

JEFF ELLIS

AI Backend Engineer — Go • Postgres • pgvector • Docker • OpenAI

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GitHub: [github.com/ai-backend-course](https://github.com/ai-backend-course)

Portfolio: <https://ai-backend-course.github.io/portfolio/>

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Available beginning December 2025

## SUMMARY

AI-focused backend engineer skilled in building production-ready backend systems using Go, Postgres, pgvector, Docker, and OpenAI. Experienced in creating Retrieval-Augmented Generation (RAG) pipelines, vector-based search systems, and scalable microservices. Strong understanding of authentication, validation, structured logging, metrics, and deployment workflows. Developed full AI-backend portfolio through CourseCareers Backend Specialization and an intensive ChatGPT-guided 60-day applied backend engineering program.

## TECHNICAL SKILLS

### Core Backend

Languages: Go (Primary), JavaScript/Node.js (Exposure), TypeScript (Exposure)

Frameworks: Fiber, Express (Exposure)

Databases: Postgres, pgvector

DevOps: Docker, Docker Compose, Fly.io deployments

AI Tools: OpenAI API, embeddings (SmallEmbedding3), GPT-4o Mini, mock-AI pipelines

Patterns: REST APIs, microservices, RAG workflows, semantic search

Other: Logging (zerolog), metrics endpoints, rate limiting, environment configuration

## PROJECTS

### Notes Memory Core API

CRUD notes API featuring structured logging, migrations, metrics, environment-based configuration, and production-ready architecture.

### Notes Memory Core — RAG Extension

Full Retrieval-Augmented Generation pipeline with embeddings, vector similarity search, and AI-generated contextual responses.

#### AI Embedding Microservice

Standalone microservice that generates text embeddings with OpenAI or deterministic mock mode.

#### AI Summary Microservice

Microservice that accepts raw text and returns concise AI-generated summaries.

#### Portfolio Website

Responsive static site with a live playground for real-time testing of deployed RAG services.

### EDUCATION & TRAINING

CourseCareers — Backend Software Development Specialization (Completed Oct 2025)

Intensive ChatGPT-Guided AI Backend Program (60-Day Applied Build Track)

### ADDITIONAL INFORMATION

Lifelong learner with strong self-driven study habits

Enjoys building scalable systems and experimenting with AI architectures

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