

Major in motion

Space Force officer Tyler Williams is creating AI-powered cyber defenders

By Kelly deVos, ASU News
January 12, 2026

Inside a dimly lit computer lab at Arizona State University, U.S. Space Force Maj. Tyler Williams leans over a glowing monitor, lines of simulated network traffic scrolling by faster than most eyes could follow. To the untrained observer, it looks abstract. But, to Williams, it's the pulse of a system under attack. Somewhere in that blur might be a weakness, a signal that an enemy has found a way in.

That search for hidden vulnerabilities and the desire to close them defines both his research and his military career.

A soldier who never stopped learning

For Williams, cyber defense isn't just an academic pursuit. It's a continuation of his service.

After earning his bachelor's degree in computer systems engineering from the [School of Computing and Augmented Intelligence](#), part of the [Ira A. Fulton Schools of Engineering](#) at ASU, in 2014, he commissioned through the Army ROTC program and began his career as a signal officer.

Over the next several years, he became a network systems engineer, overseeing complex communications systems that had to operate flawlessly under pressure. In 2022, he transferred to the [U.S. Space Force](#), bringing his technical expertise to a new frontier of defense.

Those years in uniform shaped how he sees cybersecurity: not as a set of abstract codes and protocols, but as the lifeline of every modern mission. After seeing how a single configuration error or unpatched system could compromise an entire operation, Williams decided to return to ASU to deepen his technical knowledge through the Space Force's Advanced Academic Degree Program.

Now in his second year toward a master's degree in computer engineering, he focuses on how artificial intelligence can strengthen human decision-making in defense networks.

His research takes place inside ASU's [Secure, Trusted, and Assured Microelectronics Center](#), or STAM Center, using the [Arizona Cyber Range](#), a controlled, high-fidelity simulation environment that mirrors the complexity of real-world systems — from servers and routers to embedded sensors and Internet of Things devices. Within this digital proving ground, students and researchers can safely recreate cyberattacks and train AI systems to detect and respond to them in real time.

“Personally, I am optimistic about the future,” Williams says. “Using an environment like the Arizona Cyber Range will help cybersecurity professionals be better prepared for new and complex threats.”

Serving and studying at the same time

Going back to school while remaining on active duty isn’t easy. But Williams says it’s one of the best decisions he’s made. Through the [Advanced Academic Degree Program](#) and the University Partnership Program, he was selected to pursue his master’s degree full time at ASU while staying in uniform.

“You get to stay on active duty, you get all the pay and benefits from that, but for the most part you are a full-time student,” he says. “It’s an incredible opportunity for active-duty personnel.”

For Williams, that means balancing graduate research with military readiness and translating lessons from one world to the other. His dual identity — engineer and officer — allows him to approach research through a mission lens.

“As the attack surface for the internet and everything connected to the internet grows, there’s always going to be some difference between what a cybersecurity professional can react to and what the potential risk could be,” he says. “We’re looking to shore up that gap.”

Agentic AI and the future of cyber defense

That “gap” is what Williams’ thesis aims to close. His research focuses on agentic AI, or the systems made up of multiple collaborating artificial intelligence agents that learn and react together, similar to how a coordinated military team would.

“Most research right now focuses on a single AI agent doing one simple task,” he explains. “What I’m looking at is scaling that up to create multiple AI agents that operate and collaborate in a shared environment to accomplish more complex goals.”

Working under the supervision of [Michel Kinsy](#), a Fulton Schools associate professor of computer science and engineering, Williams conducts tests in a high-fidelity environment to simulate real-world networks and attacks.

“I’m looking to build networks that are as realistic as possible — with real devices, services and users — so we can evaluate AI systems in environments that look like what operators actually face,” he says.

Williams’ experiments pit defensive and offensive AI systems against each other, mirroring “red team versus blue team” exercises used across the Department of Defense. The results could lead to better tools for both training and real-time defense, creating AI systems that assist, not replace, the human experts in the loop.

Mentorship and mission

Williams credits Kinsy, who also serves as director of the STAM Center, for encouraging him to push his research in ambitious directions.

“Dr. Kinsy is an incredible, very smart individual,” Williams says. “I feel like I’ve learned so much from him. He’s very visionary. He sees that road map out three to five years of what he’s trying to build the STAM Center into.”

For Kinsy, students like Williams represent exactly what the center was founded to do.

“Tyler brings together operational experience, technical depth and a genuine sense of mission,” Kinsy says. “His work on agentic AI for red and blue team simulation isn’t just academic. It’s preparing real defenders for real-world challenges.”

Paying it forward

After graduation, Williams will report to Los Angeles Air Force Base as a branch chief, which offers another chance to merge research insight with leadership in the field.

“Ideally, with my degree and the experience I will gain in my upcoming assignment, I’d like to be a program element monitor,” he says. “This is a critical role in the defense acquisition process, directly responsible for a given program and all documentation needed to harmonize the program in the budget.”

He also hopes to inspire other service members to pursue advanced education.

“If you’re the type like me that loves learning and enjoyed your time at university, you should 100% go back,” he says. “Get your master’s degree. Be ready to work.”

A model for military learners

Williams’ path shows how modern military service is evolving. Today’s defenders operate not only in the air, land and space domains, but in the invisible world of data and code. Programs like the Air Force and Space Force Advanced Academic Degree Program create pathways for officers to gain those skills without leaving active service, keeping operational experience connected to innovation.

Through the School of Computing and Augmented Intelligence, ASU partners closely with the Department of Defense to offer these opportunities. Students like Williams prove that when education and service align, both the mission and the individual benefit.

From the outside, the glowing screens in Williams’ lab might look like an ordinary graduate project. But to him, each simulation, each algorithm and each test run has a purpose that reaches far beyond the campus network.

It’s one more way to serve — not from the cockpit or command post but from the front lines of the digital battlespace, defending the systems we all depend on.

This story originally appeared on [ASU News](#).

Main image



As part of the U.S. Space Force's Advanced Academic Degree Program, Tyler Williams is pursuing a master's degree in computer engineering from the School of Computing and Augmented Intelligence, part of the Ira A. Fulton Schools of Engineering at Arizona State University, and conducting research in ASU's Secure, Trusted, and Assured Microelectronics Center, where he studies cybersecurity solutions powered by artificial intelligence. Courtesy photo