Scott Askinosie M.S. Ph.D.

Austin, TX · (417) 414-5200 · scott@askinosie.com · Portfolio · LinkedIn

AI Engineer & Open Source Contributor

AI engineer and open source contributor specializing in production RAG systems, agentic frameworks, and vector databases. Active contributor to Weaviate open-source project with expertise building and documenting LLM applications from retrieval pipelines to agent orchestration. Former educator with proven ability to translate complex AI concepts into clear documentation, workshops, and production-ready code. Deep Python expertise (Pydantic, FastAPI, modern tooling) with MLOps experience shipping examples and helping developers achieve first successful inference through production deployment.

EXPERIENCE

OPEN SOURCE ENGINEER & LEAD TECHNICAL TRAINER, Remote, Weaviate [Feb 2024 - Present]

- Active contributor to Weaviate open-source repository **(27K+ stars)**, developing production-ready examples, documentation, and integration patterns for RAG applications with **LlamaIndex**, LangChain, and custom agentic frameworks. Build focused, high-quality tools demonstrating first-principles retrieval design.
- Designed and delivered "Building Production-Ready Pydantic Agents with Vector Databases" workshop at **Data Science Dojo Agents Conference (2025)**. Created and published **open-source Claude Skills framework** on **GitHub**, demonstrating RAG pipeline integration with async microservice architecture and Model Context Protocol patterns.
- Lead Hack Nights and conference workshops in collaboration with **LlamaIndex**, Comet, CrewAI, FriendliAI, and dltHub, teaching developers to build instrumented agent chains with evaluation benchmarks and reproducible demos. Bridge **open-source experimentation with production deployment** patterns.
- Develop comprehensive training materials and webinars on production vector database optimization including quantization, multitenancy, RBAC, and scaling strategies. Build integration examples demonstrating OpenAI SDK compatibility with Ollama and vLLM for on-prem, privacy-sensitive deployments.

LEAD AI DEVELOPER, LEAD DATA SCIENTIST, Remote, Portions Master [Oct 2023-Feb 2025]

- Innovative AI Model Development and Deployment**:** Spearheaded the development and operationalization of pioneering AI models for food identification and volume estimation. Transitioned the project from third-party developers to in-house development, **saving over $2 million**.
- Cosmos DB Data Integration for RAG System: Indexed and vectorized Cosmos DB data to enable a **Retrieval-Augmented Generation (RAG) system within Azure Prompt Flow**, leveraging an AI assistant for seamless data retrieval and enhanced query response accuracy.

DATA ANALYST/DATA SCIENTIST/PROFESSOR, Remote, Western Governors University [Aug 2017-Oct 2023]

- Created NLP model to classify Net Promoter Score (NPS) detractor open text responses on end of term survey identifying 5 critical areas dissatisfaction leading to a **4X decrease** in student drops.
- Developed semantic classification system using **transformer-based topic modeling** to categorize student dropout reasons from unstructured text data, enabling targeted retention interventions.
- Analyzed **487,826 student-term records** demonstrating call-heavy communication **increased NPS promoter rates by 7.2%,** informing revised institutional protocols.

SKILLS

AI/ML: Python (Pydantic, FastAPI, modern tooling: uv/ruff/mypy), RAG, Agentic Frameworks (LlamaIndex, LangChain, CrewAI), Vector Databases (Weaviate), Local LLMs (Ollama, vLLM), OpenAI, Claude, Huggingface, MCP, NLP, Neural Networks, Time Series Analysis

Data & Analytics: Pandas, Numpy, Scikit-learn, SQL, PySpark, Streamlit

Tools & Platforms: Git/GitHub, Docker, JupyterLab, AWS, Google Colab, Azure, Google Cloud

SPEAKING & OPEN SOURCE CONTRIBUTIONS

Recent Conference Presentations & Workshops

- "Building Production-Ready Pydantic Agents with Vector Databases" - Data Science Dojo Agentic AI Conference (2025) - Workshop materials published on GitHub
- “End-to-End RAG System: LlamaIndex Hierarchical Parsing + Vector Search for Domain-Specific Literature” CalibrateAI (2025)
- “Pandas Datframe Agent” - MLOPS and Generative AI World Summit (2025)

Open Source Projects

- Claude Skills Framework - Integrates LlamaIndex capabilities with Weaviate for agentic workflows
- Regular contributor to Weaviate open-source projects with focus on developer experience

AI PROJECTS

Pydantic Agent Workshop & Claude Skills Framework (Open Source)

- Designed and delivered production-focused workshop on building type-safe agentic systems using Pydantic, vector databases, and Model Context Protocol at Data Science Dojo Agents Conference with materials published on GitHub.
- Created open-source Claude Skills framework demonstrating RAG pipeline integration with Weaviate, featuring async microservice architecture and OpenAI SDK compatibility patterns with comprehensive documentation.

Vision-Enhanced Agentic RAG System for Technical Documentation

- Engineered an innovative RAG pipeline leveraging Weaviates Query Agent, multimodal AI (GPT-4 Vision) and vector embeddings to automatically extract and interpret technical data from both text and visual content (charts, maps, diagrams) within engineering documentation.
- Deployed async microservice architecture using Model Context Protocol integration with Claude Desktop, enabling seamless AI-assisted technical research workflows for mechanical engineering specifications.

EDUCATION

- **Harvard Business School** | Leadership, Ethics and Corporate Accountability Pilot
- **University of Missouri** | Ph.D. Quantitative Biology
- **Missouri State University** | Master’s Cellular and Molecular Biology
- **Missouri State University** | Bachelor of Science Biomedical Science