Eric Zwierzynski

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Education

City University of New York, College of Staten Island May 2025
Bachelor of Science in Computer Science, Cum Laude | GPA: 3.63/4.00 *Staten Island, NY*

Technical Skills

Languages: Python, TypeScript, JavaScript, SQL, HTML/CSS
Backend: FastAPI, REST APIs, PostgreSQL, SQLAlchemy, Alembic, Redis, Celery, Airflow, Server-Sent Events
Frontend: React, Next.js, Vite, Tailwind CSS
AI & LLM: OpenAI & Anthropic APIs, AI agents, tool calling, RAG, embeddings, evals, OpenTelemetry
Infrastructure & Tools: Docker, Docker Compose, CI (GitHub Actions), Nginx, Linux, Vercel, Render, Git, pytest

Experience

Software Developer Intern May 2025 – September 2025
GeoComm *Remote*

- Built backend Python and FastAPI services powering public-safety GIS workflows for 9-1-1 dispatch, processing real-time geospatial data to support accurate and timely emergency response routing.
- Developed Airflow DAGs to track whether required files were present across all tenants, generating automated reports and reducing manual validation effort by ∼30%.
- Added structured JSON logging with trace IDs across FastAPI services, cutting incident triage time by ∼40%.
- Wrote 40+ pytest unit tests, increasing code coverage from 32% to 90%.

Academic Support – TA & Tutor September 2024 – May 2025
City University of New York, College of Staten Island *Staten Island, NY*

- Tutored 50+ students weekly (1,000+ sessions) in Python, Java, C++, and data structures; built practice sets.

Software Developer Intern January 2024 – May 2024
Research Foundation of The City University of New York *Queens, NY*

- Built a full-stack Next.js/TypeScript internship platform on a 5-person CUNY research team, with keyword search, multi-filter sorting, and an application tracker used by dozens of students.
- Integrated the OpenAI API into a GPT-powered career advisor that gave students resume feedback.

Projects

Agent Tracer | *Python, FastAPI, PostgreSQL, React, TypeScript, OpenTelemetry* August 2026

- Built an observability platform for AI agents: a Python SDK traces LLM and tool calls as nested spans, and an OTLP/HTTP endpoint ingests OpenTelemetry/OpenInference traces into a FastAPI and PostgreSQL backend.
- Developed a React/TypeScript dashboard with waterfall span timelines, per-step input/output/error inspection, and latency, token, and cost tracking, updated live via Server-Sent Events.
- Implemented side-effect-free replay of individual model calls against OpenAI/Anthropic, plus trace comparison that aligns span trees to surface status flips, drift, and latency/cost deltas.
- Added hashed API keys, Docker Compose, and GitHub Actions CI running 74 tests on SQLite and PostgreSQL.

AuthCore | *FastAPI, PostgreSQL, Redis, Celery, Docker, Nginx* June 2026

- Built an authentication and authorization API in FastAPI with JWT and Redis-backed sessions, OAuth2 (Google/GitHub), magic-link login, and TOTP 2FA with encrypted secrets and hashed backup codes.
- Designed a pluggable auth backend using the Strategy pattern, switching between JWT and session authentication via a single environment variable with shared login, logout, and revocation interfaces.
- Implemented refresh token rotation with reuse-family revocation, Argon2 password hashing, Redis-backed brute-force lockout with atomic operations, per-route RBAC, and per-device session management.
- Containerized FastAPI, Celery, PostgreSQL, and Redis with Docker Compose and Alembic migrations; covered 29 endpoints with 130+ pytest tests; deployed on a DigitalOcean VPS behind Nginx.

Professional Development

Google Software Engineering Program (G-SWEP) February 2025 – May 2025
Google *Manhattan, NY*

- Competitively selected; sharpened algorithms and system design via weekly 1:1 mentorship with a Google engineer.