



Agentic AI@UIUC Lecture-1

Agenda

- Intro to Club Exec
- Evolution of AI
- Intro to AI Agents
- Questions



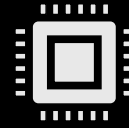
Release of ChatGPT : 2022



ChatGPT 3.5

Smart, Free and Easy to Use

IgmGuru



Before 2022, AI was mostly hidden in recommendation and search algorithms but there was no consumer facing aspect to it



ChatGPT came out late 2022 and changed the way we interact with software and technology

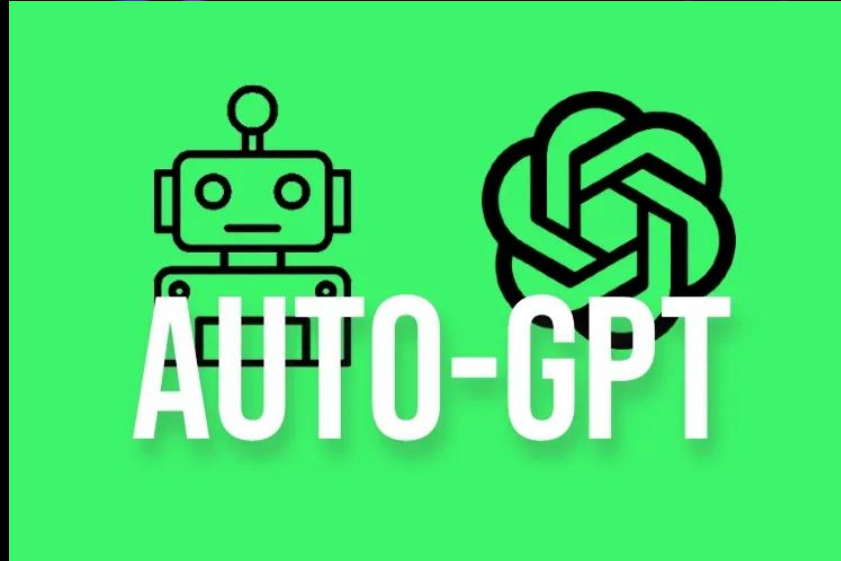


The model had a decoder only architecture with estimated parameters of 175 billion. It used human learning feedback to improve its responses



They used a proximal policy optimization where the model practiced generating responses and the reward model gave points

2023: Multimodality & The First Glimpse of Agency



 Claude

 LLaMA 

babyagi

BabyAGI

[!NOTE] The original BabyAGI from March 2023 introduced task planning as a method for developing autonomous agents. This project has been archived and moved to the [babyagi_archive](#) repo (September 2024 snapshot).

[!CAUTION] This is a framework built by Yohei who has never held a job as a developer. The purpose of this repo is to share ideas and spark discussion and for experienced devs to play with. Not meant for production use. Use with caution.

This newest BabyAGI is an experimental framework for a self-building autonomous agent. Earlier efforts to expand BabyAGI have made it clear that the optimal way to build a general autonomous agent is to build the simplest thing that can build itself.

Check out [this introductory X/Twitter thread](#) for a simple overview.

The core is a new function framework (**functionz**) for storing, managing, and executing functions from a database. It offers a graph-based structure for tracking imports, dependent functions, and authentication secrets, with automatic loading and comprehensive logging capabilities. Additionally, it comes with a dashboard for managing functions, running updates, and viewing logs.

2024: From Chatbots to Reasoning Engines

Giving brains to AI

Multi Modality

Open AI released the omini model and it was a massive technical shift because it is a single neural network trained across text, vision and audio.

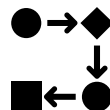
Google released the **gemini 1.5 model** which introduced 1 million+ token window allowing the model to read condebasses, videos etc



OpenSource

- Meta relased the Llama 3.1 405B which became the first open source model to rival GPT-4.

- **Open source models** like **Phi-3** and **Gamma** proved that you can run high quality AI locally on your computer



Reasoning

- Open AI released chain of thought reasoning models where the model thinks for 10-30 secs before answering user questions

- Popularity of coding agents like **Devin** and **OpenDevin** started getting popular



Video Generation

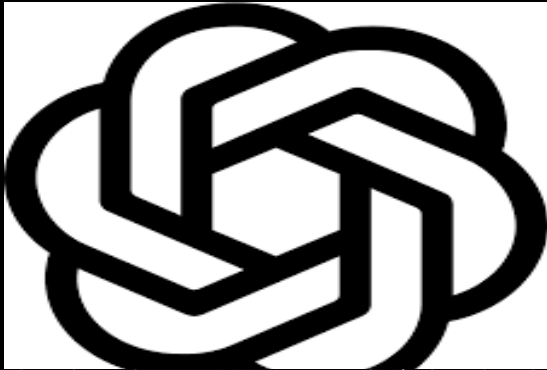
- Open AI released Sora that proved that **scaling Diffusion Transformers** could lead to emergent physics.

- Google released google veo which provides high output and **professional cinematography**

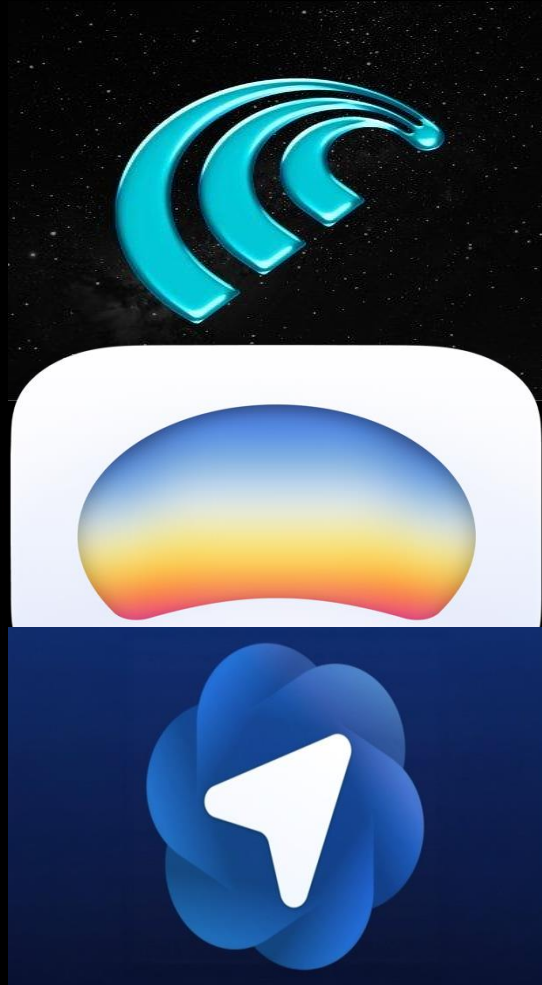


2025 : Dawn of the Agentic Era

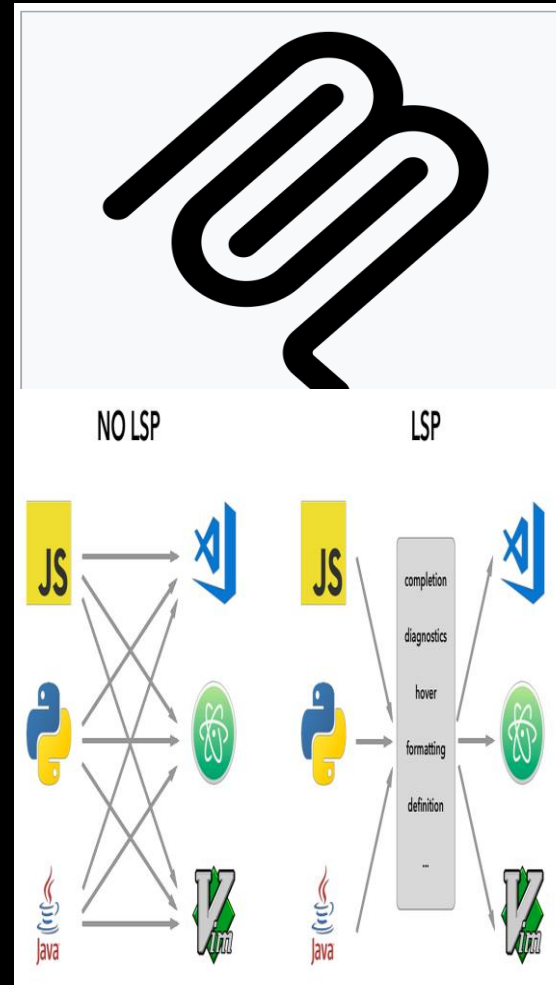
Peak Models



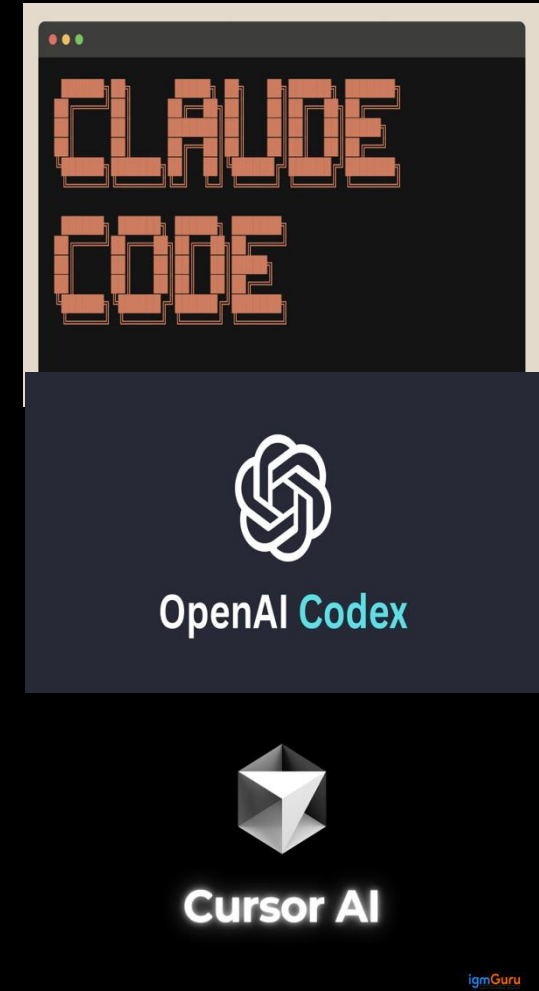
Agentic Browsers



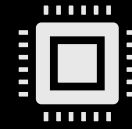
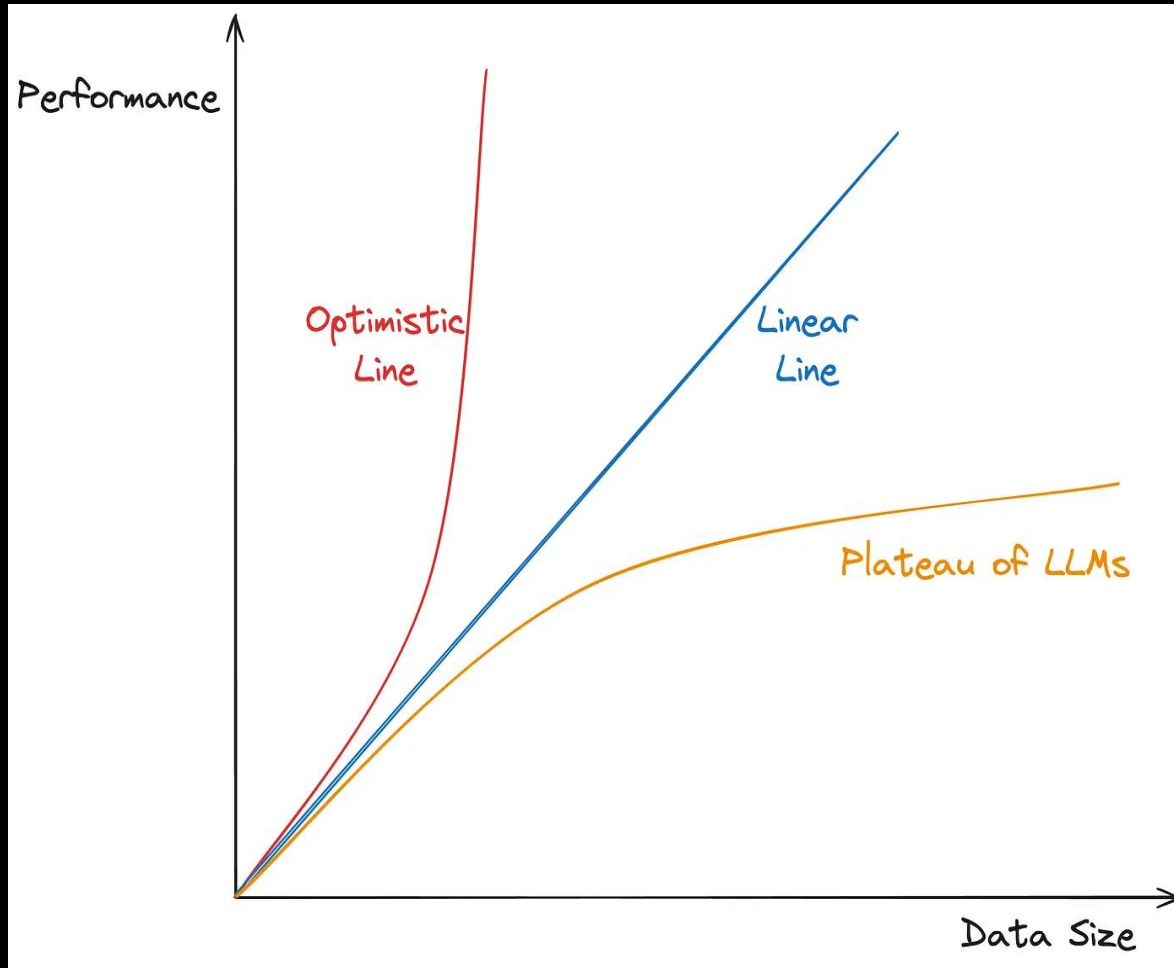
Protocol Standardization



Coding Agents



Plateau of AI Models



By late 2024, researchers confirmed that we had actively exhausted high-quality, human readable data



Self Attention Mechanism has saturated in performance as we are increasing context windows with every model release



Frontier models also are heavy energy compute with the latest models costing \$1 to \$5 billion in energy compute



With the base models hitting a plateau the only way to make the most out of the models is through providing the right context around these LLMs

The First Student Org Focused on Agentic AI



Gap on Campus

Most clubs talk about AI broadly or briefly but very few talks about Agentic AI and even few teach it through **both hands on hands off learning**



Our Differentiation

We are the **first club focuses on educating students on agentic ai and rag** where we will teach around multi-agent architecture, voice agents, MCPS etc and how to use it to **solve business problems**



Value to Members

Opportunity to be surround with people from a diverse range of majors/experience where you will get the opportunity to work with peers from a **wide range of backgrounds**

How to Join the Club

- If you are a member or developer attend weekly lectures — active participation is key, attendance will be taken.
- Lectures will be every Monday, SCD Sunset Studio 7-9pm
- If you are Attendance is required to engage in hands-on projects.
- Every lecture will follow with project team discussion
- Consistent involvement ensures access to projects and future technical lead and exec opportunities with the club

Breakdown of Club Roles

- **Member** : Everybody is a member. A member is only required to attend lectures.
- **Developers**: Every developer is required to attend lectures and attend weekly project meetings. Every project will have 4-5 developers reporting to one technical lead.
- **Technical Lead** : Every project will be led by one technical lead, who demonstrated their skills through hands on project and taking part in the club.
- **VP of Education** : Every technical lead reports to a VP where the VP will be responsible for providing guidance to technical leads and teaching weekly lectures

From First Principles to Mastery

- Our Lectures focus on what is happening in the real world but we make sure we focus on the fundamentals as well
- Our tech stack will change depending on the lecture modules but it will mostly revolve around python, openai-api and langgraph.
- We charge \$25 dollar membership for developers which will give them access to club resources, lectures and workshops.
- Check our discord for more information

AI Market News

Klarna backs Google UCP to power AI agent payments

Ryan Daws February 2, 2026



FEBRUARY 2, 2026

XAI JOINS SPACEX TO ACCELERATE HUMANITY'S FUTURE

SpaceX has acquired xAI to form the most ambitious, vertically-integrated innovation engine on (and off) Earth, with AI, rockets, space-based internet, direct-to-mobile device communications and the world's foremost real-time information and free speech platform. This marks not just the next chapter, but the next book in SpaceX and xAI's mission: scaling to make a sentient sun to understand the Universe and extend the light of consciousness to the stars!

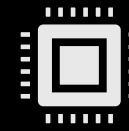
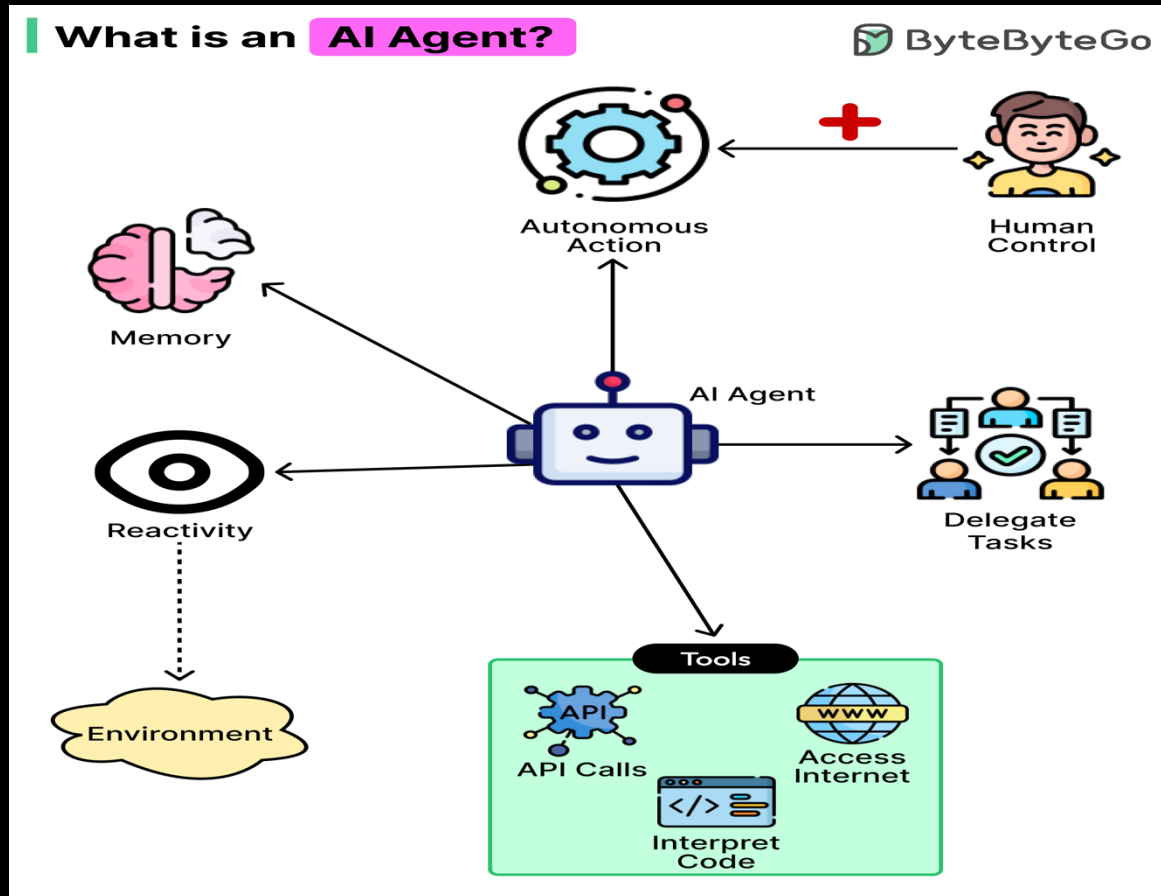
Current advances in AI are dependent on large terrestrial data centers, which require immense amounts of power and cooling. Global electricity demand for AI simply cannot be met with terrestrial solutions, even in the near term, without imposing hardship on communities and the environment.

Claude Sonnet 5 Rumors : Half the Price of Opus 4.5, Launching Soon

7:14 am February 2, 2026 By Julian Horsey

Intro to AI Agents

An AI Agent where one brain is responsible for the entire workflow including reasoning, planning and executing tasks



Brain: This is the reasoning engine it parses the query and plans accordingly



Planning : Based on the user-query it breaks the goal down into sub-query



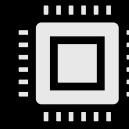
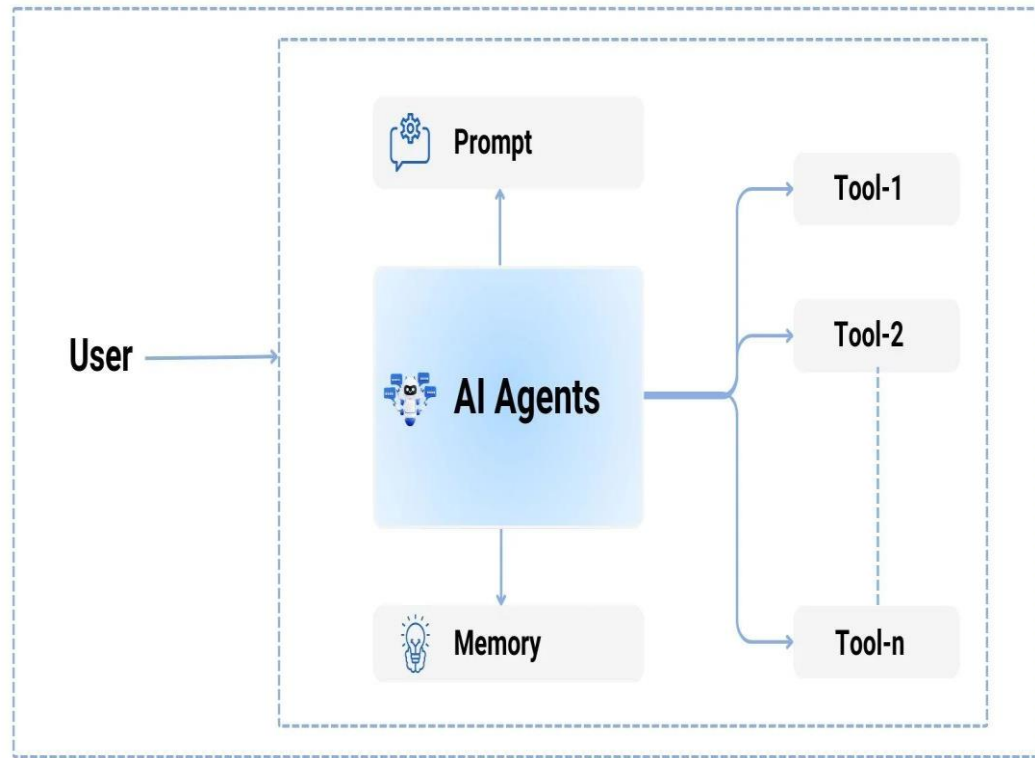
Memory : Divided into short-term and long-term memory to keep track of the environment



Tools : This is the way for the agent to interact and act on the environment to execute the action

Single Agents

Single Agent System Concept Diagram



A single model is responsible for conducting the user task



The agent is able to perform the task fast but sacrifices accuracy

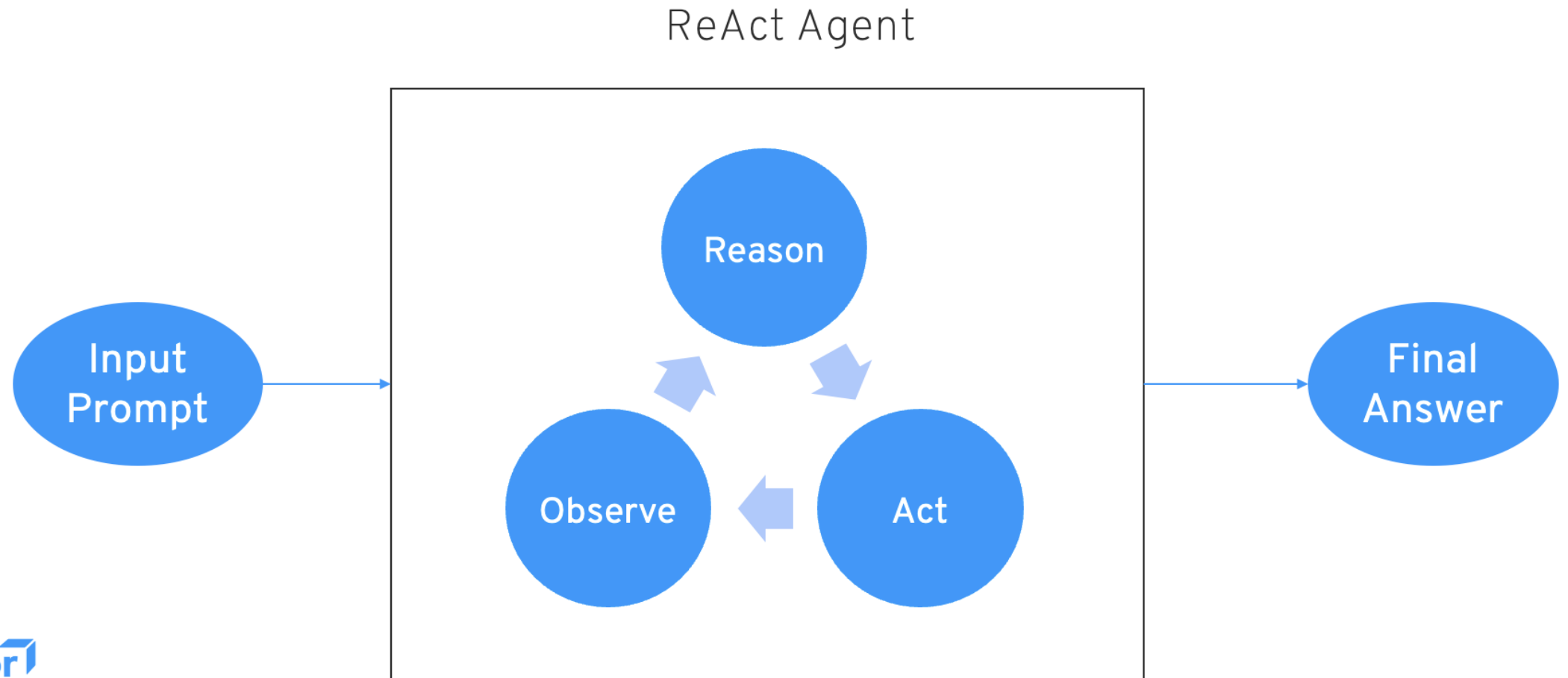


The agent is able to perform the task fast but sacrifices accuracy



Most single agents use the REACT framework to perform a task

REACT Framework



Discord Link



Attendance Code



Questions?



Questions?
