Gabriel Adams

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Education

Tennessee Technological University — Cookeville, TN
Bachelors of Science in Computer Science, Cybersecurity — *Aug. 2022 – Dec. 2025*

Tennessee Technological University — Cookeville, TN
Masters of Science in Information Assurance and Cybersecurity — *Jan. 2026 – Dec. 2026*

Accolades

CyberCorps: Scholarship for Service | US of Personnel Management — Cookeville, TN

Certifications

SY0-701 - CompTIA Security+ — Issued: Nov. 1, 2024
Valid Through: April. 13, 2028 — *(Renewed)*

CS0-003 - CompTIA CySA+ — Issued: April 13, 2025
Valid Through: Apr. 13, 2028

Experience

X163 Energy and Control Systems Security Intern — 05/2025-08/2025
Oak Ridge National Laboratory — *Oak Ridge, TN*

- Researched software vulnerabilities within embedded devices on two separate projects which led to multiple presentations and reports regarding my work throughout the course of my summer internship.
- Developed and ran custom fuzzing frameworks in Rust to discover issues within an RTOS, identifying issues within the device firmware.
- Reverse-engineered firmware using Ghidra to analyze communication protocols within critical infrastructure embedded systems and discover authentication bypasses.
- Documented findings in detailed technical reports and presented remediation strategies to hardware engineering teams, potentially leading to future remediation.
- Presented all findings in front of colleagues and administration as part of my SULI internship requirements.

Satellite Security Lead Researcher — 08/2024-Current
Cybersecurity, Education, Research and Outreach Center (CEROC) — *Cookeville, TN*

- Built three separate test beds to study and research the security of communications between satellites and command stations.
- Developed software to analyze transmission data based on frequency bands, binary data patterns, and time signatures.
- Analyzed and mitigated threats to satellite ground stations, including unauthorized access, jamming, and signal spoofing attacks.
- Researched countermeasures for side-channel attacks on satellite cryptographic modules, including timing, power, and fault-injection vulnerabilities.

IT Security Intern — 05/2024-08/2024
Rebo Lighting and Electronics — *Sparta, TN*

- Implemented and managed Windows administration technologies such as Active Directory, Exchange Server, Group Policy Objects, DNS, DHCP, IIS.
- Managed client network security through installation of firewalls and VPNs.
- Investigated potential breaches of information security policy and took corrective action when necessary.
- Implemented and managed a SIEM to analyze network traffic.
- Successfully passed an ISO 27001 audit after implementing over 26 new security policies, 4 security tools, and delivering security training to employees.

Embedded Systems Security Analyst — 05/2024-08/2024
Center for Energy Systems Research — *Cookeville, TN*

- Wrote code in C, C++, as well as Structured Text to mange communication between SCADA devices.
- Developed 8 different models for secure renewable energy system grids.
- Built an image for a portable RTAC compatible with the SCADA HIL interface.
- Assisted in completing a multi-million-dollar project for the CESR lab research.

AI Drone Security Researcher 07/2023-05/2024

Cybersecurity, Education, Research and Outreach Center (CEROC) *Cookeville, TN*

- Utilized Wireshark to capture over 2TB of data to train an unsupervised AI security model.
- Successfully detected false-data injection, DOS, and MITM (man in the middle) attacks using the model.
- Worked as a team of 8 to successfully create the model, as well as simulate red team attacks on the model.

Embedded Systems Engineer 01/2023-05/2024

Center for Energy Systems Research *Cookeville, TN*

- Developed software for electrical energy transfer through wireless means.
- Incorporated the embedded C language to create a successful energy transferring circuit.
- Will be titled as an engineer in planned publication under the Tennessee Technological University research department.

Leadership and Extracurriculars

Defensive Cybersecurity Interest Group | *01/2024-Present* **Tennessee Tech**

- I am a current team lead, overseeing projects aimed at presenting cybersecurity concepts, managing a vSphere range, and preparing individuals for national cybersecurity competitions.

CyberEagles | *08/2024-Present* **Tennessee Tech**

- I have the role of Site Director in CyberEagles where I present current news regarding cybersecurity, communicate with guest speakers, and work as a team to invoke interest for the department.

Technical Skills

Languages: C/C++, x86 Assembly, Python, Powershell, Bash
IT Security: Network Administration, Windows Administration, Windows Forensics, Microsoft Entra, Linux Administration, Linux Forensics, SIEM Management, Vulnerability Analysis
Development: Git, Docker, Google Cloud Platform, Amazon Web Service, Linode, VS Code, Visual Studio, PyCharm

Competitions

Cybersecurity Collegiate Defensive Competition (CCDC) | *01/2025-05/2025*

- I led my team as captain of my universities' first ever CCDC regional win, as well as our first time being one of 10 teams competing at nationals. My duties included managing the simulated corporate network, solving reverse engineering and other challenges, and completing business operational tasks.

Cyber Resiliency and Measurement Challenge (CRAM) | *08/2024-10/2024* **Dahlgreen, Virginia**

- I built a team of 5 to compete in a NAVSEA hosted competition to utilize AI/ML and Data Science to score systems based on resilience. I worked as the lead of the team, as I had prior AI and leadership experience. I was in charge of assigning responsibilities, scheduling deadlines, and acted as the lead AI/ML developer. After the first phase of examination, our team was chosen as one of 25 teams to be invited to compete in Dahlgreen, Virginia the following October. This was the first time that Tennessee Tech has had a team submitted to a competition hosted by NAVSEA. The skills improved in this process were: leadership, AI/ML, distributed computing, Python development, Flask development, and creating high level documentation.

National Cyber League (NCL) | *11/2023-11/2023*

- Last fall I was part of a team that participated in the National Cyber League where we competed as a team for the first time together. Some skills I learned are: Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Forensics, Password Cracking, recognizing Enumeration and Exploitation within logging, and Web Application Security.

Hobbies

IoT Pentesting | *01/2022-Present*

- I frequently will take cheap hardware and analyze the firmware to confirm known CVE's as well as discover new ones. I have developed open source tooling to streamline this process as well.