

ELAINE ZHU

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EDUCATION

Northeastern University
Candidate for Bachelor of Science in Cybersecurity and Criminal Justice

- GPA: 3.85/4.00
- Honors: University Honors Program, Dean's List (Fall 2022, Spring 2023, Spring 2024, Fall 2024)
- Relevant courses: Object Oriented Design, Computer Systems, Systems Security, Computer Networks

Sep 2022 - May 2026
Boston, MA

EXPERIENCE

Incoming Cybersecurity Consultant
PricewaterhouseCoopers

Jul 2025 - Present
Boston, MA

Research Assistant
Cybersecurity and Privacy Institute at Northeastern University

Jan 2023 - Present
Boston, MA

- Co-authored a publication investigating the profiling practices of voice assistants.
- Programmed Python scripts to automate processes such as web scraping, improving efficiency by up to 90%.
- Investigating surveillance pricing mechanisms and the efficacy of bespoke tools in achieving pedagogical goals.

Teaching Assistant, Content Team Lead
Northeastern University

Aug 2024 - Present
Boston, MA

- Engineered and optimized the Racket-based autograder and course infrastructure for CS2500, enhancing grading efficiency and automating assessment processes.
- Collaborated with professor to develop assignments for 500+ students, ensuring alignment with course objectives.
- Conducted lab sessions and office hours, providing technical guidance in Racket programming.

Cybersecurity Intern
Fidelity Investments

Jun 2024 - Aug 2024
Boston, MA

- Contributed to the Zero Trust Architecture (ZTA) initiative by mapping out technologies integrated with NIST controls, enhancing the firm's security policies to align with ZTA principles and improve network security.
- Developed comprehensive technical documentation including code on machine learning security techniques using Python libraries such as IsolationForest and gaussian filters.

PUBLICATIONS

- **Zhu, E.**, Coombes, C., Teja, S., & Patterson, D. (2025). FEEDBOT: Formative Design Feedback on Programming Assignments. (scheduled to be published in ITiCSE 2025)
- Khezresmaeilzadeh, T., **Zhu, E.**, Grieco, K., Dubois, D. J., Psounis, K., & Choffnes, D. (2025). *Echoes of Privacy: Uncovering the Profiling Practices of Voice Assistants*. Proceedings on Privacy Enhancing Technologies Symposium, 2, 71–87. <https://doi.org/10.56553/popets-2025-0050>

PROJECTS

BGP Router
Developer

October 2024

- Developed a Python-based BGP router supporting IPv4 and JSON-formatted communications for route updates and data forwarding.
- Implemented advanced routing algorithms with longest prefix matching and a five-tiered decision process to ensure optimal route selection.

SKILLS

Languages: Python, Java, C, SQL, HTML, CSS, JavaScript, Racket, Kotlin, Bash, Swift
Skills and tools: Wireshark, Ghidra, Burp Suite, Selenium, Linux, penetration testing, reverse engineering, prompt engineering