Vizuara AI Agents Bootcamp Day 1

A new way to define agents.

VIZUARA AI

JUN 23, 2025

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Day 1 of the [Vizuara AI Agents Bootcamp](#) concluded on 21 June, 2025.

This is the first newsletter which covers the main takeaways from the lecture (*only f*
Pro registered participants).

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Let us define AI Agents on our own

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1. Can we define AI Agents on our own?

Imagine that you are a group of friends who are planning a trip to Spain. The trip is from 14th December till 21st December.

How will you go about planning this trip?

Here are some key points you might take into consideration:

- Flights

- Hotels

- VISA

- Places to visit

- Job leave approval

You will need to take the following actions:

Book flights, book hotels to stay, book your VISA appointment and get your VISA, make a travel itinerary for every day and many other things.

Point A: You just discuss about this trip.

Point B: You have downloaded flight tickets, hotel bookings, VISA letter, travel itinerary an are ready to go.

Currently, you are at point A and you need to get to point B.

2. First attempt at the definition of an AI Agen
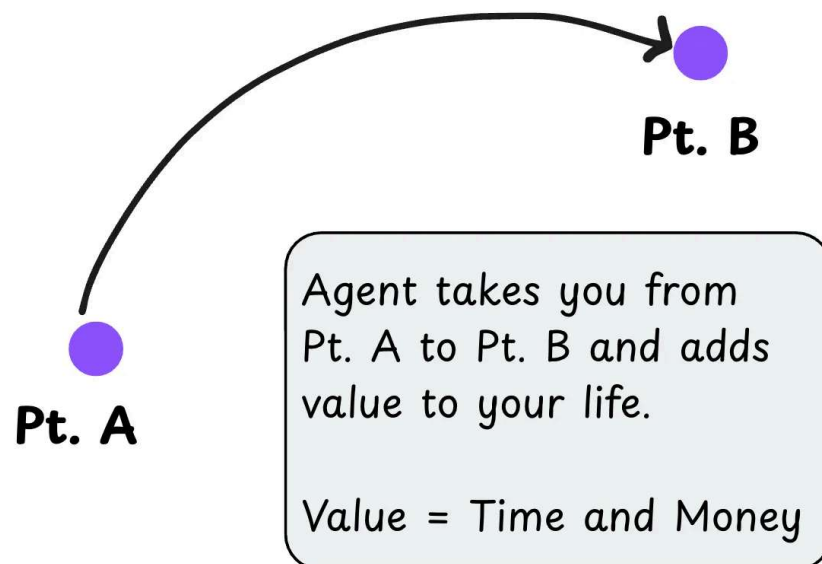
What if I tell you that you can automatically go from Point A to Point B.
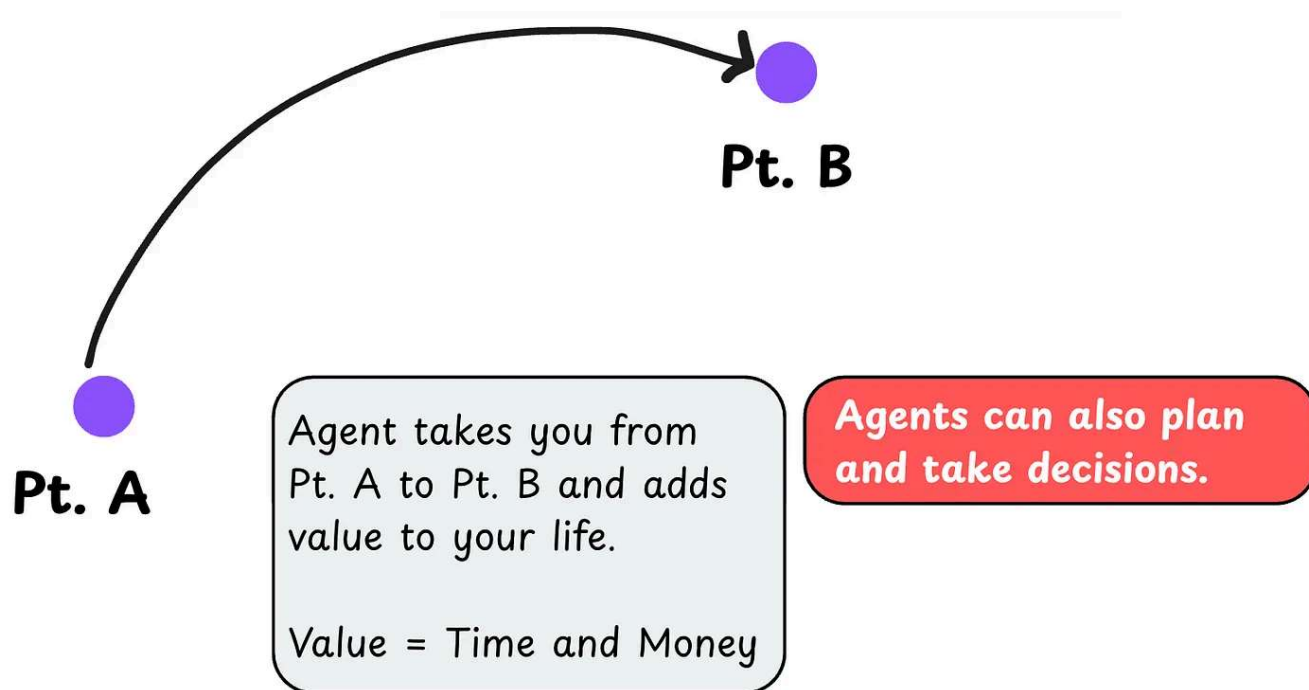
How will you get there?

An AI Agent will help you reach there.

> The first definition of an AI agent is that it takes you from point A to point B and adds value to your life.

How can we quantify value? In this case, the agent saves you a huge amount of time

Value can be either time or money or both.

3. But cars can also do that!

By our first definition, cars and planes can also take us from point A to point B, but they won't be called as AI Agents.

We need to make our definition a lot more comprehensive.

Booking flights, searching for places to visit, making a travel itinerary are not easy actions to perform.

These actions require 2 aspects which an agent needs to be capable of:
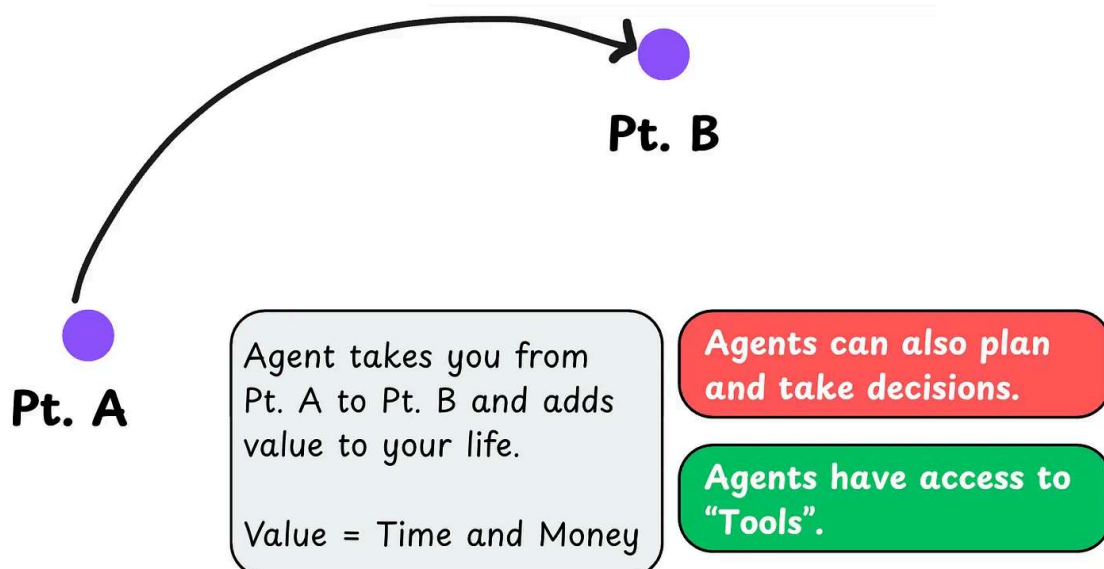
- Planning
- Making decisions

If you want to decide the best flights, you need to decide whether a flight is out of your budget or not.

If you want to decide where to go on Day 2 of your trip after a day in Barcelona, you will need to plan the next day based on several factors like travel distance, interests the group etc.

Let's augment our definition of agents a bit more.

> The second definition of an AI agent is that it takes you from point A to point B and it adds value to your life. While doing so, it can plan and make decisions.

4. But self-driving cars can also do that!

Pt. B

Pt. A

Agent takes you from Pt. A to Pt. B and adds value to your life.

Value = Time and Money

Agents can also plan and take decisions.
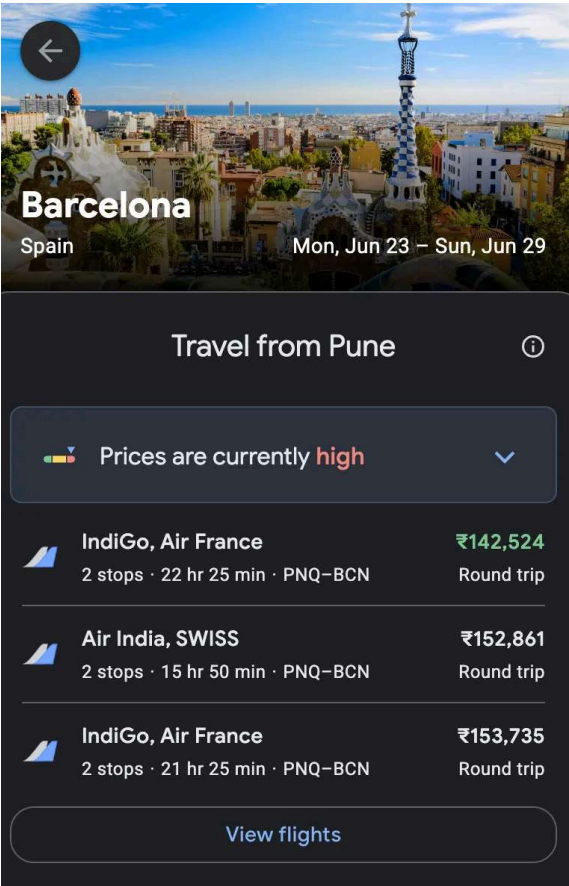
Agents have access to "Tools".

Self-driving cars take you from point A to point B. They can also plan and make decisions.

So we need to modify our definition more.

To plan and take actions, agents need access to certain tools.

To search for flights, agents need access to Google search engine:

To book hotels, agents need access to certain websites and their payment gateways:

To draft an email to our manager to request for the leave, agents need access to Gmail:
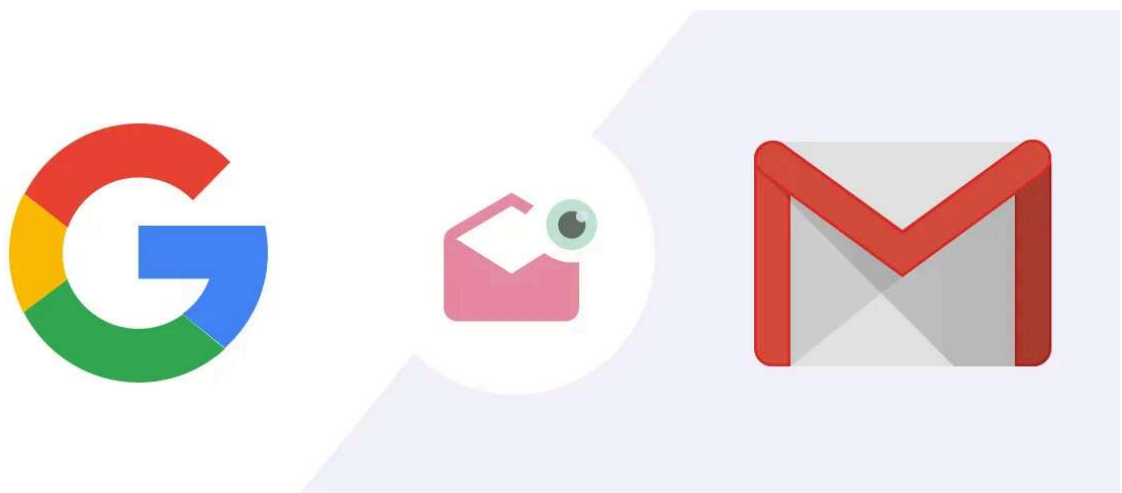
So: Agents need Tools!

We will define what tools are later, but for now, you can assume that tools are acces
useful functionalities.

> The third definition of an AI agent is that it takes you from point A to point B ar
> it adds value to your life. It has access to tools and using those tools, the agent ca
> plan and make decisions.

5. Large Language Models (LLMs)

Why have agents suddenly become so popular in the last couple of years?

The answer lies in a 2017 paper titled "Attention is All You Need".

Attention Is All You Need

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This paper had one figure on Page 3, called the transformer architecture.
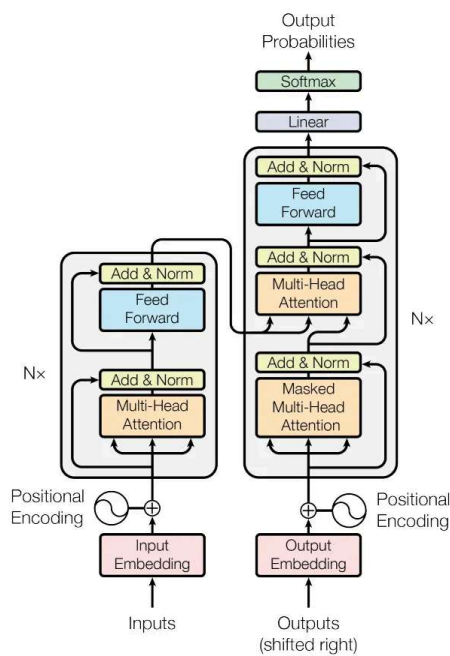
Figure 1: The Transformer - model architecture.

The transformer architecture changed the field of language modeling.

Language models became massively better at understanding and responding to hum language.

This new class of powerful language models came to be known as large language models (LLMs) because of their sheer size and number of parameters.

You already interact with one such LLM: ChatGPT.
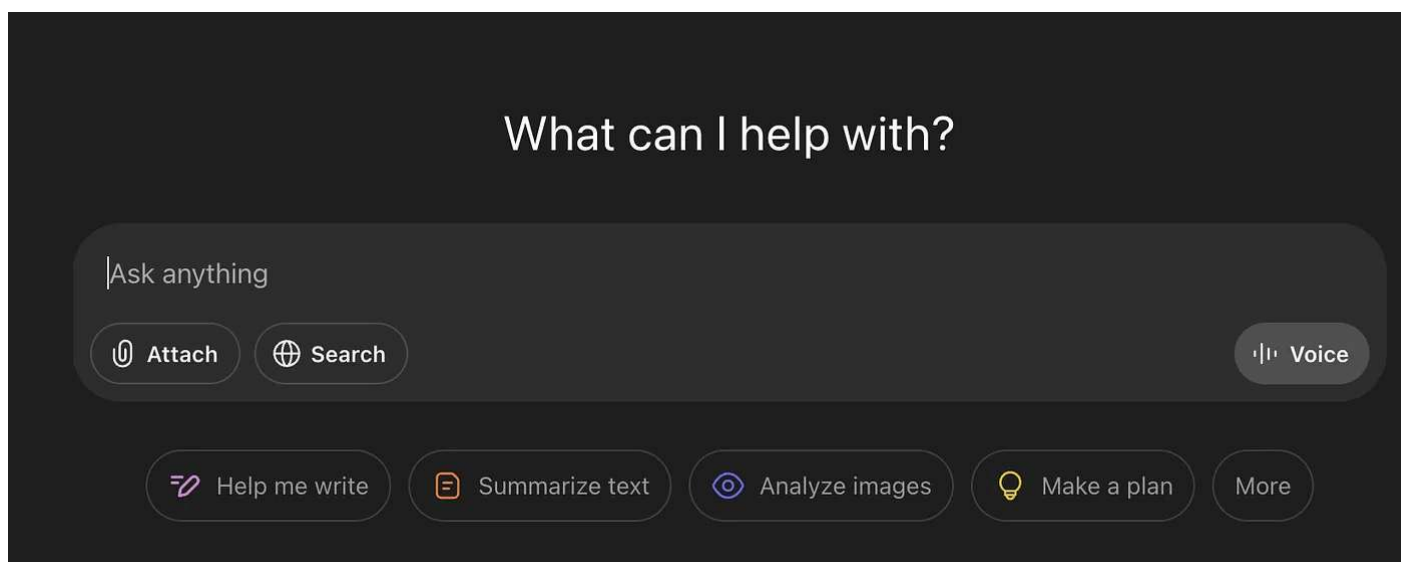
What's the link between LLMs and agents?

Agents use LLMs for planning, reasoning and decision making.

If LLMs were not good at language understanding, agents would not be able to plar and making decisions.

To decide the best flight from a webpage, the agent needs to understand what's wri on the webpage.

To draft an email to the manager, the agent needs to understand language and shou know how to write.

The foundation of planning and decision making is understanding language.
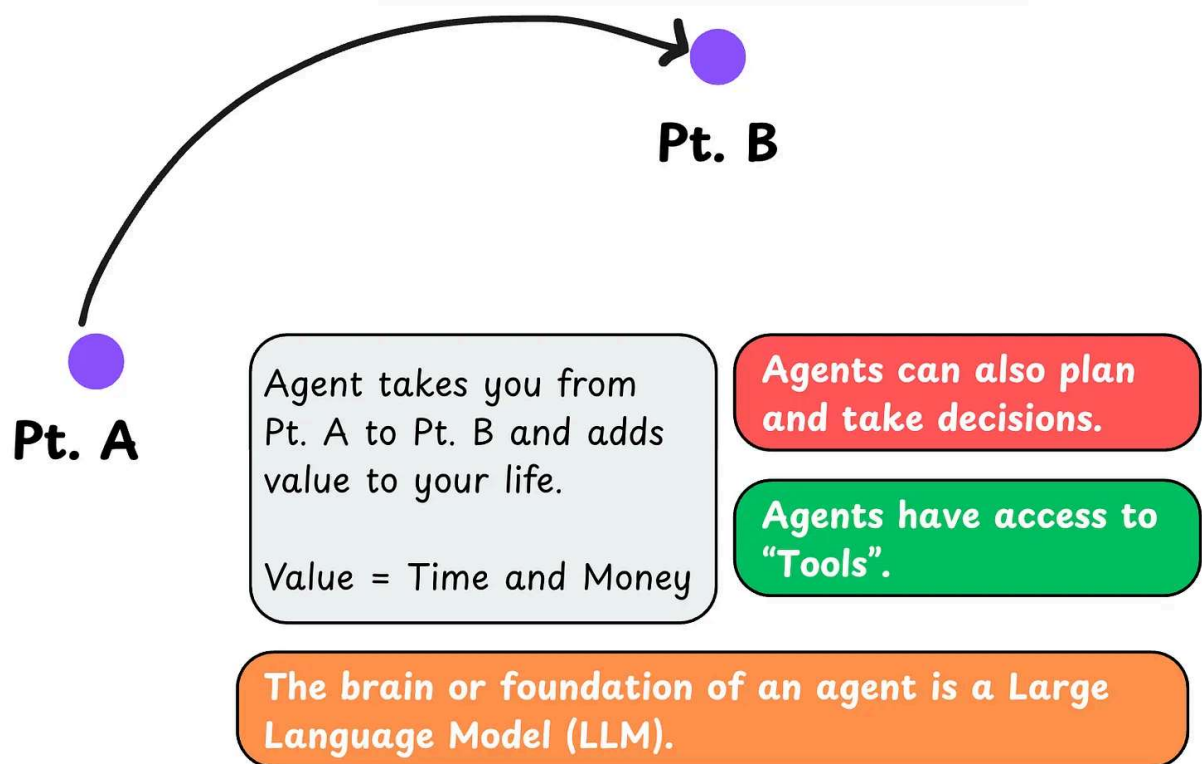
This leads to the fourth definition of agents:

> The fourth definition of an AI agent is that: Agents are LLMs which take you fro
> point A to point B and add value to your life. Agents have access to tools and usi
> those tools, the agent can plan and make decisions.

6. Final definition: The external environment and memory

Pt. A → **Pt. B**

Agents interact with their environment and have memory.

Agent takes you from Pt. A to Pt. B and adds value to your life.

Value = Time and Money

Agents can also plan and take decisions.

Agents have access to "Tools".

The brain or foundation of an agent is a Large Language Model (LLM).

What if the agent selects the wrong flight or drafts a wrong email?
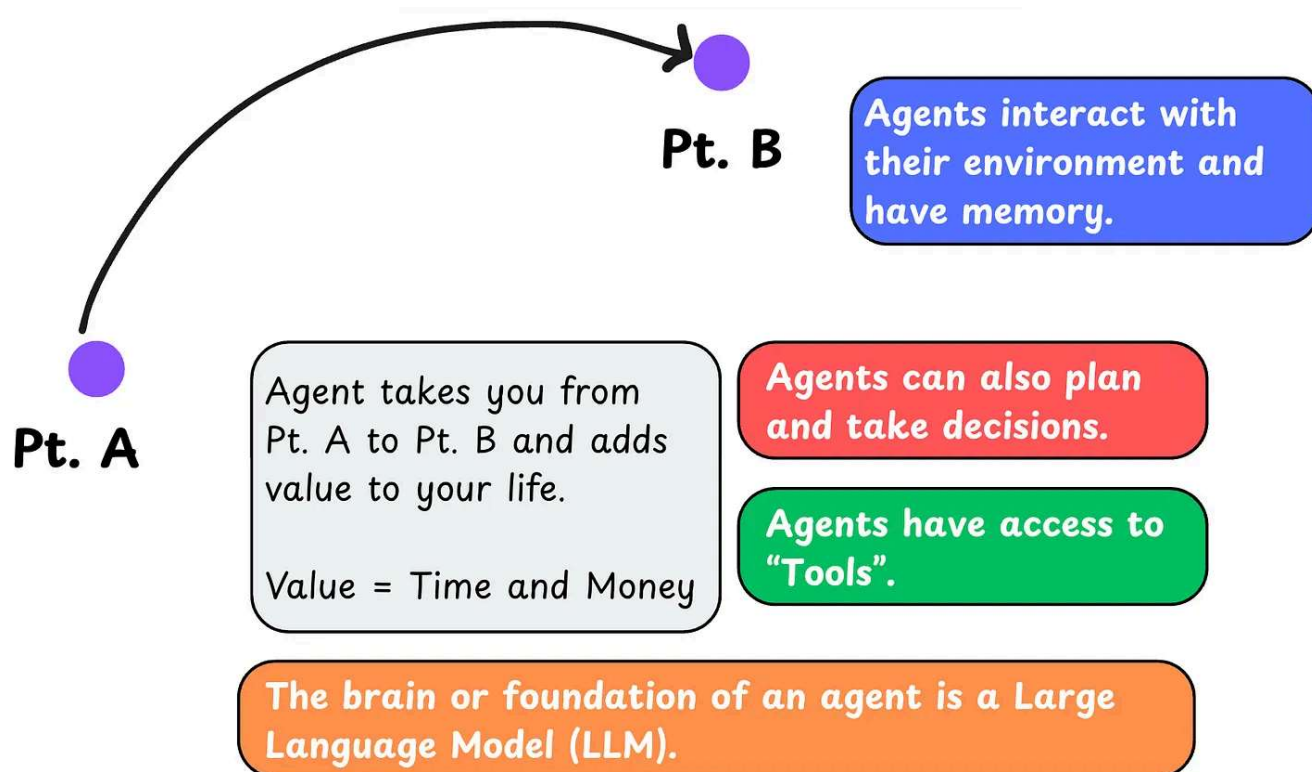
The agent can receive feedback from the human and become better.

Agents interact with their environment (websites, humans and other tools) and keep getting better with time. This is because they have memory and can recall the action they have taken in the past.

This leads to the fifth and final definition of agents:

> The final definition of an AI agent is that: Agents are LLMs which take you from point A to point B and add value to your life. Agents have access to tools and using those tools, the agent can plan and make decisions. Agents learn from their environment and retain memory.

7. Agency and agents

The level of control or autonomy an agent has is called "agency".

Agency Level	Description	Name	Example
●○○○○	Agent does not influence what happens next	Simple Processor	Grammar checker that rewrites sentences
●●○○○	Agent determines basic control flow	Router	Customer Query → Tech Support or Sales
●●●○○	Agent determines function execution	Tool Caller	A smart calendar assistant that spots "let's meet on Tuesday" and books the meeting
●●●●○	Lays out a short plan and carries it step by step	Multi-step Agent	Personal travel planner that gathers flight options, hotels, local activities
●●●●●	One agentic workflow starts another agentic workflow	Multi-agent	Travel planner agent → Booking agent ← Email agent

Lower the agency, lower is the value created by an agent.

Higher the agency, higher is the value created by an agent.

8. Main research papers behind AI Agents

Here is a list of 4 major papers which have contributed to so much development in AI Agent field:

(1)[Link to Paper 1](Link to Paper 1)

Chain-of-Thought Prompting Elicits Reasoning in Large Language Models

Jason Wei   Xuezhi Wang   Dale Schuurmans   Maarten Bosma

Brian Ichter   Fei Xia   Ed H. Chi   Quoc V. Le   Denny Zhou

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REACT: SYNERGIZING REASONING AND ACTING IN LANGUAGE MODELS

Shunyu Yao[*,1], Jeffrey Zhao[2], Dian Yu[2], Nan Du[2], Izhak Shafran[2], Karthik Narasimhan[1], Yuan Cao[2]

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Toolformer: Language Models Can Teach Themselves to Use Tools

Timo Schick   **Jane Dwivedi-Yu**   **Roberto Dessì**[†]   **Roberta Raileanu**

Maria Lomeli   **Luke Zettlemoyer**   **Nicola Cancedda**   **Thomas Scialom**

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(4) [Link to Paper 4](#)

Generative Agents: Interactive Simulacra of Human Behavior

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Thanks all and looking forward to seeing you in the next lecture!

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