

Rachel McAmis

rcmcamis@gmail.com | github.com/rachelmcamis | gitlab.cs.washington.edu/rcmcamis

EDUCATION

University of Washington Expected PhD in Computer Science, Seattle. Cumulative GPA: 3.95
September 2022 – June 2026

University of Washington Bachelor of Science, Seattle. Cumulative GPA: 3.84, Cum Laude

Paul G. Allen Center for Computer Science & Engineering, Interdisciplinary Honors

September 2018 – June 2022

Relevant Technical Courses: NLP, ML, AI, Computer Vision, Systems, Cryptography, Algorithms, Security, Hardware Security, Data Structures & Parallelism, Hardware/Software Interface, Calculus, Linear Algebra, Differential Equations

INDUSTRY EXPERIENCE



MIT Lincoln Laboratory Secure and Resilient Systems Lab

May 2024 - August 2024

Research intern

- Building and evaluating secure and resilient satellite systems



Microsoft Microsoft Defender

June 2021 - September 2021

Software Engineering Intern

- Implemented and designed app to automate rotation of necessary tokens for Microsoft Threat Experts
- Decreased Azure service outages and manual secret rotation for engineers

Skills used: C#, Secure software development, Azure security services



Amazon Web Services

June 2020 - September 2020

Solutions Architect intern

- Developed AWS teaching tools to directly impact hundreds to thousands of AWS partners
- Implemented AWS infrastructure solution proof-of-concept for restaurant chain
- Project manager for other interns on team

Skills used: AWS infrastructure/development, Solutions Architect Associate certification

PROJECTS

Userverse, Cofounder

January 2024 – Current

Building a marketplace with co-founder to enable startups and other entities to easily obtain user feedback. Responsible for payments, security, and backend.

Skill used: AWS, NoSQL, Python, Stripe, backend development

Husky Satellite Lab, Satellite communications subsystem lead

October 2023 – Current

Leading and building satellite communications for Husky Satellite Lab. Developing robust and secure communications for HuskySat-2, with expected high-altitude balloon launch date in fall 2024, satellite prototype in 2025.

Skills used: Embedded software development, cryptography

Tidbit, Cofounder

November 2022 – April 2023

Built platform to increase discoverability of small and medium articles.

Skills used: AWS, SQL, Python, web design, backend development

Hardware Security: Side-Channel Attacks Class project

March 2022 - June 2022

Successfully executed multiple hardware side-channel attacks on AWS Graviton3 processor

Skills used: C, AWS, Cache-focused hardware side-channel attacks

RESEARCH PUBLICATIONS

- J. Ma, M. Ganaiem, M. Burbage, T. Gregerson, R. MCAMIS, F. Gabbay, B. Kasikci. "Proactive Runtime Detection of Aging-Related Silent Data Corruptions: A Bottom-Up Approach." ASPLOS (2025).

- R. MCAMIS, M. Sim, M. Bennett, T. Kohno. “Over Fences and Into Yards: Privacy Threats and Concerns of Commercial Satellites.” Privacy Enhancing Technologies Symposium (2024).
- R. MCAMIS, B. Durak, M. Chase, K. Laine, F. Roesner, T. Kohno. “Handling Identity and Fraud in the Metaverse.” IEEE Security and Privacy Magazine (2024).
- R. MCAMIS, T. Kohno. “The Writing on the Wall: Personal Information in (not so) Private Real Estate.” Usenix Security (2023).
- E. Zeng, R. MCAMIS, T. Kohno, F. Roesner. “What Factors Affect Targeting and Bids in Online Advertising? A Field Measurement Study.” IMC (2022).
- L. Organick, B. H. Nguyen, R. MCAMIS et al. “An Empirical Comparison of Preservation Methods for Synthetic DNA Data Storage.” Small Methods (2021).

RESEARCH EXPERIENCE



UW Security and Privacy Research Lab

January 2020 – Present

- **Satellite security.** Exploring the security vulnerabilities of amateur satellites. Analyzing satellite code repositories and proposing more secure small satellite designs.
Skills used: Network security, software security auditing, interviews, qualitative analysis
- **Satellite privacy.** Studied the privacy threats and implications of commercial satellite imagery technology.
Skills used: Commercial drone piloting, qualitative coding, user studies
- **Metaverse privacy and identity.** Collaborated with Microsoft Research team to explore privacy, identity, and usability tradeoffs in the metaverse.
Skills used: Threat modeling, privacy and cryptography concepts
- **Digital twin privacy.** Explored sensitive information revealed in the emerging technology of 3D indoor mapping. Independent project with advisor.
Skills used: Python, qualitative coding
- **Understanding the ad ecosystem.** Co-developed a browser extension to study the relationships between pricing/topic of ads and ad targeting, using information on real users’ browsing profiles. Extension can be found at <https://github.com/eric-zeng/ad-ecologist>.
Skills used: TypeScript, web programming backend and frontend, statistics
- **Wetlab cybersecurity.** Explored and threat modeled different components of a liquid handling robot (used in biology, research, pharmaceuticals).
Skills used: Wireshark, Python, reverse engineering, computer architecture/security



UW Molecular Information Systems Lab

May 2019 – January 2020

- **DNA storage analysis.** Performed error analysis for DNA archival storage experiments
Skills used: Python, statistics

OTHER SKILLS

Languages	Python, C, Rust, Java, C++, CSS HTML, TypeScript, SQL, NoSQL
Technologies	Azure, AWS, REST APIs, Git, Linux/Command Line, LaTeX, Wireshark, Cryptography, Machine Learning, Algorithms, Offensive and defensive security
Miscellaneous	Amateur Radio Operator Commercial Drone Pilot Solutions Architect Associate