Stanley Zheng

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Education

Vanderbilt University — Nashville, TN

Bachelor of Science in Computer Science and Applied Mathematics — *Aug 2023 – May 2027*

Minor in Electrical and Computer Engineering

Relevant Coursework

Data Structures, Algorithms, Computer Architecture, Discrete Structures, Programming Languages, Linear Algebra

Experience

Undergraduate Research Intern — May 2025 – Present

Carnegie Mellon University — *Pittsburgh, PA*

- Selected from over 900 applicants for the NSF-funded Research Experiences for Undergraduates (REUSE) program in software engineering.
- Worked under Professor Jonathan Aldrich on TTPython, a Python-derived language and runtime for distributed, time-aware, and energy-constrained systems.
- Designed and implemented syntax and compiler support to enable multi-tenant execution in distributed graphs.
- Benchmarked performance against replicated nodes, demonstrating improvements of over 47% in execution efficiency on constrained devices.

Head Teaching Assistant — Jan 2025 – Present

Vanderbilt University — *Nashville, TN*

- Managed a group of 8 TAs to aid a computer architecture class with over 80 students.
- Provided recommendations for handling grading disputes for homework and quizzes, checking grading status.
- Collaborated with the professor to design biweekly quizzes to help students keep up with course objectives.
- Hosted weekly office hours aiding students with test preparation and homework assignments.

Research Assistant — Oct 2024 – Present

Vanderbilt University — *Nashville, TN*

- Developed a system using a trusted execution environment to analyze network packets for security-critical operations.
- Designed custom interrupt logic for network actions, using C to create a customized logging system.
- Utilized an AM64B starter kit to test different network protection implementations.

Projects

Witness | *Next.js, Yarn, Typescript* — Apr 2024– Present

- Contributed to VandyHack's judging platform, a full-stack application used by both participants and judges.
- Collaborated with team members to optimize and refactor React components.
- Revamped display settings on organizer portal, simplifying theme toggle functionality for judges.

Bridging Seas Website | *SvelteKit, TailwindCSS, Vercel* — Jun 2022 – Jun 2023

- Built and designed the current website, servicing 100+ penpals across the world.
- Utilized SvelteKit's modular design to create components used throughout the website, allowing for easy implementation of future additions.
- Deployed the application to a live production environment using Vercel, ensuring seamless updates and uptime.

Technical Skills

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript
Frameworks: React, Express, Node.js, Flask, SvelteKit
Developer Tools: MongoDB, Git, Google Cloud Platform, Linux, Docker, Vercel
Libraries: NumPy, pandas, Selenium, BeautifulSoup