Zeyu (Zayne) Zhang

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EDUCATION

University of Cambridge
Oct. 2023 – 2026 (Expected)

B. A. (Hons) in Computer Science   *Cambridge, England*

- Grade: 1st Class. Top performance in Discrete Maths, Operating Systems, Software & Security Engineering.
- Cybersecurity Society: Secretary (2024/25) – Represented the University in various international competitions.
  * 1st place at pwnEd5 finals, hosted by the University of Edinburgh.
  * 2nd place at the global finals of LakeCTF 2024, hosted by the Swiss Federal Institute of Technology Lausanne.
  * 3rd place at European finals of CSAW CTF 2023, hosted by New York University.
- Hughes Hall May Ball Committee – Developed www.hughesmayball.co.uk and managed domain. *React · TailwindCSS*
- Hughes Hall IT & Infrastructure Officer (2024). Singapore Society Database Officer (2024/25)

EXPERIENCE

Open Government Products
Jun. 2024 – Present

Software Engineer Intern   *Singapore*

- Working on the organization's GitOps access control solution, which replaces previously ClickOps-heavy HR workflows.
- Shipped a Next.js app to visualize and preview changes to access control policies, reducing human error.

Jane Street, Macquarie
Mar. 2024 – Apr. 2024

First-Year Trading & Technology Programme, Technology Spring Insight Programme   *London, United Kingdom*

Cure53
May 2023 – Present

Freelance Security Engineer   *Berlin, Germany (Remote)*

- Performed 15+ code audits and VAPTs for global clients. Communicated findings to technical & non-technical audiences.
- Targets included web applications, browser extensions, Electron-based desktop applications, and mobile applications.

TikTok
Apr. 2023 – Sep. 2023

Security Engineer Intern   *Singapore*

- Discovered 50+ security vulnerabilities affecting critical internal and external facing services, such as TikTok.
- Developed Java extension on Burp Suite's new Montoya API for testing protobuf over both WebSockets and HTTP(s), a feature not supported by any open-source extension at the time of development.
- Wrote and deployed to K8s a deliberately vulnerable application in React.js and Express.js used as part of an internal competition.
- Researched at scale: Protobuf over WebSockets, XSS filter bypasses, and rich text editor vulnerabilities.
- Weaponised a 0-day in an online word processor to harvest employee credentials in a red team operation.

HACKATHONS & PROJECTS

Echo | *Next.js · TailwindCSS · Vercel · Reddit, Twitter API + OAuth*

- Most Promising AI x Web3 Build, 1st Prize @ Encode Club London AI Hackathon 2024
- Social media aggregator that provides personalised feed for users to regain control of their social media algorithms.

EduAble | *Next.js · TailwindCSS · PostgreSQL · Vercel · OpenAI API*

- 2nd Place @ Cambridge Generative AI Hackathon 2024, Finalist @ Fitzelerate 2024
- STEM notetaking app with real-time audio transcription to Markdown & LaTeX, and AI-generated summaries & quizzes.

Ambrose | *TypeScript · React · TailwindCSS*

- 1,200+ downloads.
- Chrome extension that automatically answers trivia questions and reminds users of pending trivia quizzes in an online game.

Zeno | *TypeScript · Express.js*

- Finalist @ STACK the Codes Hackathon 2022
- Security middleware for Express.js that protects against injection attacks, application-level DoS, SSRF and IDOR vulnerabilities.

Charlotte | *Flask · PostgreSQL · React*

- Most Impactful Award @ Tech For Good Festival 2021
- Chrome extension that helps people with disabilities and the elderly to navigate the web with ease by providing accessibility improvements.

Professional Highlights

Cybersecurity Vulnerability Research & Bug Bounty 2022-2023
- Uncovered several web security vulnerabilities in popular open-source software, credited for 15 vulnerabilities in the CVE database.
- Performed penetration tests for international companies through the HackerOne platform, uncovering ¿50 valid security issues.
  * Achieved maximum lifetime signal-to-noise rating across multiple private & public programs, with zero invalid reports.
  * Competed against top hackers from around the world and emerged as top bug bounty hunter in the invite-only Ministry of Defense Bug Bounty Programme 2022 and GovTech Government Bug Bounty Programme 2023.

Technical Skills

Languages: TypeScript · Python · Java · OCaml · Go · SQL · LaTeX
Frameworks: React · Next.js · TailwindCSS · Prisma · Flask · Django
Developer Tools: Git · Docker · Vagrant · Google Cloud Platform · Kubernetes · Unix
Cybersecurity Certifications: OSCP · OSWE · CRT · Burp Suite Certified Practitioner