

AI

Summer of Code



Implementing Conversational Web Search Systems

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About

- **Academic background:** Economics, Math, Stats, ARTIBA
- **Areas of Interest:** Core AI, NLP, Audio AI, AI Engineering, probabilistic models, experimentation & system inference design.
- **Programming Languages:** Python, C++, C#, Golang, JavaScript, TypeScript.
- **Recent work:** Real-time Agentic system, near real-time audio signal detection, Semantic relation modelling and search.
- **Industries covered:** Agnostic
- **Fun fact:** Built LangChain equivalent in golang



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Refresher on Agentic Systems


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What are we waiting for? let's code





Refresher on Agentic Systems

- *What is an Agent System?*
 - *Components of AI Agents*
 - *Langchain Agent and Tools*
- 

An Agentic System is a system that exhibits planning, decision-making, & environmental interaction in an intelligent-like manner.



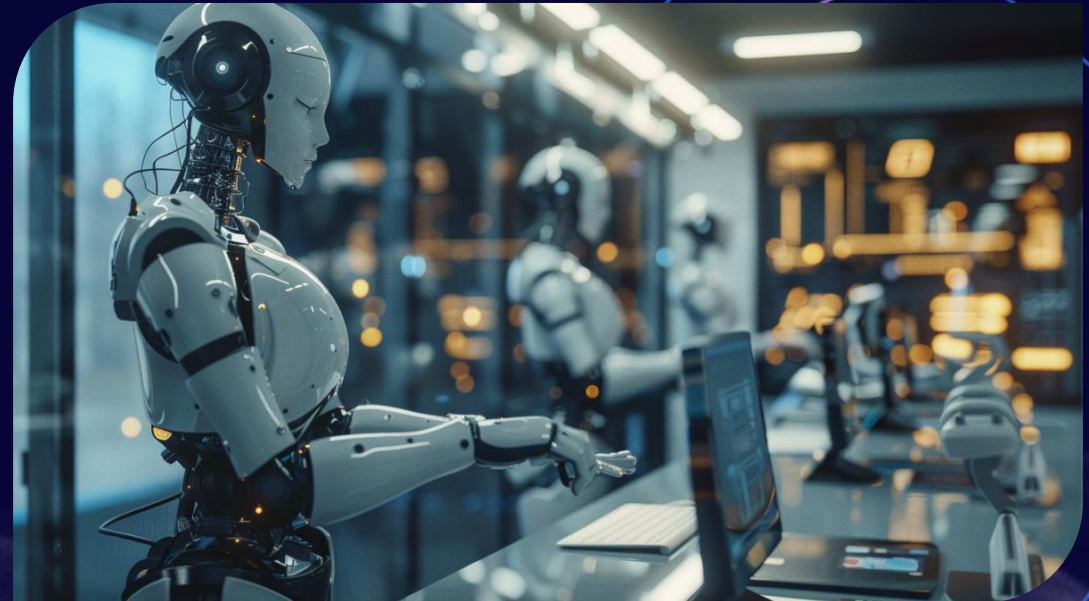
Components of AI Agents

Planning

Context awareness

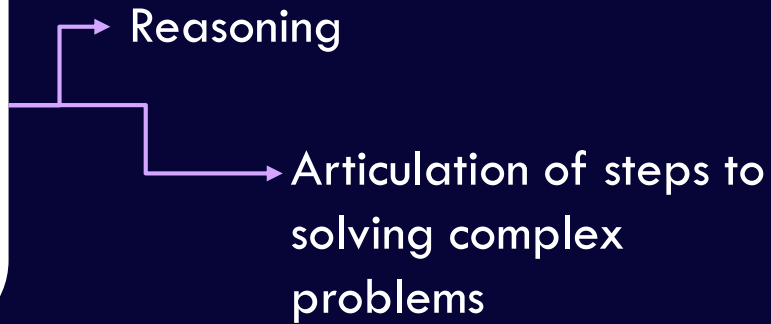
Thought creation

LLM can make plans for the actions it intends to take.
This can include one or more future actions of the system.



Components of AI Agents

Decision Making



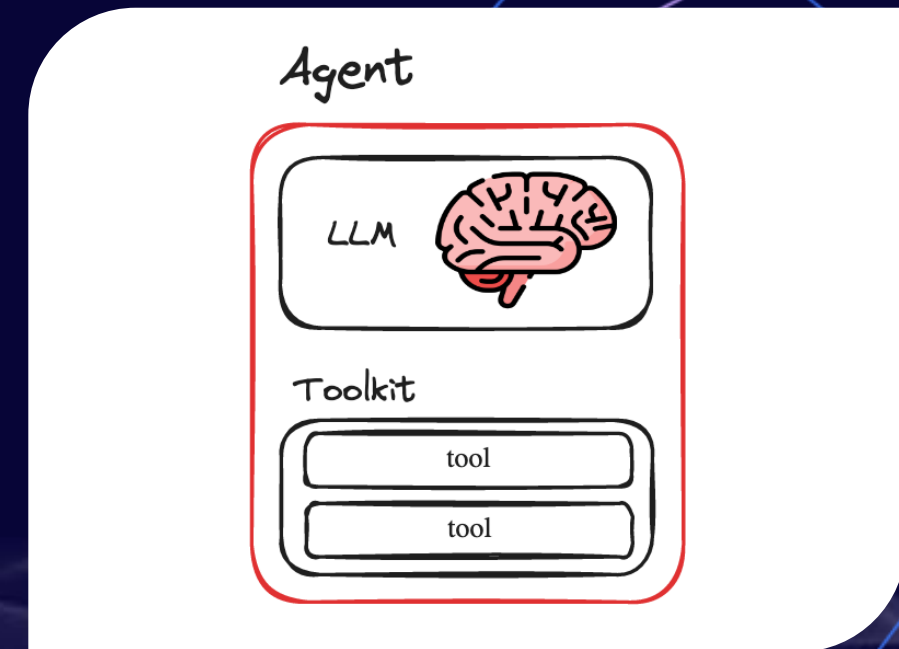
For Agent systems to hold up, having certain criteria or algorithms that's associated with making decision is critical. This is critical because it allows AI agents to take on broad task where the decision space is very wide.



Components of AI Agents



- High effort to design
- Depends on a resilient multi-architecture AI system
- Enables non-LLM capabilities



Langchain Agent and Tools

- Langchain is one of the most comprehensive and useful library available to make Gen AI applications.
- LangChain uses the BaseTool class to allow users extend it's original implementation and create new tools.





Let's Code Already, Sam Ayo!

QUESTIONS



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