Ethan Wang

ebwang@ucdavis.edu | Milpitas, CA | (408) 946-0591

Education

University of California, Davis — September 2025 - June 2030 (Expected)
Doctor of Philosophy in Computer Science

University of California, Davis — September 2021 - June 2025
Bachelor of Science in Computer Science, 3.976 GPA

Research Interests

I am currently interested in investigating how we can detect AI bot website traffic and mitigate privacy concerns surrounding the growth of AI browser automation. My past research was at the intersection of AI and security.

Publications

"Security of AI Agents." Yifeng He, Ethan Wang, Yuyang Rong, Zifei Cheng, and Hao Chen. *International Workshop on Responsible AI Engineering (RAIE), co-located with International Conference on Software Engineering (ICSE), April 2025.*

"UniTSyn: A Large-Scale Dataset Capable of Enhancing the Prowess of Large Language Models for Program Testing." Yifeng He, Jiabo Huang, Yuyang Rong, Yiwen Guo, Ethan Wang, and Hao Chen. *International Symposium on Software Testing and Analysis (ISSTA), September 2024*.

Research Experience

Graduate Student Researcher, UC Davis — September 2025 - Present

Computer Security Lab Research Assistant, UC Davis — April 2023 - June 2025

Security of AI Agents

For this project, I drove the investigation of the question: how well can encryption preserve privacy in AI agent applications?

- Performed extensive literature review to discover cutting-edge encryption schemes.
- Designed and evaluated multiple workflows to propose proof of concept with best response and privacy-preserving performance.
- Designed and automated experiments for multiple AI agent applications.
- Evaluated encrypted workflow results against non-encrypted workflow results to draw conclusions.

UniTSyn

- Drove data collection and cleaning for multiple training datasets of different programming languages.

- Developed script in python and bash and designed algorithms to automate data gathering and filtering, collecting about 20,000 GitHub repositories per day.

Professional Experience

Quality Assurance Intern, Cisco June - September 2024

- Set up secure Linux web server remotely and from scratch to host a third-party tool.
- Automated baseboard management controller (BMC) manual tests using Python to cut down time spent testing by up to 60%.
- Optimized, reorganized, and developed an existing BMC stress test, improving user experience and increasing process automation by 40%.
- Performed test planning, test writing, and manual testing.

Software Tools Developer Intern, Intel June - December 2022

Developed web-based tool for hardware engineers to graphically model and simulate circuits. The tool returns simulation data and circuit parameters for circuit designers to optimize the circuit model.

- Updated and built on existing proof-of-concept code and other tools.
- Collaborated with software engineers across multiple groups, end users, mentor, and manager to produce new features and UI/UX updates.
- Acquired knowledge about different transmission line models, measurements, and calculations to create an easy-to-use tool with end users in mind.

Additional Experience

Peer Tutoring (Volunteer) September 2021 - June 2025

- Assisted classmates in understanding concepts and completing homework/projects in math and computer science courses, such as Calculus, Operating Systems, and Computer Graphics.
- Provided tailored, accessible help through one-on-one sessions, virtual help, forum posts, and more, adapting to each peer's learning style and needs.
- Actively encouraged classmates to share their ideas, creating a learning environment filled with many perspectives.

Technical Skills

- Computer Languages: Python, LaTeX, C/C++, JavaScript/TypeScript, Bash, HTML, CSS, Dafny
- Tools: Git, Linux, Hypothesis, Z3