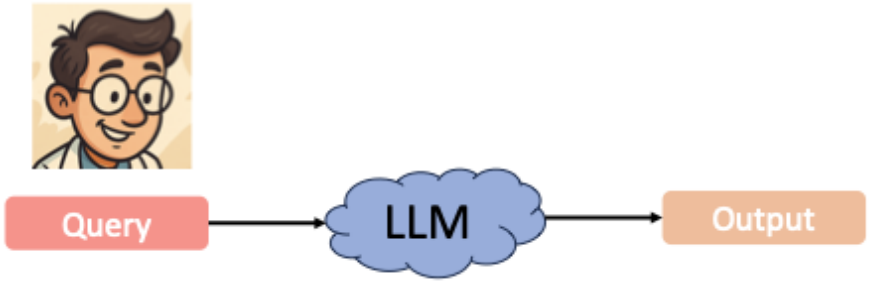
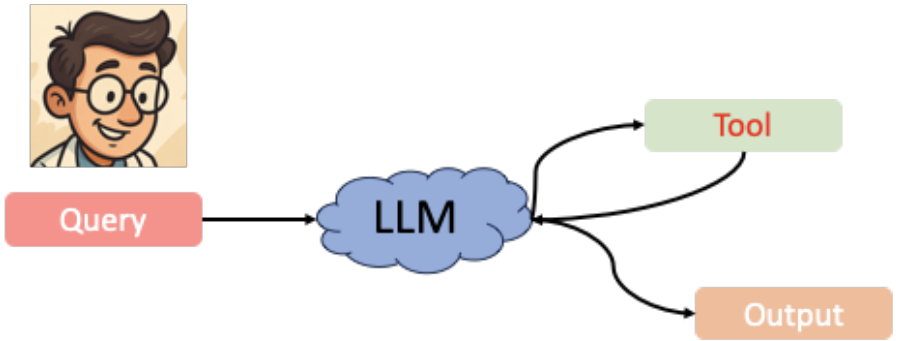
Large Language Models (LLMs)



AI Agents

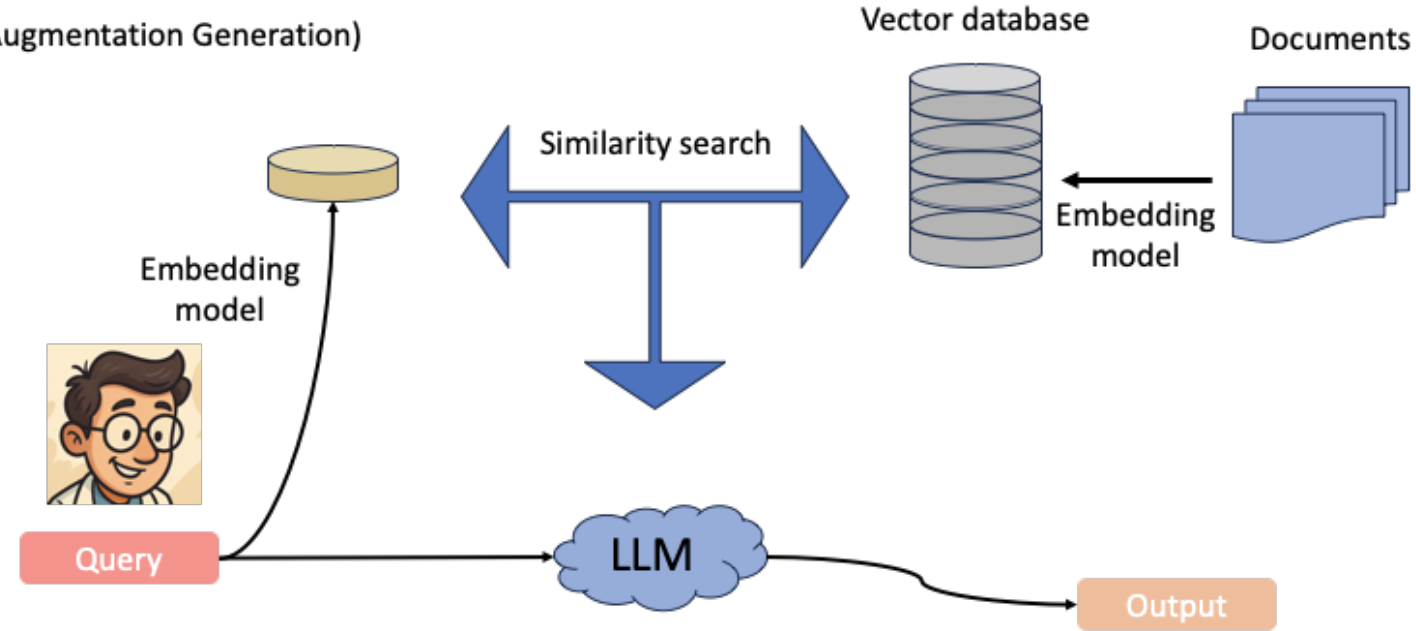
AI agents are autonomous or semi-autonomous computational entities designed to perceive their environment, process information, and take actions toward achieving specific goals.

ReAct (Reason + Act)



AI Agents

RAG (Retrieval Augmentation Generation)

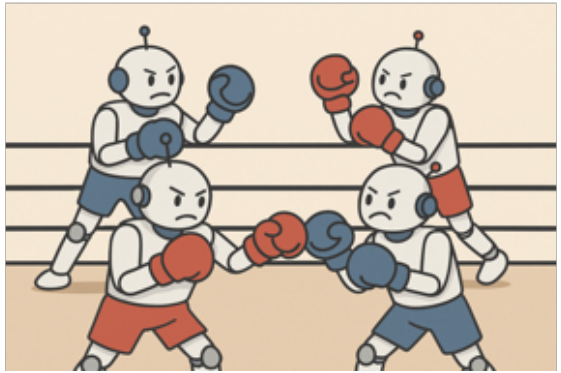


Multi-Agents systems

Multi-Agents: behavior

Collaboration

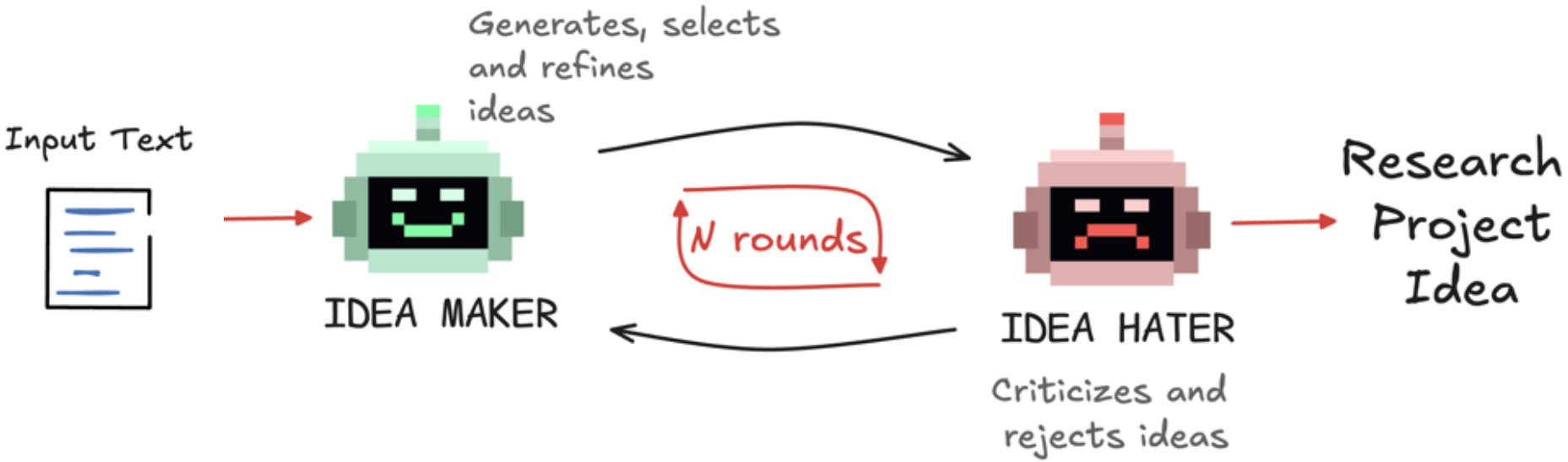
Competition



Multi-Agents in Science

- Literature search and summarization
- Generate hypothesis
- Experiment design
- Data analysis and interpretation
- Code generation
- Cross-domain reasoning and integration
- Writing papers
- Critique and refinement

Agentic system



LangGraph

Agents	**Graph State**	**Computational Graph**
• *Task* • *Input* • *Output*	*Centralized register for messages* *Used to manage communication among agents* *Set agent context and memory*	*Set system workflow.* *Can be static or dynamic*