

Behnjamin Barlow

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SFS SCHOLAR:

- In a Degree Path Designated for Cyber Defense Education by the National Centers of Academic Excellence in cybersecurity.

SKILLS:

Technical Skills:

- Linux Hardening, C++, Git, Ansible, Salt Stack, MySQL, JavaScript, Networking, Blockchain, Zero Trust, Web Development, Web Security, Nmap, SliverC2, Reverse Engineering, Ghidra, Python, GoLang, HTML, PowerShell, MongoDB, DNS, Infrastructure as Code (IaC), OpenTofu, HashiCorp CDK (cdktf), Automation, Scripting, Deployment, Configuration Management, Proxmox VE, VMware vSphere, Canonical Microcloud, Hypervisor Management, Virtual Networking, Network Troubleshooting, Network Configuration, Firewall Management, pfSense, VPN, Tailscale, Threat Hunting, Incident Response, SIEM, Red Teaming, Persistence Techniques, Secure Communication Protocols, Front-End Development, and Database Security.

EXPERIENCE:

Internships:

Tennessee Tech Cyber Range Application Developer (05/25 - 08/25):

- Contributed to the development of Infrastructure as Code (IaC) solutions using Python, OpenTofu, and HashiCorp CDK
- Helped to automate the deployment and management of the CEROC Cyber Range on the Canonical Microcloud hypervisor
- Worked closely with the Cyber Range Engineer to troubleshoot infrastructure problems and enhance overall system functionality

Research:

Satellite Security (12/24 - Present):

- Conducting research in "Zero Trust" security for satellites build off the block-chain model
- Developing encrypted verification methods to ensure trusted communication between company-owned satellites and ground stations
- Designing a system to dynamically distribute AI models across satellites for on-demand deployment while incorporating load balancing and low power limitations
- Designing and building a physical testbed simulating a satellite constellation using 10 Jetson Orin devices as satellites and 5 Raspberry Pis as ground stations to model communication and network interactions

Campus Investment:

Cyber Eagles President (05/25 - Present):

- Direct operations, planning, and member engagement for the university's cybersecurity organization
- Coordinating and hosting regular meetings, securing guest speakers from leading technology companies and government agencies
- Partnering with university administration and student organizations to manage budgets, secure necessary funding, and ensure smooth club operations
- Developing and executing outreach initiatives targeting related academic departments and student interest groups, increasing club visibility and participation

Cyber Interest Group Mentor (09/24 - Present):

- Regarding cyber security I speak clearly presenting defensive and offensive cybersecurity concepts
- Utilizing a LXD range and preparing individuals for real world cybersecurity concepts
- Fostering a collaborative learning environment for students ranging from new to experienced
- Liase with other mentors and leads to ensure smooth execution of the meetings.

Application Security Lead | Tennessee Tech CCDC Nationals Team, 2024-2025

- Secured live web applications and databases by hardening configurations, managing user access controls, and implementing network security policies
- Hunted, detected, and neutralized real-time Red Team attacks by analyzing network traffic, investigating logs, and mitigating active threats
- Administered Linux systems and pfSense firewalls, performing OS hardening, system auditing, and automating security tasks with Bash scripts
- Architected and deployed a 16+ machine CCDC training environment, simulating realistic attack scenarios with vulnerable services (web, mail, domain)
- Executed offensive Red Team operations within the mock environment using SliverC2 and Realm to test persistence methods and improve defensive playbooks

Web Application Penetration Tester | Tennessee Tech CPTC Team (Fall 2025 – Present)

- Selected for a competitive role to conduct comprehensive web application penetration tests in a live, multi-tiered environment
- Identifying and exploiting critical vulnerabilities based on the OWASP Top 10, including SQL Injection (SQLi), Cross-Site Scripting (XSS), and authentication bypass flaws
- Utilize industry-standard tools like Burp Suite and OWASP ZAP to map attack surfaces and analyze application logic
- Applying advanced bug bounty hunting methodologies from the HTB CBBH certification to systematically uncover high-impact security flaws
- Authoring professional-grade penetration test reports that detail findings, analyze business impact, and recommend actionable remediation strategies
- Conducting penetration test with team members to build a holistic attack narrative by correlating web vulnerabilities with network-level findings

Projects:

GoLang Network Mapper:

- Developed a high-performance network scanning tool in Go that automates host discovery and vulnerability assessment using Nmap.
- Integrated ping scanning, concurrent scanning and wait groups for improved efficiency
- Configured execution via config.json for dynamic subnet and flag attributes.
- Plans to expand this for tooling in competitive environments integrated with WEB&DB connection mappings.

Personal Website:

- Developed a personal website showcasing my experience, projects, and academia.
- The site includes an "About Me" section, links to my GitHub and LinkedIn, and detailed insights into my cybersecurity work.
- It also serves as a central hub for my technical portfolio and professional presence.

ESXI Home Lab:

- Manage a home lab environment utilizing ESXI VE for virtualization.
- Utilize the lab for testing scripts, practicing cybersecurity skills, and personal project development.
- Implemented Tail Scale for secure remote access to the home network and lab resources.
- Developed a web-based Network Attached Storage (NAS) solution using repurposed hardware.
- Integrating infrastructure upgrades including a Ubiquiti managed switch and UPS for reliability.

EDUCATION:

Tennessee Technological University (NCAE) Cookeville, TN

Major: Computer Science Bachelor of Engineering|Cybersecurity (Exp. Fall 2025)

Major: Computer Science Masters of Engineering|Cybersecurity (Exp. Fall 2027)