

Andrew Woodlee

Cybersecurity Software Engineer

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github.com/Cybershell

Education

University of Alabama in Huntsville, MS in Cybersecurity (Engineering track) Jan 2025 – present

- Current GPA: 3.85; slated to obtain Summer 2026

University of Alabama in Huntsville, BS in Cybersecurity Engineering Aug 2019 – Dec 2024

Experience

Research Assistant II, The University of Alabama System Management and Production Center – Huntsville, Alabama June 2023 – July 2024

- Led embedded software development for a City of Huntsville educational robotics project, designing and implementing Arduino based control systems that improved system reliability and functionality.
- Engineered audio playback and motion control enhancements, increasing robotic vehicle movement efficiency by 60% and creating a more responsive user experience.
- Configured and deployed Raspberry Pi based control infrastructure for a PX 100 robotic arm used in Jackson County Schools STEM programs, enabling hands-on robotics education for students.

Backy (<https://backy.cybershell.xyz>) Sept 2022 – present

- Includes Go libraries to create a command execution tool
- Improves sever administration with 20% time saved
- Improves visibility into infrasture with notifications on completion and failure

Home server with remote access Sept 2022 – present

- WireGuard to access home server from VPS
- Hosting web applications like Nextcloud
- Secured SSH access over VPN

Cloud Server Administration Sept 2023 – present

- Hosting mail servers (<https://stalw.art>), FoundationDB as a backend
- Secured FoundationDB with TLS certificates
- Additional applications include Gitea, Linkwarden, and others using Docker
- Data backups are all secured using Restic/Autorestic
- Developed Proprietary System *Backy* to streamline and automate, ensuring uptime, safety, and compliance

Entropy Estimation Jan 2026 – May 2026

- Graduate Capstone Project working with NIST and INSuRE.
- Resulted in estimation near 5% of NIST Standards.
- Estimated min-entropy using Python and provided graphs of results
- Administered team Gitlab.

Wallet Transformer Monitor

Sept 2023 – May 2024

- Senior Design Project monitoring a single-phase 120V transformer (ESP-32 and a web dashboard)
- Wrote ESP-32 code that interfaced with an energy sensing chip, temperature sensors, WiFi, and MQTT over SSL.
- Assembled voltage and current sensing, full-bridge rectifier circuits safely

Colaborator, Digital Telepresence (<https://git.digitaltelepresence.com/digital-telepresence/>)

Apr 2022 – Mar 2024

- DTP is an online application suite for the web
- Collaborated building a new system from the ground up
- Designed novel solutions
- Service-oriented MVVM development and separation of concerns

Certifications

Security+ Certified

Current 701

Awards

Department of War Cyberservice Academy Scholarship (DoW CSA) Recipient

Awarded in July 2026

Skills

- Linux, C/C++, Go, and JavaScript • Server Admin / Docker
- Git/Git and CI/CD • Embedded Systems - ESP-32, Arduino, and MSP430
- HTML • NodeJS • IDA Pro and Ghidra • IDS/IPS
- Kali, Wireshark, and metasploit

References

Ishella Fogle: Former Supervisor - 256-655-6642 - isf0001@uah.edu

Dr. Garry Maddux: Former Supervisor - 256-975-7936 - gary.maddux@uah.edu

Brian Cook: Personal - 423-276-8138 - bmcook017@gmail.com