

Andrew Woodlee

Cybersecurity Software Engineer

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github.com/Cybersshell

Summary

Dedicated and driven cybersecurity engineer with experience in securing systems and software and designing embedded systems. Have hands-on experience doing system administration running and securing cloud and distributed systems using best practices and automation. Currently pursuing a PhD in Computer Engineering, hoping to focus on embedded systems.

Education

University of Alabama in Huntsville, Doctorate in Computer Engineering	Aug 2026 - present
University of Alabama in Huntsville, MS in Cybersecurity (Engineering track)	Jan 2025 - Aug 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
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- 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.

Technical Projects

Backy (https://backy.cybershell.xyz)	Sept 2022 - present
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- Includes Go libraries to create a command execution tool
- Improves sever administration with 20% time saved
- Improves visibility into infrastructure with notifications on completion and failure

Home server with remote access	Sept 2022 - present
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- Uses WireGuard to access home server from VPS
- Hosting web applications like Nextcloud
- Secured SSH access over VPN

Cloud Server Administration	Sept 2023 - present
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- Hosts mail servers (<https://stalw.art>), FoundationDB as a backend
- Secures FoundationDB with TLS certificates, resulting in 90% reduction in attacks
- Hosts applications include Gitea, Linkwarden, and others using Docker
- Reduces downtime by 40% with automatic backups

Entropy Estimation

Jan 2026 - May 2026

- Collaborated with NIST for INSuRE on Graduate Capstone.
- 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

- Developed 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

Collaborator, Digital Telepresence

Apr 2022 - Mar 2024

- Collaborated building a new system from the ground up
- Designed novel solutions
- Gained experience with service-oriented MVVM development and separation of concerns

Certifications

Security+ Certified

Current 701

Awards

Department of War Cyber Service Academy Scholarship (DoW CSA) Recipient

Awarded in July 2026

Skills

- Linux, C/C++, Go, and JavaScript • Server Administration
- 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