

Samantha Pomeroy

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Backend-focused software engineer with production experience building API-driven services, multi-service architectures, and data pipelines. Shipped a FastAPI backend with vector database retrieval and OpenAI integration -- deployed end-to-end with Docker Compose on Cloudflare, serving real users. Non-traditional path; built everything from scratch.

EDUCATION

Applied AI Solutions Engineering (AISE) | 2024 -- Present

Columbia University / Fair Chance Futures (FCF) | New York, NY

- LLM APIs, graph neural networks, feature engineering, RAG systems, reinforcement learning. Production-focused throughout; hackathon team lead.

Full Stack Web Development Certificate | Graduated July 2024

Persevere Tech Alliance | Remote

- 9-month intensive: Python, JavaScript, React, REST APIs. Capstone: News360, full-stack news aggregator with live API integration.

WORK EXPERIENCE

Independent Contractor -- Software Developer | May 2025 -- April 2026

Banyan Labs | Remote

- Co-built JONA, a multi-tenant SaaS workforce platform (FastAPI + PostgreSQL + React/Next.js + Supabase); designed relational schema with row-level security and multi-tenant data isolation. Live at jona.careers.
- Built LeadProcessor, an automated ingestion pipeline handling 17 source file types -- cleaned, deduplicated, and validated ~20,000 records, then imported directly to ClickUp via API, eliminating an estimated 1,000+ hours of manual data entry.
- Built operational analytics dashboards and data workflows; authored contributor documentation and trained team on system architecture and automation tooling.

PROJECTS

Our Door -- Socratic Learning Assistant | 2026

FastAPI, Python, ChromaDB, OpenAI API, Docker Compose, React, nginx, Cloudflare

Columbia AISE Capstone -- Phase 1 Demo Winner

- Built the full FastAPI backend: ChromaDB vector retrieval over a 44-chunk embedded curriculum corpus, OpenAI API for Socratic response generation (Three Knocks model), guardrail validation, JWT auth, and SQLite audit logging.
- Architected multi-service Docker Compose deployment (FastAPI + ChromaDB + React/nginx) and shipped to production via Cloudflare Tunnel; live at ourdoor.sampom.me.

Bouncer -- Prompt Moderation API | 2026

FastAPI, Python, SQLite, Pydantic

Team Project

- Prompt moderation API with layered rule-based scoring (approve/flag/reject), sliding-window rate limiting, Bearer auth, and SQLite audit logging. Rules loaded from external JSON for policy updates without redeployment.

Candor -- Employment Intelligence Platform | 2025 -- Present

Neo4j, FastAPI, PostgreSQL, Sentence Transformers, React/TypeScript

Independent

- Graph-powered fair-chance employer intelligence platform for justice-impacted job seekers. Semantic skill matching surfaces transferable experience that keyword-based ATS systems miss.

TECHNICAL SKILLS

Languages | Python, TypeScript/JavaScript, SQL, Bash

Frameworks | FastAPI, React, Next.js, Pydantic

Backend | REST API design, authentication (JWT/Bearer), rate limiting, middleware

Data | PostgreSQL, ChromaDB, Supabase, Redis, SQLite, Neo4j

Infra | Docker, Docker Compose, Git/GitHub, Linux/WSL2, Cloudflare, nginx

AI/ML | OpenAI API, RAG systems, LLM integration, Sentence Transformers, embeddings

ADDITIONAL

Open Source: Contributing to CesiumJS (3D geospatial visualization library) through Columbia AISE program

Coursera: Python for Everybody, Database Programming with Python, Data Science in Python, Prompt Engineering

Self-hosted: Ollama (local LLMs), personal RAG pipeline, MCP integration, remote access via Tailscale/Cloudflare tunnels

Advocacy: Active advocate for second-chance hiring. Peer mentor for justice-impacted individuals navigating reentry. JTC fellow