

# Jeff Ellis

## AI Backend Developer

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

Backend engineer focused on AI-driven systems using Go, Postgres, pgvector, Docker, and OpenAI. Skilled in building RAG pipelines, semantic search, and microservices. Completed the CourseCareers Backend Specialization and an applied 60-day AI backend program resulting in a full production-grade portfolio.

### Backend Software Education

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CourseCareers   Certificate	Grad November 2025
Software Development Fundamentals with Backend Specialization	
Completed 45-hour training on programming fundamentals (HTML, CSS, JavaScript), frontend development (React, DOM manipulation), version control (Git & GitHub), software architecture and design principles, algorithms and data structures, backend fundamentals (Node.js, Express, API design), databases (SQL, NoSQL), automated testing & debugging, and deployment workflows.	
Intensive ChatGPT-Guided AI Backend Program   Other	Grad November 2025
AI Backend Development	
Completed an intensive AI-backend engineering program focused on Go, Postgres, pgvector, Docker, semantic search, retrieval-augmented generation (RAG), microservices, API design, and production-grade deployment workflows. Built multiple end-to-end AI backend systems through hands-on, project-based instruction.	

### Technical Skills

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**Core Backend:** Go · Javascript · Node.js · TypeScript  
**Frameworks:** Fiber · Express  
**Databases:** Postgres · pgvector  
**DevOps:** Docker · Docker Compose · Fly.io  
**AI Tools:** OpenAI API · SmallEmbedding3 · GPT-4o Mini · mock-AI pipelines  
**Patterns:** REST APIs · Microservices · RAG workflows · Semantic Search  
**Other:** zerolog · metrics endpoints · rate limiting · environment configuration

### Portfolio Website

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Portfolio [ai-backend-course.github.io/portfolio/](https://ai-backend-course.github.io/portfolio/)

### Projects

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#### 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.