

Andey Robins

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Employment History

- 2023 – ···· > **Graduate Research Assistant**, DRACO Lab, University of Central Florida
Lead research in cutting edge security and hardware verification methods.
- 2021 – 2023 > **Graduate Research Assistant**, CEDAR Lab, University of Wyoming
Lead investigations in security topics and explore their academic implications. Assist in the daily operations of lab services and equipment.
- 2022 > **Full Stack Developer**, MaleFromHome, Remote
Develop frontend and backend technologies for a drop shipping, men's health company. Assist in deployment and AWS configuration.
- 2021 > **Full Stack Intern**, Xplor Adventures LLC.
Develop frontend and backend technologies for a social media startup. Manage web-servers, multiple code bases, and deploy software solutions.
- 2020 > **Full Stack Intern**, JarrowTech LLC.
Develop frontend and backend technology for a blockchain-based startup. Write smart contracts and mobile applications.
- 2018 – 2021 > **Undergraduate Research Assistant**, CEDAR Lab, University of Wyoming
Conceptualize, develop, and conduct experiments on various security topics.
- 2019 – 2021 > **Lab Technician**, Studio Coe, University of Wyoming Libraries
Develop workshops and teach patrons technical subjects related to lab equipment.
- 2019 > **OneTV Producer**, Student Media, University of Wyoming
Film, edit, and produce video content on student interest topics.
- 2016 – 2018 > **IT Technician**, Natrona County School District
Ensure continued technological availability within the school and district.

Education

- 2023 – exp. 2026 > **Ph.D. Computer Engineering, University of Central Florida**
Research Area: *Formal VLSI Verification*
- 2021 – 2023 > **Graduate Studies** Computer Science
Research Area: *Adversarial Program Synthesis*
- 2018 – 2021 > **B.S. Computer Science, University of Wyoming**

Teaching

- Spring 2023 > **COSC 4010/5010**: Topics: Cybersecurity - (22 students)
 - > **COSC 1010**: Introduction to Computer Science - Co-instructor - (95 students)
 - > **COSC 1010 Lab**: Introduction to Computer Science Lab - (95 students across 4 sections)
- Fall 2022 > **COSC 1010**: Introduction to Computer Science - Co-instructor - (123 students)
 - > **COSC 1010 Lab**: Introduction to Computer Science Lab - (123 students across 5 sections)
- Spring 2022 > **COSC 4780**: Principles of Programming Languages - Teaching Assistant - (37 students)
- Fall 2021 > **COSC 3015**: Functional Programming - Teaching Assistant - (43 students)

Research Publications

Journal Articles

- 1 **Robins, A.**, Olguin, S., Brown, J., Carper, C., & Borowczak, M. (2023). Power-based side-channel attacks on program control flow with machine learning models. *Journal of Cybersecurity and Privacy*.

Conference Proceedings

- 1 Carper, C., **Robins, A.**, & Borowczak, M. (2022). Transition recovery attack on embedded state machines using power analysis. In *The 40th IEEE International Conference on Computer Design*. IEEE.
- 2 **Robins, A.**, Burrows, A., & Borowczak, M. (2022). On the development of cybersecurity and computing centric professional developments and the subsequent implementation of topics in K-12 lesson plans (rtp). In *2022 ASEE Annual Conference & Exposition*.
- 3 **Robins, A.**, Hunt, T., Robertson, D., & Carter, R. (2022). Amazon Alexa skills as a novel modality for in-service professional micro-development (wip). In *Learning@Scale '22*, Association for Computational Machinery.

Invited Talks

- 1 **Robins, A.** (2023). *Type driven design*. TransTech Summit 2023.

Skills

- Programming > Golang, Python, Javascript, Dart, C++, Java, Rust, \LaTeX .
- Databases > MySQL, PostgreSQL, SQLite, Firebase.
- Web Dev > React.js, Flask, Bootstrap, Nginx.
- Environments > Linode, Azure, AWS, Docker.
- Misc. > Academic research, Teaching, Open source software.

Research Interests

- > Formal VLSI verification methods
- > Automated red-team systems
- > Secure development practices
- > K-20 computing instructional methods

Service

Journal Peer Review

- 2021 – > **ASEE Computers in Education**

Professional Development

- 2021 – 2023 > **NSA GenCyber:** Act as co-lead and develop instructional content to educate K-12 educators on computer science and cybersecurity topics.
- 2022 > **WySlice:** Act as co-lead and present instructional content to educate K-12 educators on the fundamentals of computer science and CS standards for instruction.

Service (continued)

- 2020 > **NSA GenCyber:** Act as Teaching Assistant and provide individualized assistance to K-12 educators as they learn computer science and cybersecurity topics.

Community Outreach

- 2022 – 2023 > **Kraken Blockchain Camp:** Act as content developer and instructor for a blockchain themed summer camp targeted at middle school students.
- > **TACoS:** Act as content developer for the computer science section of a STEM camp targeted at middle school students.

Volunteer Work

- 2019 – 2021 > **Volunteer Classroom Instructor.** TEALS, Microsoft.
- 2018 – 2019 > **Technical Volunteer.** Coe Student Innovation Center.
- 2018 > **Hour of Code Instructor.** Beitel Elementary.

Mentorship

- 2023 > **Undergraduates:** *Collins, Eckhardt, Korsah, Slingerland, Thoney, Van der Linden, Wodhal*
- > **Graduates:** *Brown, Olguin*
- 2022 > **Undergraduates:** *Brown, Charlton, Coslett, Hays, LaForce, Thoney, Vap*
- 2021 > **Undergraduates:** *Charlton, Coslett, Garg, Goodrich, Hays, LaForce, Vap*

Additional Experience

Awards and Achievements

- 2021 > **8th Place Finish,** Cyberforce Competition (of 135).
- > **Clockwise Bootcamp Graduate,** Clockwise Software Engineering Bootcamp.
- 2020 > **18th Place Finish,** Cyberforce Competition (of 371).
- 2018 – 2021 > **4 Time Top 10% Finish,** National Cyber League.
- 2018 > **Trustees Scholarship,** University of Wyoming.

Certification

- 2022 > **Problem Solving (Intermediate).** Awarded by HackerRank
- > **Problem Solving (Basic).** Awarded by HackerRank
- 2021 > **Pre Security.** Awarded by TryHackMe.
- 2018 > **Cybatworks Education Platform.** Awarded by CYBATI.

Selected Graduate Coursework

- 2023 > **Practical Machine Learning**
- 2022 > **Compiler Construction**
- > **Black Hat Go**
- 2021 > **Cryptography for Developers**
- > **Analysis of Algorithms**
- > **Side Channel Attacks**