



## AI Tools Usage Policy – Email Guidelines:

To ensure data privacy and maintain professional boundaries during AI tool experimentation:

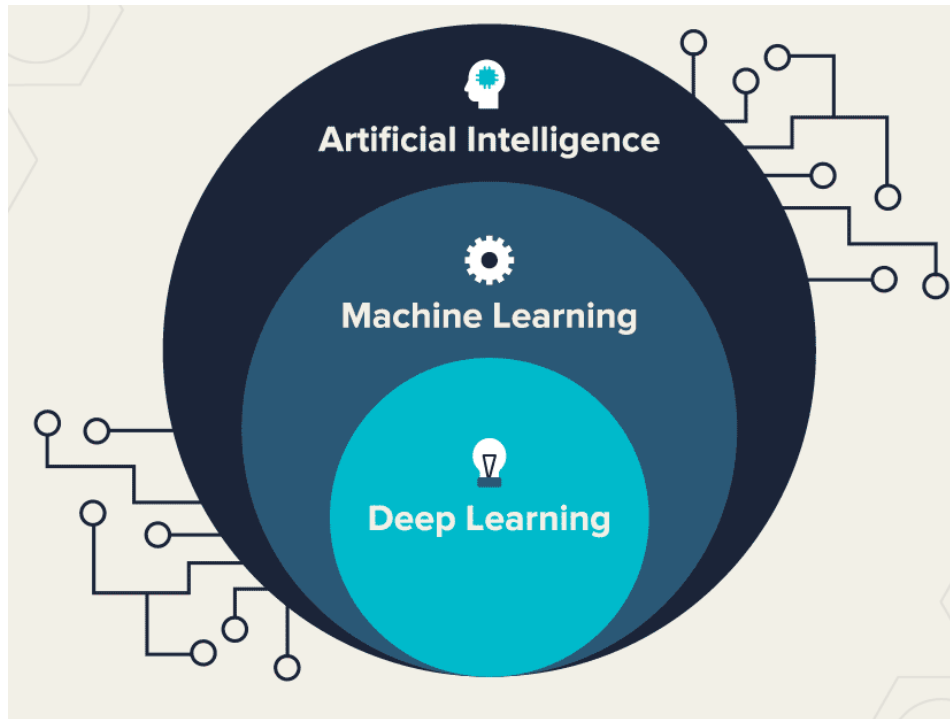
- **Do not use personal or finance-linked email IDs** when testing or evaluating AI tools.
- **Create a separate, dedicated email account** specifically for learning, testing, and development purposes.

This practice helps safeguard sensitive information and ensures a clean separation between personal data and experimental workflows.

# AI (Artificial Intelligence)

**Artificial Intelligence (AI)** - Machines can think, learn, and make decisions like humans. They can see, understand, and solve problems on their own.

**Ai** performs tasks similar to human intelligence. It can recognize patterns, understand speech, and Analyze/identify images.



**AI** can work without **ML** / **DL** by using methods like rule-based systems, robotics control, and fuzzy logic to make decisions and solve problems.

**Machine learning (ML)** is a Sub domain of artificial intelligence (AI). It teaches computers to learn patterns from data and make decisions using those patterns.

**Deep learning (DL)** is a Sub domain of of Machine learning (ML). It uses computer models called **neural networks** to learn from large amounts of data and make smart decisions. **(DL) is primarily used for processing unstructured data** such as images, audio, and Video..Etc.

## LLM = Large Language Model

**LLM** stands for Large Language Model, a type of artificial intelligence trained on vast amounts of text data to understand, process, and generate human-like text. These models use **transformer** architectures to learn language patterns and context, enabling them to perform tasks like text generation, translation, summarization, question-answering, and content creation. **ChatGPT3** raw dataset size **45 TB** before filtering and **1.7 - 1.8 trillion** parameters.



# Ai System Types:

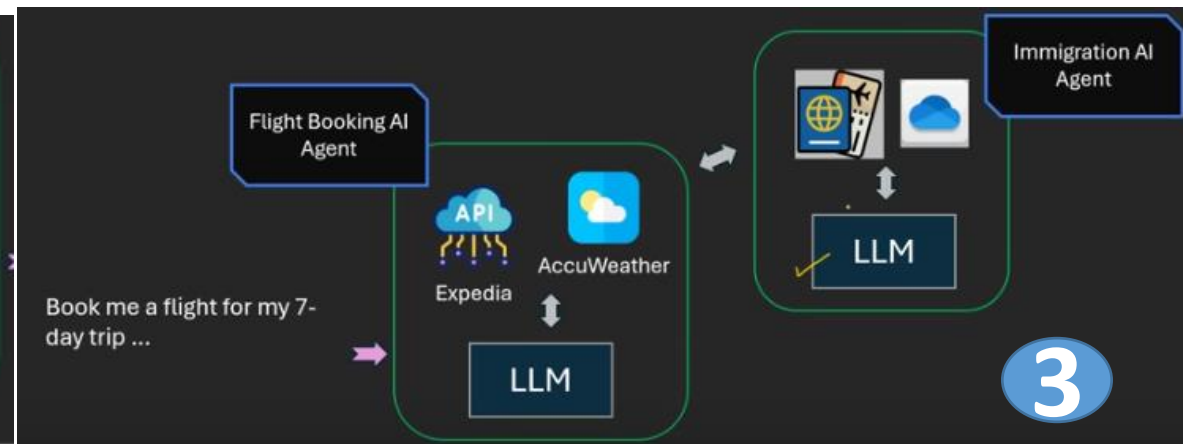
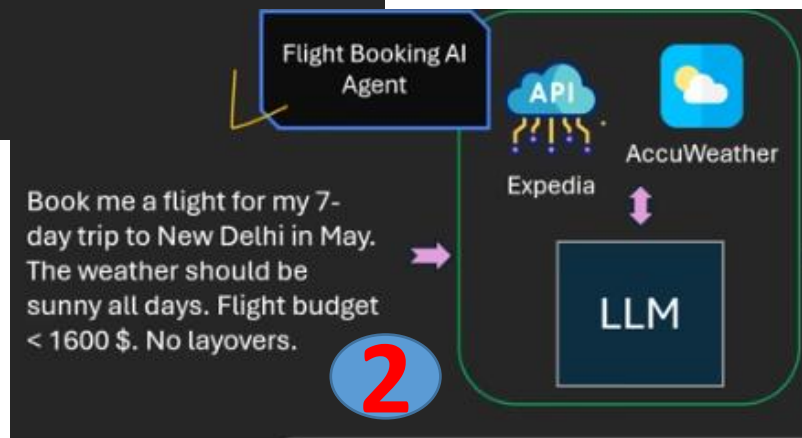
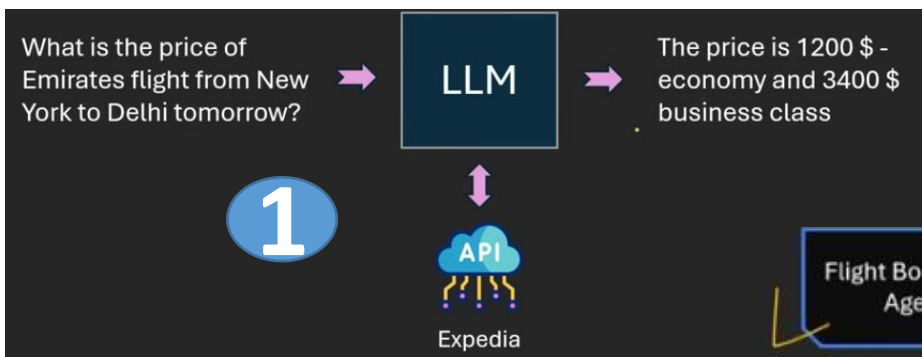
- Generative AI
- AI Agent
- Agentic AI

## Gen AI

### Generative AI

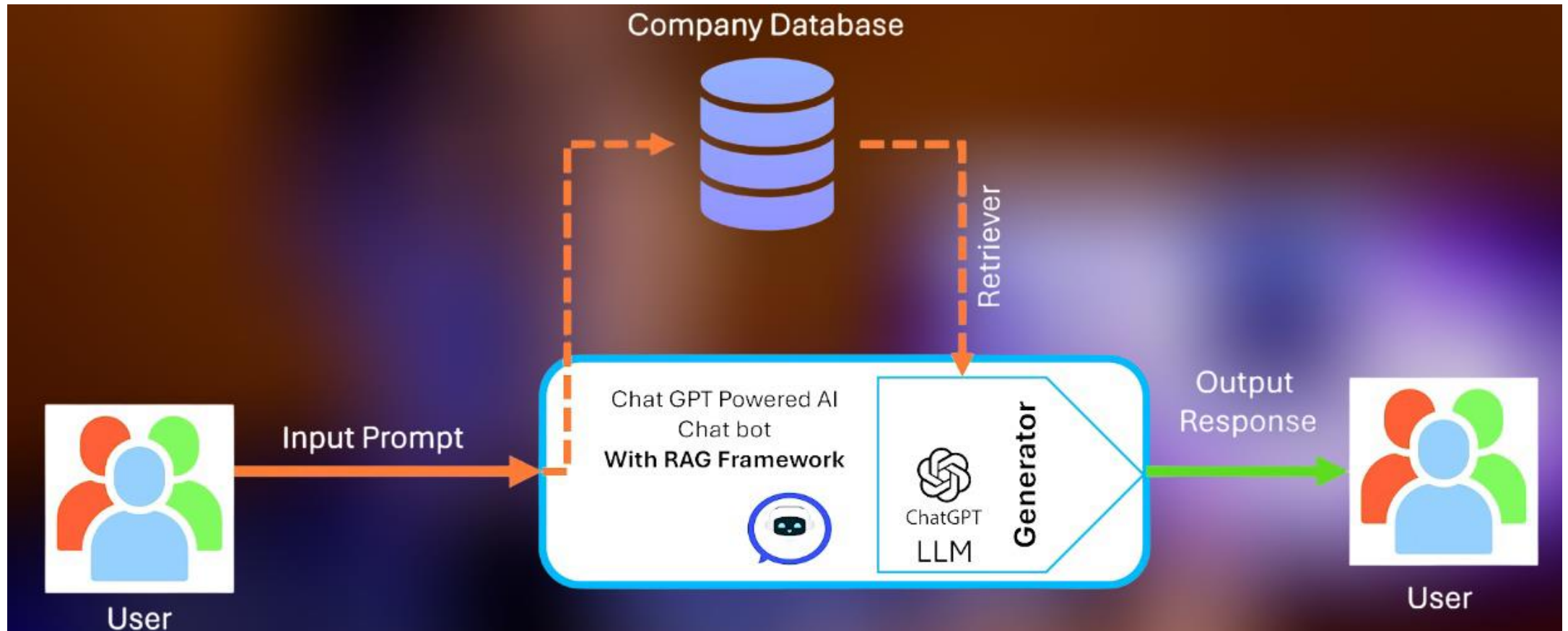
- **Text** - GPT, Claude, Gemini, LLaMA
- **Images** - Midjourney, DALL.E, Stable Diffusion
- **Audio** - ElevenLabs, Bark, MusicGen
- **Videos** - Sora, Runway, HeyGen
- **Code** - Github Copilot, Code Llama, CodeWhisperer

	1	2	3
Ai System Type	Gen Ai (LLM Only)	Ai Agent	Agentic Ai
Task Capability	Answer based on pre Trained knowledge only. Like Text, images, audio and videos ChatGPT, Gemini	Task Input, Decide and Action/Completes a task using tools,Memroy,Data,api	Handle the multiple step with planning and co-ordination
Tool	No Extra Tool ☒	Uses the Tools to complete the task	Uses multiple tools and call other AI agents.
Decision	No Decision Making ☒	Make Decision complete the task	Plan , Decide and Autonomous Decision



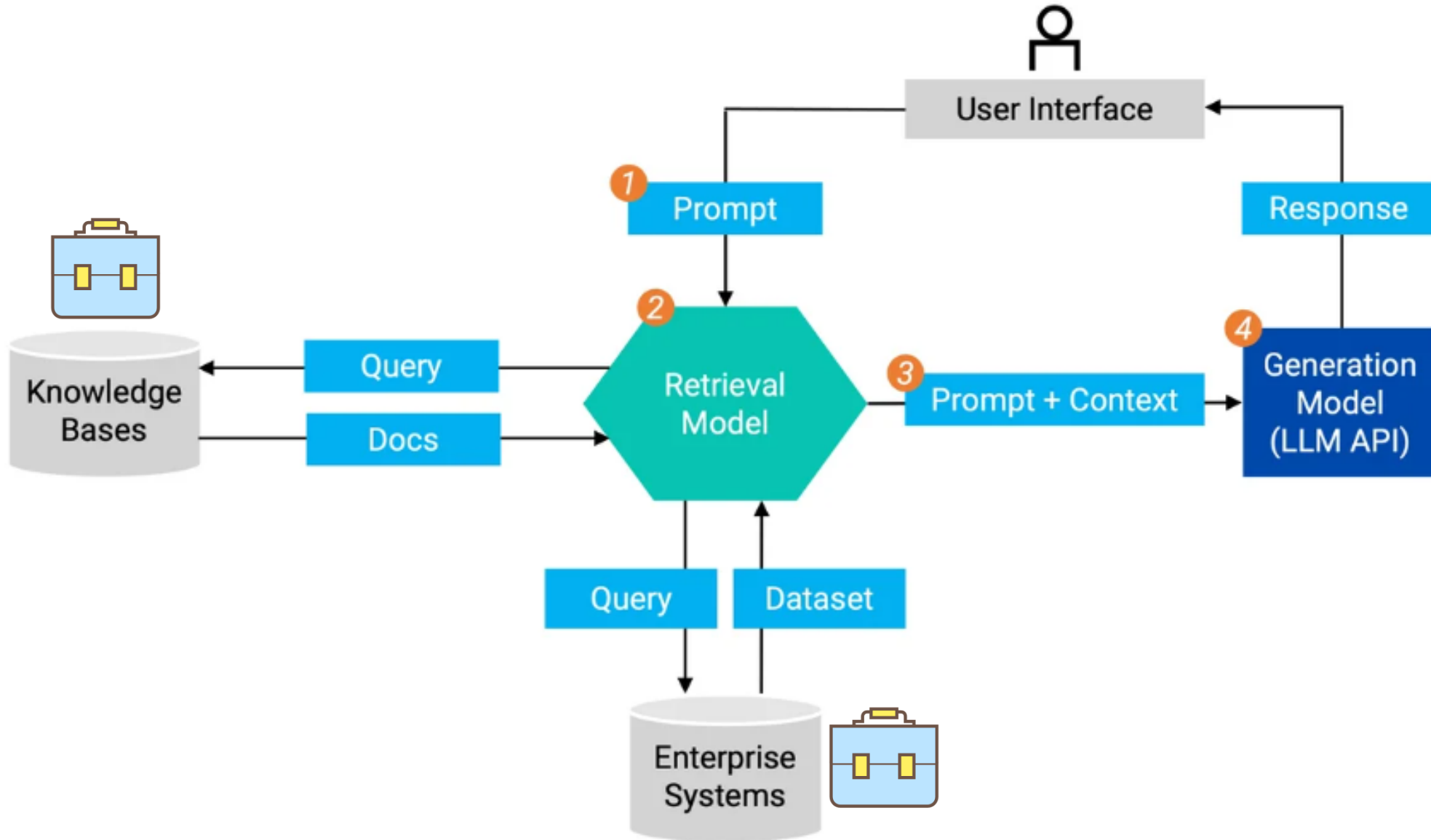
## RAG = Retrieval Augmented Generation

- RAG is an AI framework that improves the output of large language models (LLMs) by giving them access to external or private data up-to-date knowledge bases before generating a response.
- **RAG Powerful Knowledge/Documentation base retrieval.**
- **RAG input text and get the output improved text output.**



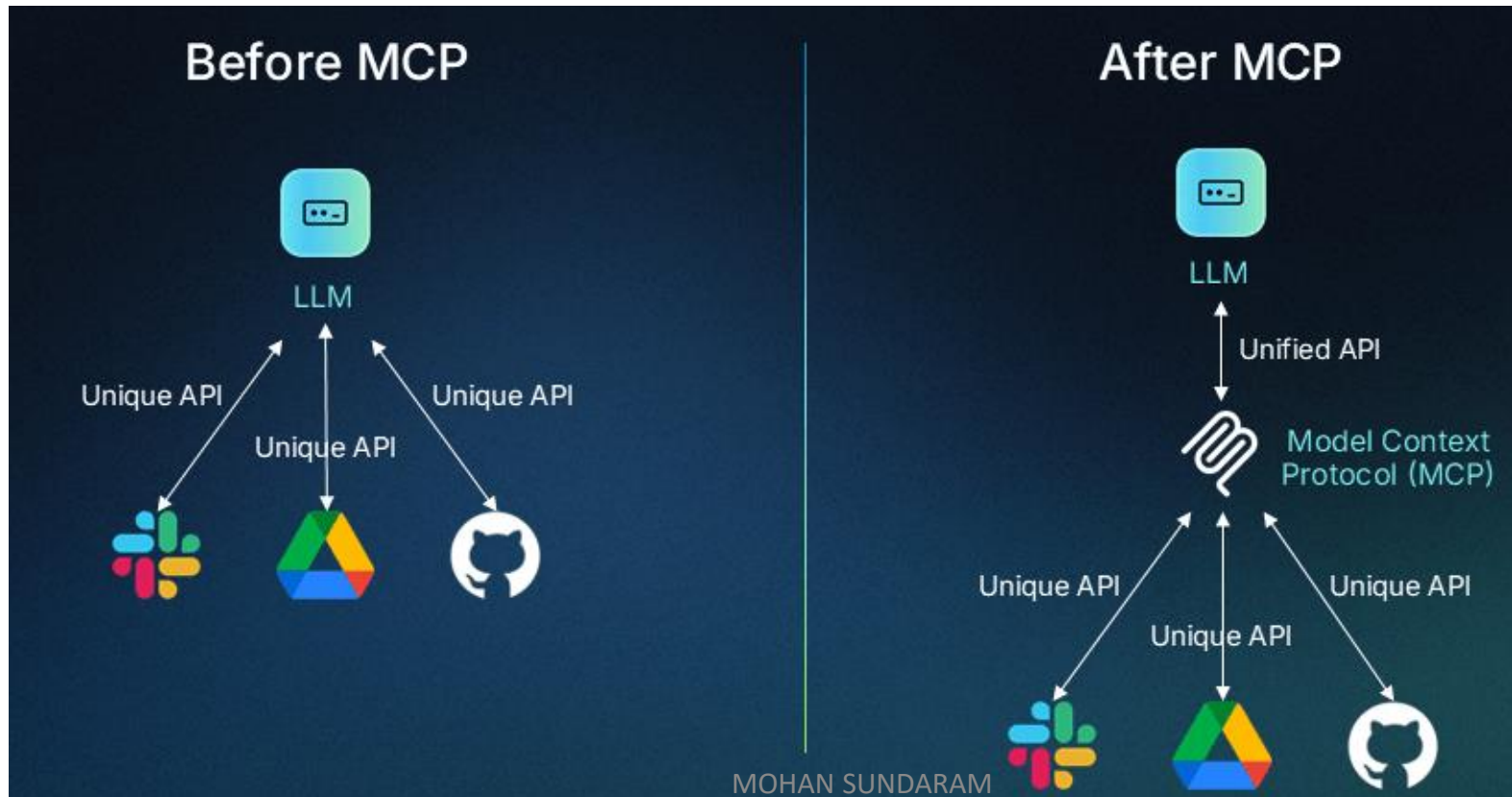


# Retrieval-Augmented Generation (RAG) Framework



# MCP - Model Context Protocol

- Open-source framework that allows large language models (LLMs) to securely and standardized interact with external data sources and tools API, application,databases..etc.
- MCP input text and get the output improved text and **action** output.
- **RAG and MCP combined integration tools more powerful.**



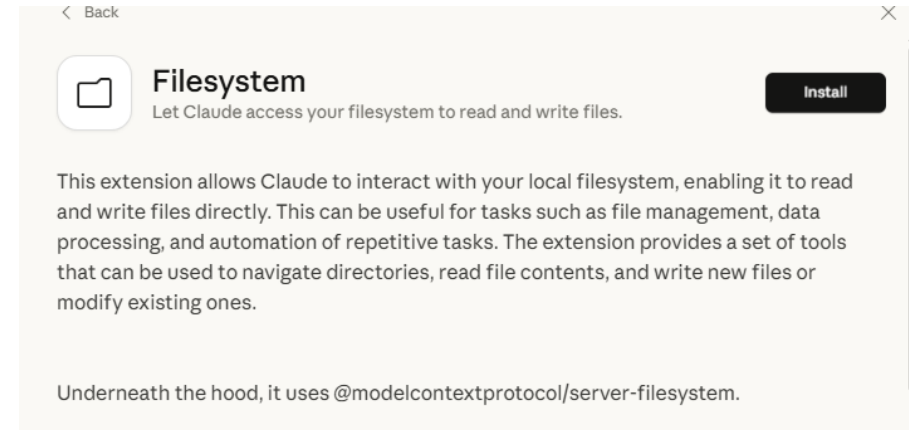
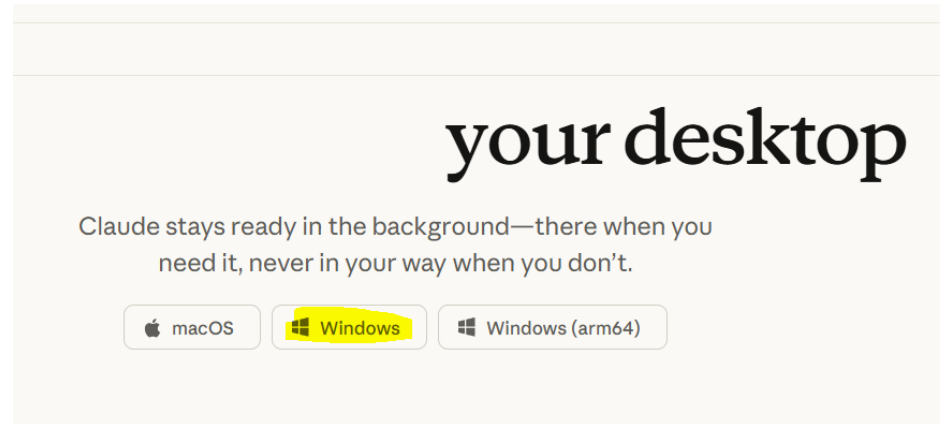


# MCP – Example

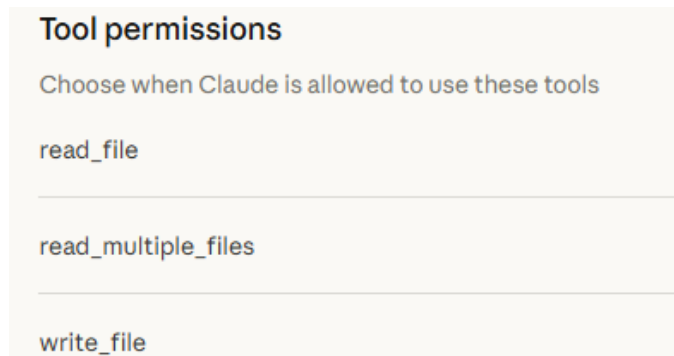
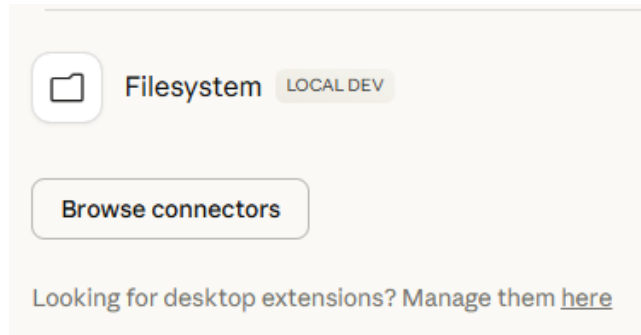
<https://www.claude.com/download>

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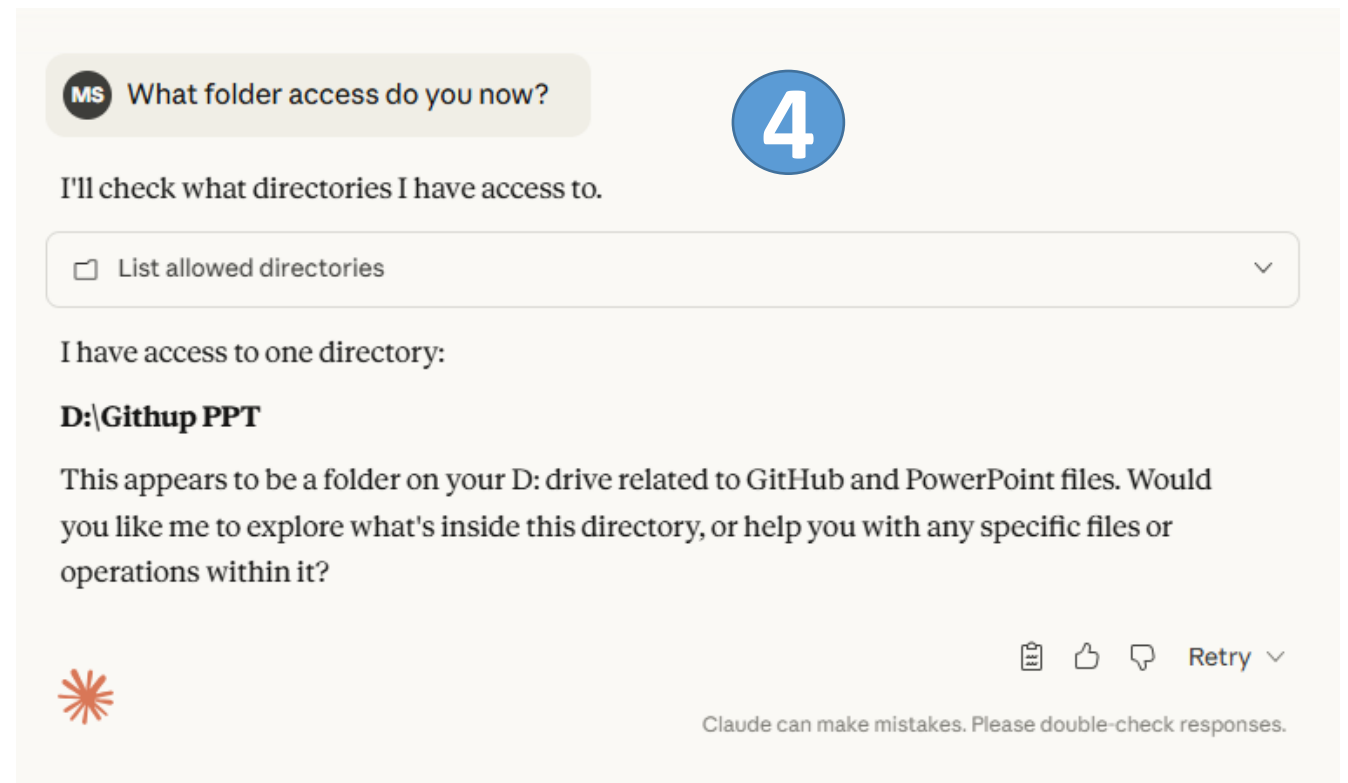
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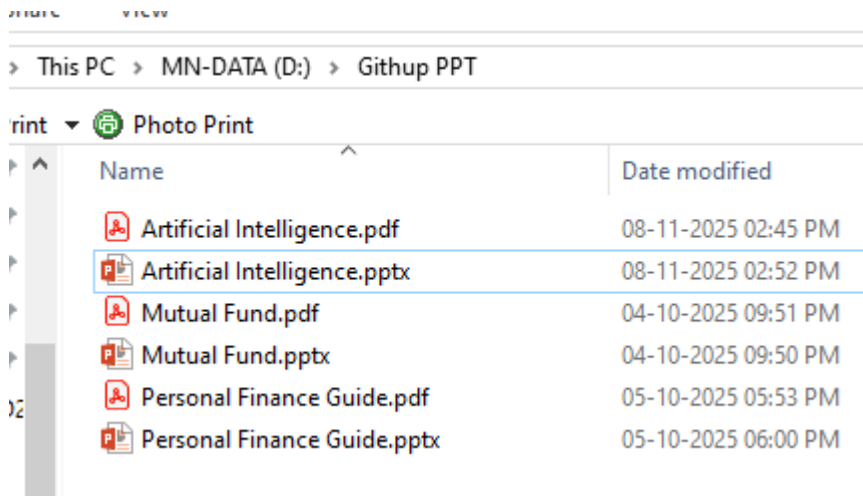
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MS List the files?

List directory

Here are the files in **D:\Githup PPT**:

#### PDF Files:

- Artificial Intelligence.pdf
- Mutual Fund.pdf
- Personal Finance Guide.pdf

#### PowerPoint Files:

- Artificial Intelligence.pptx
- Mutual Fund.pptx
- Personal Finance Guide.pptx

MS

Copy Ai.txt file into another name Personal Finance Guide.txt

7

I'll help you copy the Ai.txt file to Personal Finance Guide.txt. First, let me check if Ai.txt exists in the directory.

List directory

Great! I found "Ai.txt" in the directory. Now I'll read it and create a copy with the name "Personal Finance Guide.txt".

Read file

Write file

Perfect! I've successfully copied the Ai.txt file to "Personal Finance Guide.txt". The file appears to be empty (0 bytes), but the copy has been created.

Let me verify by listing the directory again:

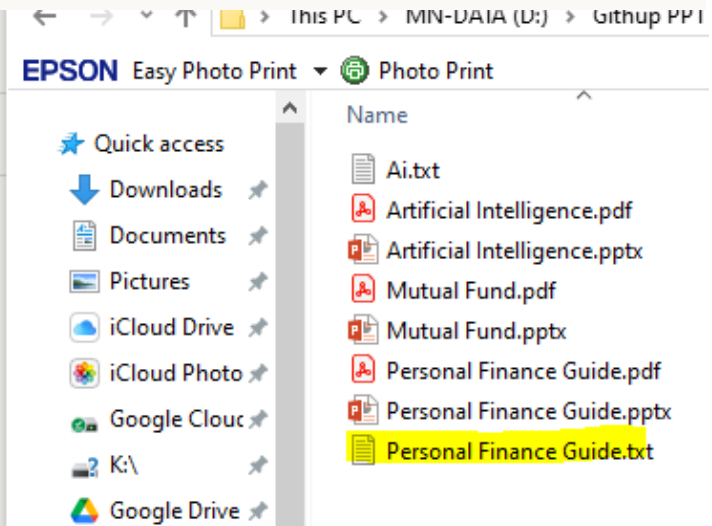
8

List directory

Excellent! The file has been successfully created. You now have:

- **Ai.txt** (original file)
- **Personal Finance Guide.txt** (new copy)

Both files are now in the **D:\Githup PPT** directory.



# AI Prompt Engineering:

## Simple Prompting

An API is a set of rules that lets two software systems talk to each other.

Simplest way to think about it:

It's like a **menu in a restaurant** — it tells you what you can order (functions), how to ask for it (request format), and what you'll get back (response).

If you want, I can explain:

- Types of APIs
- How they work
- Examples (REST, GraphQL)
- How to build one
- How to call one in code

Just tell me what you need.

## Improved Prompting

- **Instructions**
- **Input**
- **Context**
- **Output**

Explain	API	FastAPI in Python	With Code Example
Instructions	Input	Context	Output

## Explain API in FastAPI in Python with code example

API

Explain API in FastAPI in Python with code example

Here's a clear, practical explanation of **API in FastAPI**, followed by simple working code examples you can run immediately.

### What is an API in FastAPI?

An **API (Application Programming Interface)** is a way for applications to talk to each other.

**FastAPI** is a Python framework for building APIs quickly, using:

- **Python type hints**
- **Automatic validation**
- **Automatic documentation** (Swagger UI / Redoc)
- **High performance** (built on ASGI + Starlette + Pydantic)

In FastAPI, you define **endpoints** (URLs) and assign them **HTTP methods** (GET, POST, PUT, DELETE) to

### Example 1: Simple API


main.py

```
python

from fastapi import FastAPI

app = FastAPI()

# GET endpoint
@app.get("/")
```

 Copy code

Continued...

## Chain of Thought

Explain API in FastAPI in Python with code example?  
**Think step by step**

Explain API in FastAPI in Python with code example?  
Think step by step

Thought for a few seconds >

## Step-by-step: building and understanding an API with FastAPI (Python)

FastAPI makes building HTTP API

Act as a senior cloud engineer and architect. Explain the concept of an "EC2 Setup" to a Junior cloud engineer using a real-world analogy.

Act as a senior cloud engineer and architect. Explain the concept of an "EC2 Setup" to a Junior cloud engineer using a real-world analogy.

Imagine you're setting up a new **computer workstation** in a large office building—that's the easiest real-world way to understand an **EC2 setup**.

### 🌿 Real-World Analogy: Setting Up a Workstation in an Office

#### 1. Choosing a Desk (Instance Type)

In an office, you choose a workstation based on your job:

- A designer needs a high-power machine.
- A data entry worker needs a basic one.

In EC2, you choose an **instance type**:

- `t3.micro` → small desk with limited resources. ↓
- `m5.large` → bigger desk.

# Structured Output Prompting

Compare the HP Laptop, Dell Laptop, and Acer Laptop

Great question. It depends a lot on which model you pick from each brand — HP, Dell, and Acer all have very wide lineups. But I can compare general trade-offs, strengths, and weaknesses, plus some example models. Then you can decide which brand (or specific model) suits your use-case (work, gaming, studying, etc.).

## Brand-Level Comparison: HP vs Dell vs Acer

Here are the key factors to compare among HP, Dell, and Acer, followed by how they generally stack up.

Factor	HP	Dell	Acer
Product Range & Segments	Very broad: from budget to premium, 2-in-1s (like Spectre x360), business laptops (EliteBook), gaming (Omen)	Also very broad: XPS (premium), Inspiron (mainstream), business (Latitude), gaming (Alienware)	Strong in budget and mid-range: Aspire, Swift, plus gaming (Nitro, Predator)
Build Quality & Design	Good design, especially in higher-end lines; some premium models feel quite polished. <small>digitchasers.com +1</small>	Known for strong build quality, especially in XPS or business series; often uses metal. <small>Max International</small>	More variance: budget models more plastic; some higher or gaming lines are better, but generally not as premium as Dell's high-end. <small>Laptop Outlet, UK</small>



Compare the HP Laptop, Dell Laptop, and Acer Laptop. Provide the output as a markdown table with four columns: 'Processor Power', 'Memory speed', 'High-speed hard Disk', 'Wifi Speed'

Compare the HP Laptop, Dell Laptop, and Acer Laptop. Provide the output as a markdown table with four columns: 'Processor Power', 'Memory speed', 'High-speed hard Disk', 'Wi-Fi Speed'

Here's a comparison table for typical laptops from HP, Dell, and Acer — based on representative models. (Since each brand has a huge range, this is indicative rather than universal.) Examples used: HP15 Laptop, Dell 15 Laptop, Acer Aspire 3.

Brand	Processor Power	Memory Speed	High-speed Hard Disk	WiFi Speed
HP	Modern HP Pavilion 14 uses Intel Core i7-1165G7 (up to 4.7 GHz turbo) <small>HP +1</small>	DDR4-3200 MHz on many HP models <small>HP Support +1</small>	PCIe NVMe M.2 SSD (e.g., 512GB NVMe) <small>HP</small>	Wi-Fi 6 (802.11ax) on many recent HPs, e.g. Realtek Wi-Fi 6 2x2 <small>HP</small>
Dell	For Dell Inspiron 15 5515, memory spec sheet indicates 12-core / 16-thread Ryzen — (very high power) <small>Dell</small>	DDR4-3200 MHz (e.g., Inspiron 5509/5502 specs: 3200 MHz) <small>Dell +1</small>	Many Dell laptops use NVMe SSDs — though some base models may also use HDD + SSD combos (depends heavily on configuration)	For Dell Latitude 5300 (as a representative): Intel Dual-Band Wireless-AC 9560 or AX200 → supports Wi-Fi 6 (802.11ax) <small>Wikipedia</small>
Acer	Acer Aspire 5 A515-56 uses modern Intel or AMD CPUs — e.g. Tiger Lake i5 / i7 or Ryzen, giving strong burst power. (Exact GHz depends on SKU.)	In Acer Aspire 5 A515-56, the NVMe SSD reported speeds up to ~3.5 GB/s, implying PCIe Gen-based storage. <small>Laptop Decision</small> (For RAM too, many Acer notebooks use DDR4 at ~3200 MHz.)	NVMe SSD with high throughput (Aspire 5 A515-56: can reach very fast read/write) <small>Laptop Decision</small>	In notebook review, Acer Aspire 5 A515 with Intel Wi-Fi 6 AX201 achieved ~1,422 Mbit/s receive on test router. <small>Notebookcheck</small>

**Ai Prompting Code Download Example:** Create a friends-themed snake game with background music, obstacles, power-ups, and speed boosts. Make it ready to deploy PWA (Manifest, Service worker, icons) and give me a zip with all the assets included.

ChatGPT ▾

1

Create a friends-themed snake game with background music, obstacles, power-ups, and speed boosts. Make it ready to deploy PWA (Manifest, Service worker, icons) and give me a zip with all the assets included.

Thought for 5s >

Analyzing ▾

2

3

Here's your ready-to-deploy PWA package:

👉 [Download friends-snake-pwa.zip](#)

It includes everything — HTML, JS, CSS, icons, manifest, and service worker — ready to drop into your project or deploy on Netlify/Vercel/GitHub Pages.

4

<https://www.netlify.com/>  
<https://app.netlify.com/teams/mohan4295work/project>



Import an existing project

Import from Git



Projects / friends-snake-pwa



◆ Project overview

Project configuration

Deploys

Preview Servers

Agent runs

Logs ▾

Metrics ▾

Web security

6



friends-snake-pwa

● friends-snake-pwa.netlify.app

Deploys from GitHub.

Published at 2:29 PM.

Quick setup

Add database



friends-snake-pwa-chatgpt

Deploys from GitHub

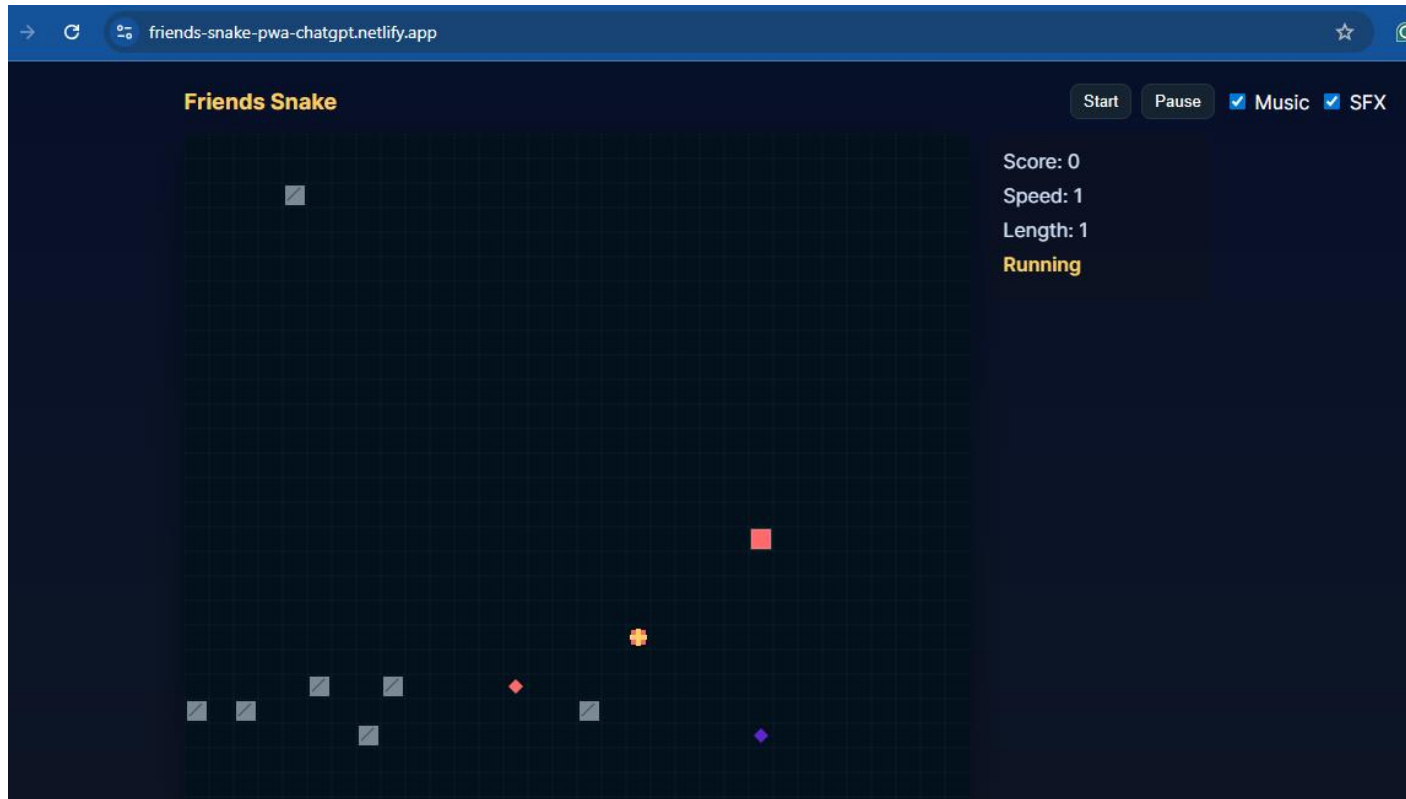
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Owned by MohanDevOps

Published at 2:29 PM (5 minutes ago)

7

<https://friends-snake-pwa-chatgpt.netlify.app/>



# AI as a tool to get the job done better!

Programmer Productivity

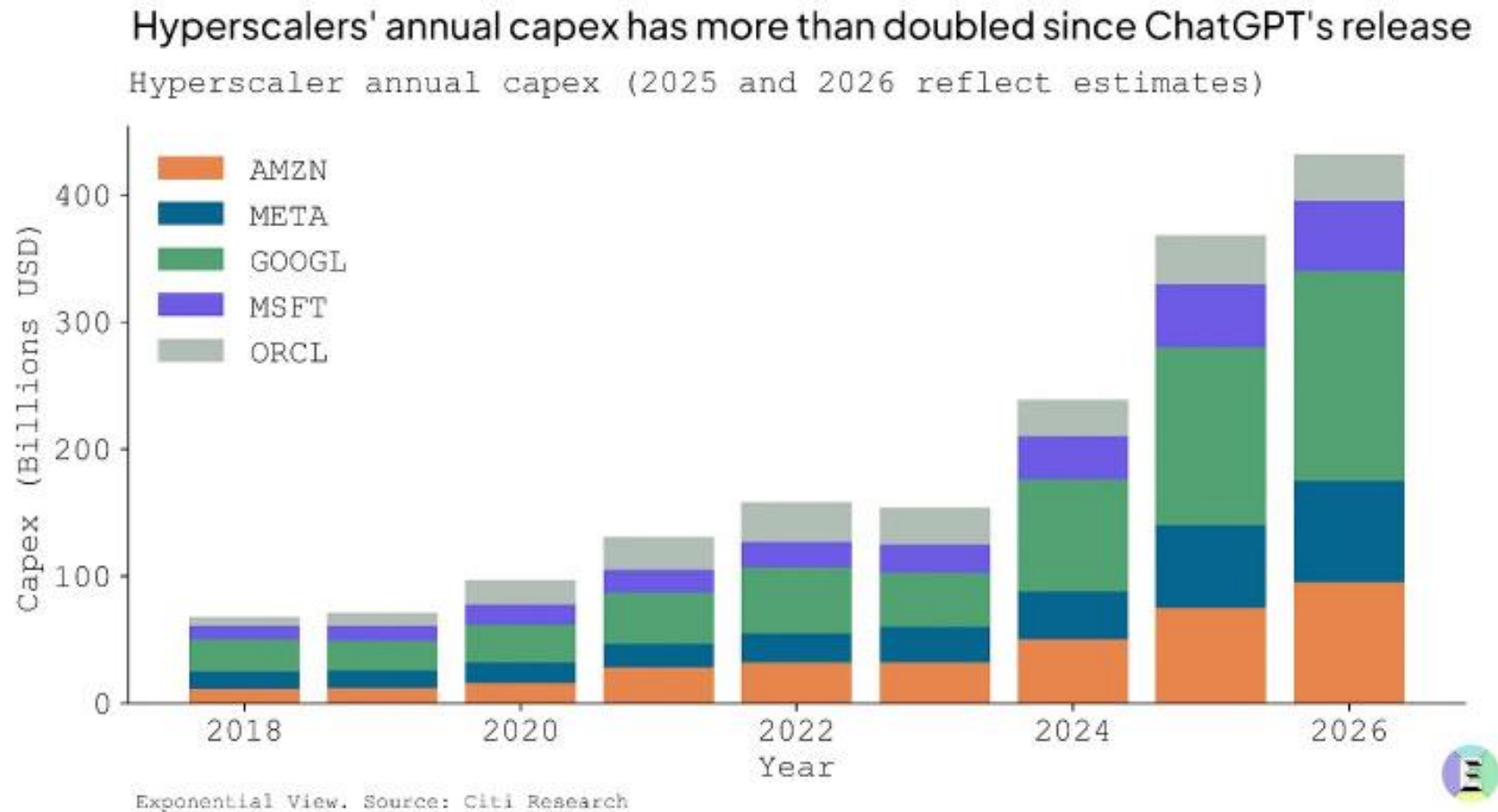
Testers Productivity

UI Programming Productivity

SQL Query Conversion Productivity

.....etc.

# Is the AI Bubble About to Burst?



- Derek Thompson on AI bubble <https://www.derekthompson.org/p/this-is-how-the-ai-bubble-will-pop>
- MIT report <https://fortune.com/2025/08/18/mit-report-95-percent-generative-ai-pilots-at-companies-failing-cfo/>

Documents Download → <https://github.com/mohan4295work/Doc/blob/main/Artificial%20Intelligence.pdf>

## Gen AI & Open Source Tools

- <https://chatgpt.com/>
- <https://claude.ai/>
- <https://gemini.google.com/>
- <https://chat.deepseek.com/>
- <https://webenoid.com/>
- <https://www.netlify.com/>

## My Blogger & Links



**GitLab**

<https://gitlab.com/mohan4295work>



**GitHub**

<https://github.com/mohan4295work>



**Blogger™**

<https://mohan4295.blogspot.com/>

# Reference Links

**AI Keynote: Sridhar Vembu** <https://youtu.be/df4onYIfTwo>

**Ai Beginners** <https://youtu.be/D1eL1EnxXXQ>

**Is the AI Bubble About to Burst?** <https://youtu.be/OJKPrJ0wNvc>

**Generative AI vs AI agents vs Agentic AI** <https://youtu.be/O2gerCxEXvc>

**Ai Prompt Engineering** <https://youtu.be/n0VpK1RfYGA>