's Oldest Problem](#).

"One of the biggest concerns is not that the technology is bad," Smith iterates in his book. "It's that if you haven't thought through how it can be misused, you're more likely to have random misuse cases."

This same sensitive approach is also applied to their AI/ML product lines, in which the company reviews the potential ethical challenges these deep learning methods could uncover. Axon has incorporated an AI ethics board through its AI sector that addresses the growing concerns over the use of facial recognition and industry access to the data.

"Since the formation of Axon's AI and Policing Technology Ethics Board, Axon has publicly stated that we will not be commercializing face matching products on our body-worn cameras and we also encourage other companies like ours to consider not commercializing face matching technology on their body cameras (www.axon.com/company/news/ai-ethics-board-report)," Cho said. "We welcome the opportunity to present our efforts on this front, which we believe will be of great interest to the lab and other companies."

Through the Alliances membership and connecting with our researchers and students, Axon is paving the way for a more secure future in which communities can live "in a world with less worry. One that's safer, where anyone can live their life fearlessly." [\[Axon\]](#)

Links:

- [About Axon](#)
- [The End of Killing: How Our Newest Technologies Can Solve Humanity's Oldest Problem](#) by Rick Smith
- [The Future of Face Matching at Axon and AI Ethics Board Report](#)