

Alexander Wang

Computer Science, University of Cambridge · Class of 2028

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EDUCATION

University of Cambridge

Oct 2025 – Jun 2028

Computer Science Tripos, BA (Hons) — Fitzwilliam College

Cambridge, UK

Expected Graduation: Jun 2028

- Relevant Coursework: Algorithms, Object-Oriented Programming, Discrete Mathematics, Databases, Machine Learning, Digital Electronics, Computer Graphics

EXPERIENCE

Munich Re America Services, Inc. (Munich Re Group)

Jun 2026 – Present

Data Analysis & Engineering Intern

Princeton, NJ

- Building an internal search portal that lets teams across the organization discover and access enterprise data sources
- Catalogued insurance data into the internal Data Marketplace, writing SQL to profile, validate, and document source tables
- Built Power BI dashboards across multiple business data sources to support reporting and data-driven decisions

Haloway — AI-Powered College Application Platform

Apr 2025 – Present

Founder & Software Engineer

Remote

- Built and operate an AI-assisted writing platform for college applications: 200+ users and paying customers admitted to Yale and UC Berkeley (Next.js, React, TypeScript, PostgreSQL)
- Own the full stack — schema design, Stripe billing, and an AI orchestration layer with an ordered provider fallback chain over Gemini (Vertex AI and AI Studio), streaming responses, fail-closed per-feature daily quotas, and per-run token and latency logging
- Shipped a separate internal admin app with TOTP 2FA, three least-privilege Postgres roles, and an append-only audit log for support and billing operations

Citadel | Citadel Securities — Discover Citadel Program (Spring Week)

Mar 2026

Selected Participant — 95 of 9,400+ Applicants

London, UK

- Placed 2nd in a team-based mock trading competition and presented a long/short equity pitch built on fundamental analysis and market signals

PROJECTS

Drone Telemetry Engine & Flight Black Box

Sep 2026

C++, Python, ArduPilot SITL

github.com/CometBlazer/drone-project

- Built a C++20 engine to parse and validate MAVLink v2 drone telemetry over UDP, reaching approximately 4M frames/s with one processing thread in recorded loopback benchmarks on WSL2
- Published live vehicle state to a Python autonomy layer via seqlock shared-memory IPC, with stale-data guards for geofence and low-battery decisions; validated loss accounting and corruption rejection against a seeded proxy that injects packet drops, delays, reordering, and corruption
- Implemented a preallocated ring buffer and async-signal-safe crash handler that produced complete black-box dumps in 20/20 recorded crash tests; built a Python tool for post-mortem decoding and CRC verification

Semantic Find — In-Browser Hybrid Semantic Search

Jul 2026

TypeScript, WebGPU/WASM, transformers.js

semantic-find.vercel.app · github.com/CometBlazer/semantic-find

- Built a "semantic Ctrl+F" Chrome extension (Manifest V3) and web demos that match meaning rather than characters — fully on-device with no backend, using 384-dim MiniLM embeddings
- Fused literal, keyword (MiniSearch), and semantic rankings with weighted Reciprocal Rank Fusion; ran inference in Web Workers with zero-copy ArrayBuffer transfer and IndexedDB caching to keep typing jank-free

SKILLS & INTERESTS

Languages: C++, Python, SQL, Java, JavaScript/TypeScript

Frameworks & Tools: Next.js, React, SvelteKit, PostgreSQL, Supabase, PyTorch, Power BI, Stripe, Cloudflare, Git/GitHub

Selected Achievements: USACO Gold Division; 3× AIME Qualifier

Interests: Chess, classical piano, violin (orchestra), Ancient Rome, world history, acrylic painting, origami