◼ AI Portfolio Roadmap

How This Project Fits Your AI Product Journey

Phase 1 — Single-Agent RAG Assistant (This Repo)

Learn to combine retrieval + reasoning in one autonomous agent. Tech Stack: LangChain, LlamaIndex, Chroma, Hugging Face Embeddings. Highlights: Builds a local knowledge assistant that decides when to retrieve vs. generate. Evaluates context relevance and groundedness (next: TruLens integration).

Phase 2 — Multi-Agent Collaboration (LangGraph + MCP)

Goal: Enable multiple specialized agents (Researcher, Summarizer, Reviewer) to coordinate intelligently. Stack: LangGraph + Anthropic MCP + LlamaIndex Context Graphs. Key Idea: Each agent uses its own retriever but shares context through the Model Context Protocol (MCP).

Phase 3 — Context-Rich Ecosystem + Evaluation

Goal: Connect multiple agents and tools in a shared context network that learns over time. Stack: MCP Servers (Research / Fetch / Filesystem) + TruLens + W&B; (Weights & Biases). Focus: Real-time evaluation of agent behavior — groundedness, latency, and response quality.

Phase 4 — End-to-End AI Product Launch

Goal: Deploy a full AI product prototype with UI, backend, and persistent memory. Stack: Streamlit / Next.js frontend, LangServe + FastAPI backend, deployed to Hugging Face Spaces or Vercel. Example: AI Reading Companion (multi-agent version with reader, memory, and coach agents).

◼ Why It Matters

This roadmap demonstrates your progression from foundational retrieval systems to advanced multi-agent orchestration — showcasing skills in AI engineering, product design, and system thinking. Each project builds toward context-rich, evaluated, deployable AI systems that reflect both technical depth and product vision.