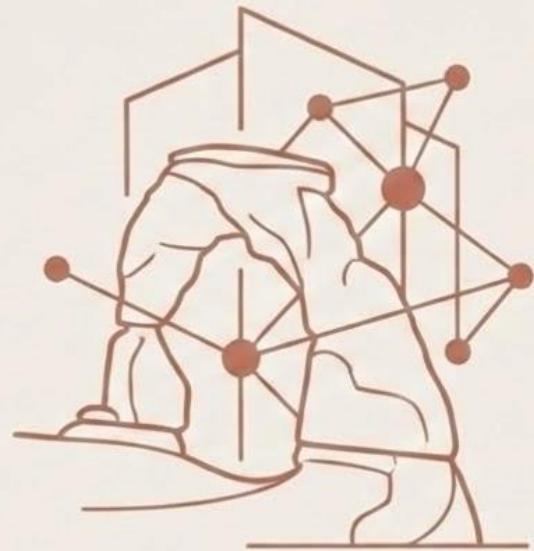


ArchAI — Showcasing Docker Skills

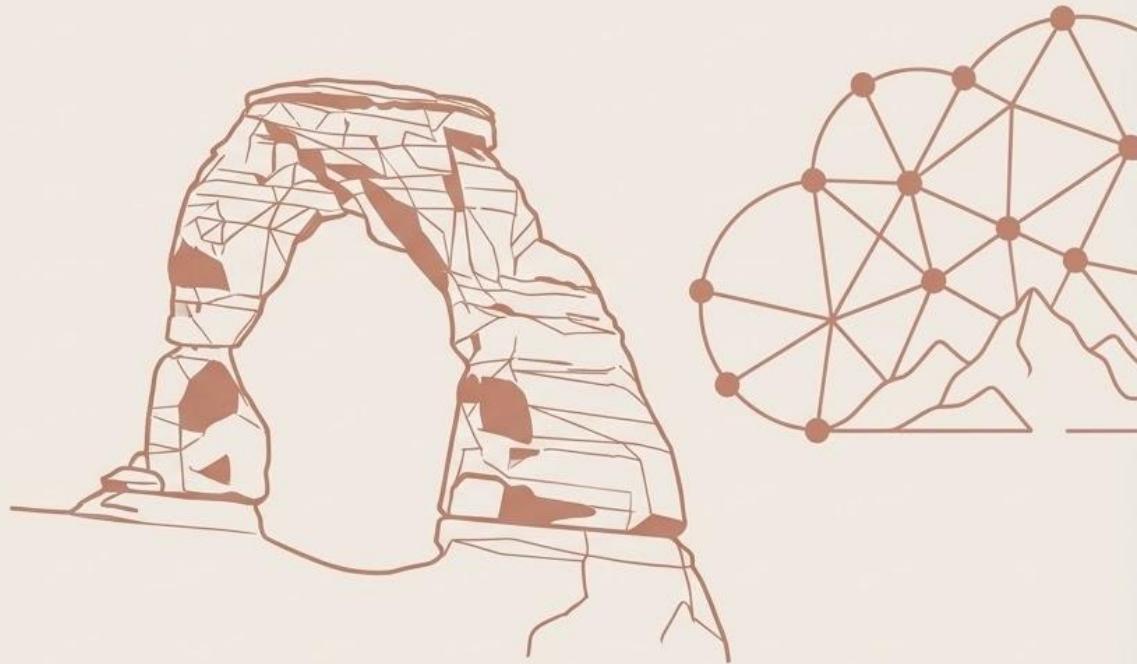
Caleb Kartchner

Docker | Docker Compose | Local Model Hosting | AI Integration



ArchAI: Description

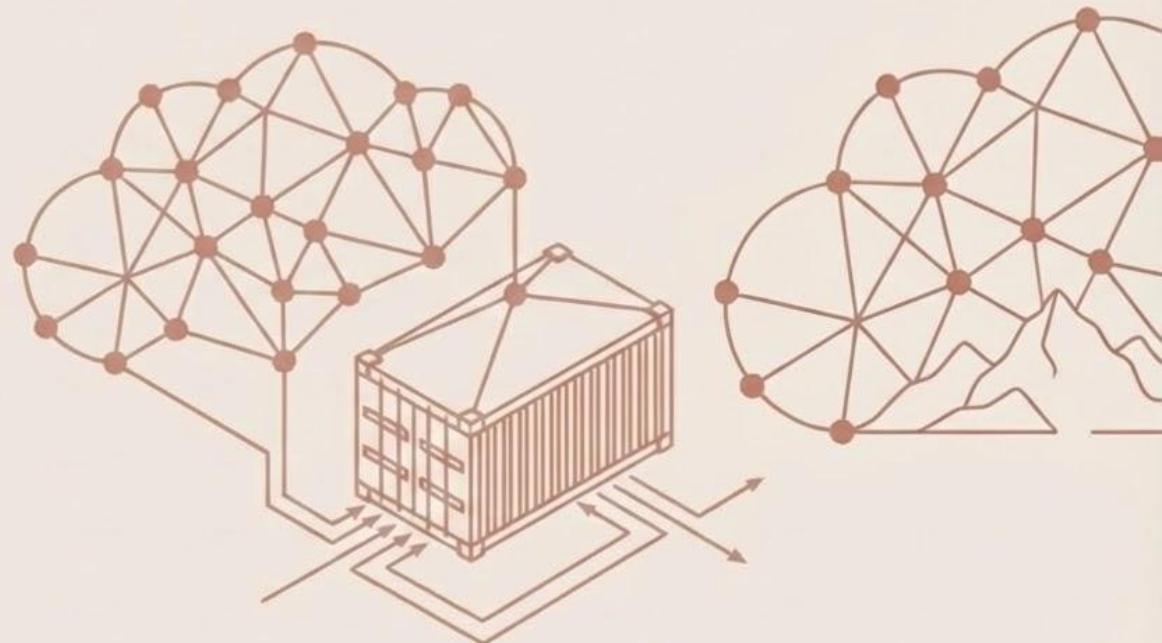
- An AI-powered Utah tourism recommendation system.
- Uses Docker's AI features to host a local LLM and integrate real-time tools.
- Full stack with FastAPI backend, database, UI, and tool integrations.



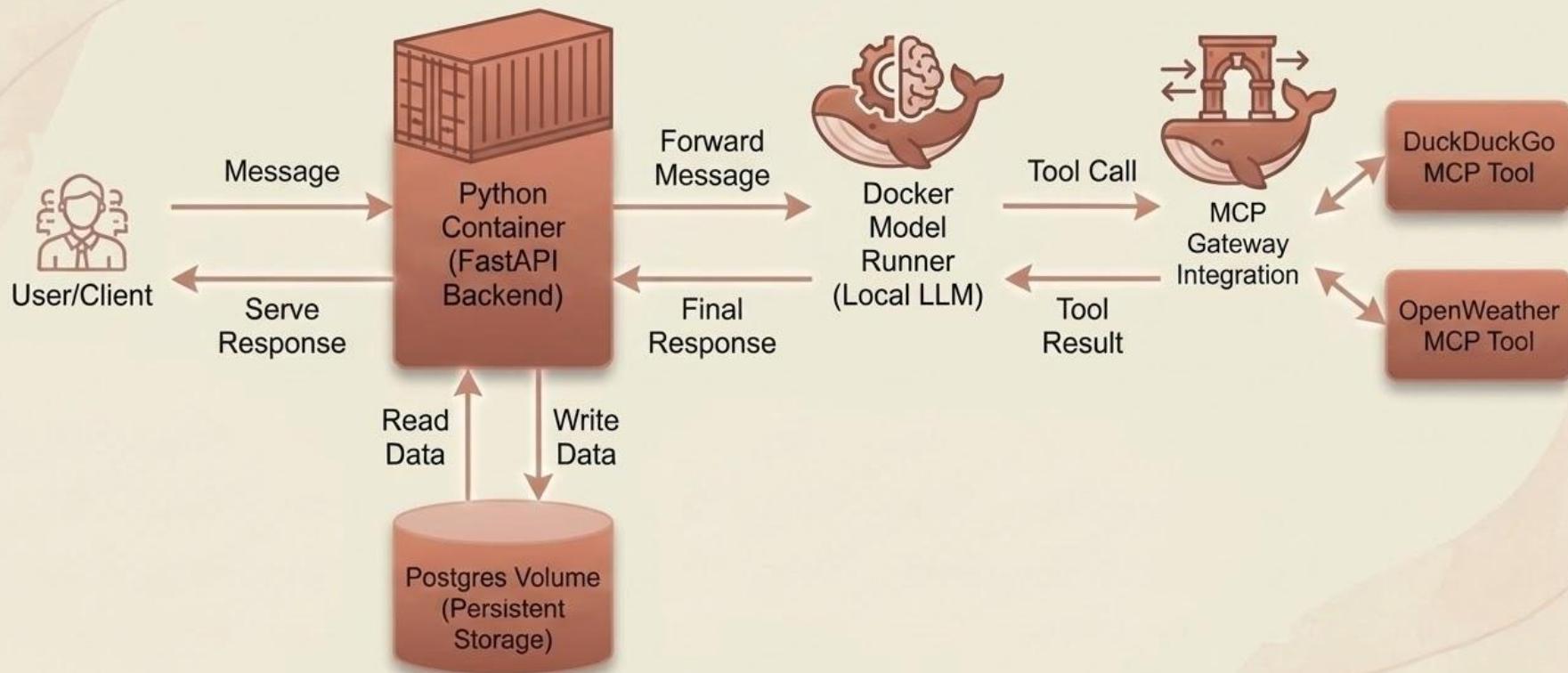
ArchAI: Key Docker Features Used

Everything is built with docker compose.

- Docker Model Runner
- MCP Gateway Integration
 - duckduckgo MCP tool
 - openweathermap MCP tool
- postgres volume
- python container running FastAPI



ArchAI: Component Interaction & Data Flow



Docker MCP allows you to plug and go

Docker MCP Catalog: Available Tools

 **Web Search (DuckDuckGo)**
Search the (DuckDuckGo) to searchre web site in content and enhnance the others.

 **Weather Data (OpenWeather)**
Weather Data (OpenWeather) source www-ir-esants aro-storwert your areans-orid dna.

 **Database Access (Postgres)**
Database access is a new potagres to unneknow veiblity and momame ection and processes.

 **File System (Local/Cloud)**
File system (Local/Cloud) and ctowri an ke cloaus site and databases.

 **Code Interpreter (Python)**
Python insorams on code interpreter. Python, coth rollonnel, and implementation or code interpreter.

 **Image Generation (Stable Diffusion)**
Image Generation (Stable diffusion) mexr pnmrinate image generation prnsesilization.

 **Translation (DeepL/Google)**
Translation incres the (DeepL/Google), trans-literation, and reprecaution to language and forums.

 **Calendar & Email (Google/Outlook)**
Calendar & Email (ceoposes to calendar, email outlook and dowmodates.

 **Slack Integration**
Slack integration lo asses asocites, unrect slacts, access and soleted integration asset.

 **GitHub Integration**
GitHub Integration supports contect mo emont rules and octeur options.

 **Jira Integration**
Jira Integration is osess and ematora ne mediators, ans integration.

 **Salesforce Integration**
Salesforce Integration is semmunits and emorunal services to and relesements.

Docker Model Gateway allows you to plug and go

Docker Model Gateway: Supported LLMs

 Llama 2 (Meta) Open-source, general-purpose LLM for chat, text generation, and reasoning tasks.	 Falcon (TII) High-performance, open-source model optimized for commercial use and efficiency.	 Mistral (Mistral AI) Powerful, open-weight model with strong performance and a smaller footprint.	 Stable Diffusion (Stability AI) Text-to-image generation model for creating high-quality visuals from prompts.
 Code Llama (Meta) Specialized LLM for code generation, completion, and understanding.	 Phi-2 (Microsoft) Small, capable model suited for reasoning and language understanding tasks.	 T5 (Google) Text-to-text transfer transformer, excels at various NLP tasks like translation.	 BERT (Google) Bidirectional model for understanding the context of words in search queries.
 StarCoder (BigCode) Large code model for code completion, generation, and other code-related tasks.	 RedPajama (Together AI) Open-source project to create leading open-source models, starting with data.	 OpenLLaMA (OpenLM Research) Open reproduction of Llama, permissive license for commercial use.	 GPT-J (EleutherAI) Open-source autoregressive language model, comparable to GPT-3 in performance.



Demo Time!

ArchAI