Jennifer Umoke

AI Engineer, Full Stack & Agentic Systems
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Profile

AI engineer with 3+ years of experience building AI agents and full stack applications. I obtained a First Class Law degree in 2024 and I am currently studying (part-time online) for an MSc in Computer Science with AI at The University of York. I ran an AI startup for 2 years and I currently maintain an open source SDK that provides a unified interface to both OpenAI Responses API and Anthropic's Messages API. During my startup, I built and shipped applications that securely handle user data, provide secure authentication via Auth0 and ran on Azure Kubernetes Service, backed by Cloudflare.

Skills

- **Fullstack Development:** Frontend web apps with React and TypeScript, Backend services with Python and FastAPI, Desktop applications with Electron
- **Secure systems:** Secure storage of user data, Authentication with Auth0, Access management with Azure Entra ID, credential management with Azure KeyVault
- **Devops:** Azure Kubernetes Service, Docker, Azure Monitor, GitHub Actions CI/CD
- **AI systems:** Building coding agents, RAG, tool calling, context engineering, OpenAI and Anthropic APIs, open source model inference with HuggingFace and vllm

Publications

- Dynamic Programming: LeetCode 2140, Solving Questions with Brain Power, YouTube — October 2026
  https://www.youtube.com/watch?v=oaoutKG7buU
- Building a Vector Database in Python, jcumoke.com — June 2026
  https://jcumoke.com/blog/building-a-vector-database-in-python
- How to Build a Coding Agent, jcumoke.com — April 2026
  https://jcumoke.com/blog/how-to-build-a-coding-agent
- How to Build an AI Agent with TypeScript and the OpenAI API, jcumoke.com — February 2026
  https://jcumoke.com/blog/how-to-build-an-ai-agent-typescript-openai-api

Work Experience

AI Engineer and Primary Maintainer, Tessaract — Jun 2026 – Present

Tessaract: A unified LLM API for building agents
Link: https://jenniferumoke.github.io/tessaract/

- Built an SDK that gives agents one interface to OpenAI and Anthropic models, with native support for reasoning, tool calling, server-side tools, prompt caching and streaming.
- Designed an extensible adapter and provider architecture, so new providers can be added without changing core code.
- Own the project end to end, from design to release: published on PyPI with CI that tests across 4 Python versions and automates releases and documentation.

AI Engineer & Founder, Brilliant AI — Jun 2023 – Jan 2026

BrilliantCode: Open-source coding agent harness
Link: https://github.com/jenniferumoke/brilliantcode

- Built a coding agent harness with Electron and Typescript where an AI agent writes code, runs terminals with node-pty and tests its work in a browser window.
- Built a multi-provider agent runtime (OpenAI, Anthropic, local models) with ChatGPT-subscription sign-in as an alternative to API keys.
- Developed a backend service with FastAPI that proxied all inference requests from the harness and a user dashboard for subscription management.
- Implemented Trajectory Compaction: older turns and large tool outputs are summarised before reaching the main model, while every user message is kept intact.
- Built a Github Actions release pipeline that automates builds, tests, code signing and macOS notarisation on MacOS, Windows and Linux.

LlamaCloud: OpenAI-compatible inference platform for open-source AI models
Link: https://youtu.be/pBSWesRW3m8

- Built and deployed a full-stack inference platform serving Llama 3, Mistral Nemo and Flux Schnell through an OpenAI-compatible API.
- Created a developer portal and playground with React, for users to manage API keys and test models on prompts.
- Published a Python SDK that handles authentication, routing and error handling for developers.

BrilAI: Video Course Generator Agent
Link: https://youtu.be/h7t-AVZ6r4k?si=8fZCoIOPkdREn_d9

- Built and deployed an agent that allows users to create long form video courses on any topic.
- Developed a pipeline that included RAG over internet sources, outline generation with OpenAI o3-mini, multimedia course content generation with Claude 3.5-sonnet and audio narration generation with azure tts.
- Developed the backend in FastAPI, integrated Google Sign In with Auth0 and implemented the frontend with HTML, CSS and JavaScript.
- Used MongoDB atlas for storage of user and course data, AWS S3 for course audio storage and Amazon SES for email notifications.

Hackathons

OpenAI DevDay Community Hackathon November 2026

- Selected out of 900+ applicants to participate in OpenAI's largest hackathon in London till date.
- Built ambi, an AI agent that proactively adapts to users based on their emotions and activities on their computer.
- Built using OpenAI Realtime API, OpenAI Decisions API and OpenAI Agents SDK.

Hack Her Women in AI Hackathon October 2025

- Built an AI app that let users create automation workflows with their voice using CodeWords and ElevenLabs.
- Beat 6 other teams to win CodeWords track, "turning language into something that builds".

UK AI Agent Hackathon July 2025

- Started working on an AI IDE that gave agents access to the same tools that human programmers use to build.
- Developed the project into BrilliantCode over the next few months.

Internships

Legal Intern, DHL Sep 2022

- Supported the IT legal services team on GDPR compliance for technology procurement contracts, working on Standard Contractual Clauses for EU-US data transfers and data processing agreements with technology suppliers.
- Drafted and reviewed data protection clauses in technology contracts, covering processor obligations, security measures and audit rights.

Vacation Scheme, Mayer Brown International LLP Jun 2023

- Rotated through the Intellectual Property and Tax practice groups at an international law firm.
- Contributed to IP due diligence on technology matters, scoping and reviewing records to identify legal risk.
- Offered a training contract on the strength of my performance on the scheme.

Data Analytics Intern, Kesar & Co Solicitors Aug 2022

- Worked with the practice manager to turn open legal-operations questions into a clear analysis plan, then reported findings on immigration, civil and criminal case outcomes.
- Built a data pipeline for 56 clients' survey responses: digitised the forms, cleaned and standardised them with Pandas, ran sentiment analysis with Hugging Face classifiers, and produced Power BI dashboards for staff.

Education

MSc Computer Science with Artificial Intelligence, University of York (online, part-time) 2026 – 2028
LLB (Hons) Law, First Class, University of Greenwich 2021 – 2024
Nanodegree, Data Analysis, Udacity 2022
Certificate, Statistics for Data Science and Business Analysis, Udemy June 6, 2022