Zixuan Zhang

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Education

University of Cambridge **2025.10 — 2028.06**
Mathematics (B.A.), Estimated Class: First

Shenzhen College of International Education **2021.08 — 2025.06**
High School Diploma

- **Ranking: 1st/545**; Obtained 20 subject and overall semesterly top-3 awards
- Mathematics (A*), Further Mathematics (A*), Physics (A*), Economics (A*), Computer Science (A*)

Experience

Explore HRT – Spring Insight Programme *at Hudson River Trading* **Incoming 2026.04**

- Selected for a software engineering insight programme (Python) at a leading systematic trading firm.

Meet Millennium – Insight Programme *at Millennium Management* **Incoming 2026.04**

Spring Insight Programme – Technology Data & Innovation *at Deutsche Bank* **Incoming 2026.03**

- Selected for an insight programme exploring software development, data engineering, and technical innovation.

Software Engineer *at Haze Flight (Freelance Contract)* **2025.08 — Present**

- Developed a headless PayloadCMS (TypeScript) backend to bypass rigid templates and support custom schemas.
- Built a complex relational database to handle dynamic pricing models and drone specifications.
- Secured transactions via Stripe Webhooks and owned the full Next.js CI/CD lifecycle from prototyping to production.

Awards

IC Hack 2026 — Best Hardware Hack for *EchoMesh* **2026.02**

- Designed a flooding mesh protocol to broadcast data over analog radios.
- Achieved reliable, decentralized signal propagation without requiring internet infrastructure.
- Automated message relaying, increasing emergency bandwidth by ~400% compared to manual relays.

Cam Hack 2025 — Hackiest Hack, Finalist for *FinderFox* **2025.11**

- Reverse-engineered macOS .DS_Store metadata to manipulate icon coordinates at the binary level.
- Turned the native Finder window into a functional rendering engine by injecting layout payloads.
- Implemented a navigation system to simulate browser link redirection via self-cloning Bash scripts.

HiMCM 2022 — Outstanding, NCTM Winner (Global 1st Place) for *Honeybee Colony and Pollination Model* **2022.11**

USA Computing Olympiad — Gold Division **2022.03**

Projects

A full list of my projects can be found on my website (micfong.space)

Personal Website *Next.js, Tailwind CSS, Typescript (TSX), MDX, PostgreSQL* **2024 — Present**

- Designed and deployed a full-stack personal site featuring a custom sci-fi UI, WebGL 3D globe, real-time backend integrations, and an optimized MDX pipeline achieving sub-100ms static page loads.

OptiWay *Rust, Python, C++, egui* **2023**

- Developed a C++ multi-objective routing engine for 2,000+ students, minimizing congestion via flow calculations.
- Built a hybrid C++/Rust pipeline using FFI and multithreading to integrate a high-performance concurrent UI.

Micfong OS *Rust, x86 Assembly* **2023**

- Developed a custom kernel in Rust, implementing GUI, interrupt handling, and memory management.

Open-Source Contributions *Rust, egui ecosystem* **Ongoing**

- Contributed to egui_dock (docking library) and walkers (slippy map widget) in the egui Rust ecosystem.

Skills

- **Frameworks and Tools**: Next.js, PayloadCMS, egui, Tailwind CSS, React, SQLite, PostgreSQL, Flutter, Numpy, Matplotlib, Figma, Microsoft 365, Inkscape, Typst, LaTeX, Markdown, HTML/CSS
- **Programming Languages**: Python, Rust, JavaScript/TypeScript, C++, SQL, Dart, C, x86 Assembly, Wolframscript
- **Languages**: English CEFR C1: Proficient, Mandarin Chinese Native