Open Source Policy Guidelines

- This document is free to use for any purpose.

- You may modify or adapt the content.

- Attribution is required when reusing or publishing modified versions.

- The content is provided "as-is" without warranty.

- Do not include confidential or proprietary information when modifying.

- Sharing improvements with the community is encouraged .

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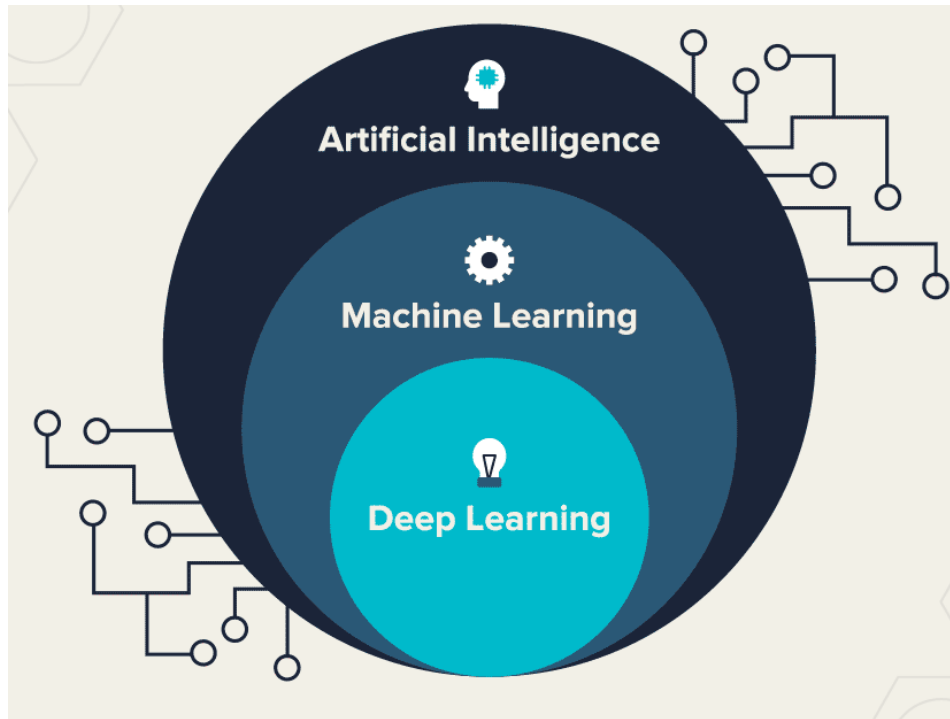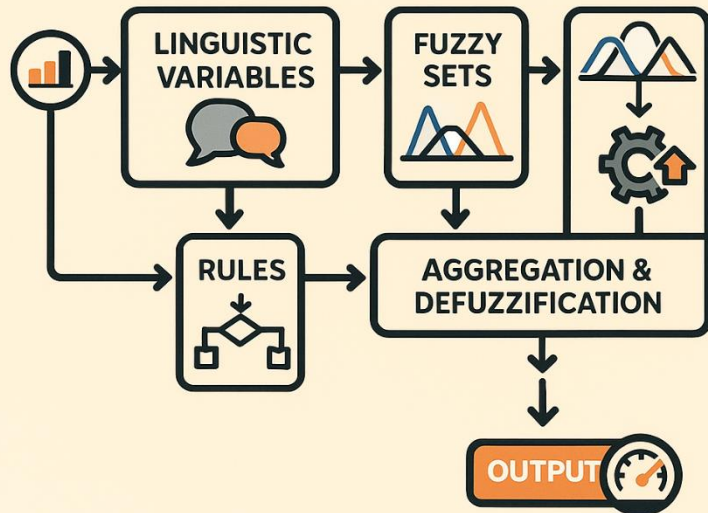
AI can work without **ML / DL** by using methods like rule-based systems, robotics control, and fuzzy logic to make decisions and solve problems.

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...

AI (Artificial Intelligence)

AI
RULE-BASED FUZZY LOGIC

LINGUISTIC VARIABLES → FUZZY SETS
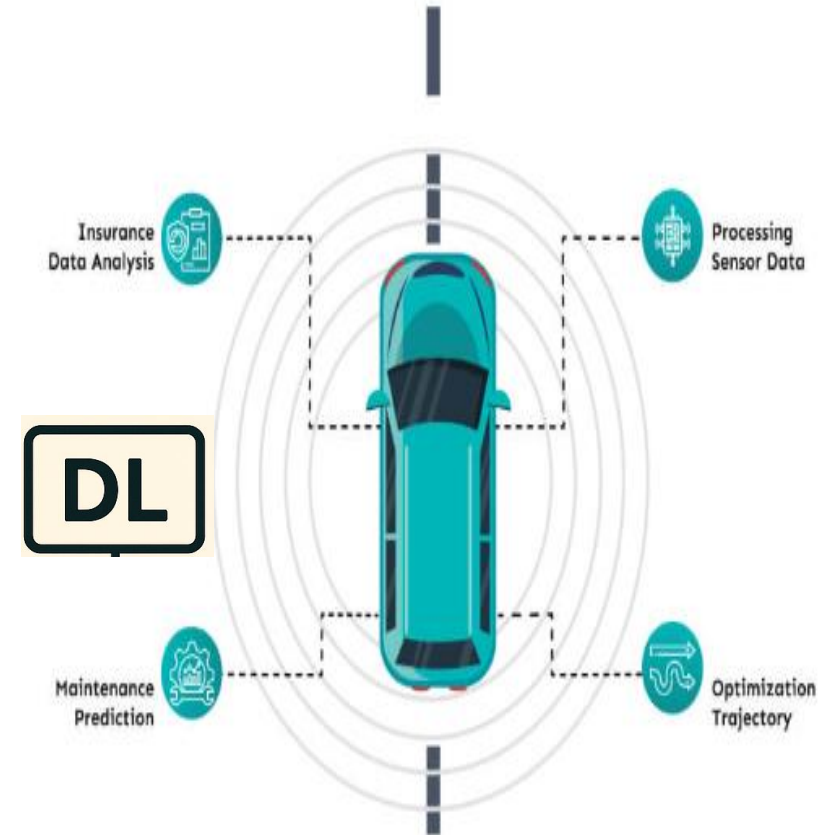
RULES → AGGREGATION & DEFUZZIFICATION

OUTPUT

https://github.com/mohan4295work/Doc

AI
ML
ADVANCED CAR AI
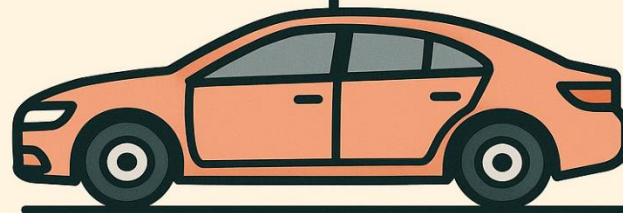
AI
Use Cases of AI in Self-Driving

DL

Insurance Data Analysis

Processing Sensor Data

Maintenance Prediction

Optimization Trajectory

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.

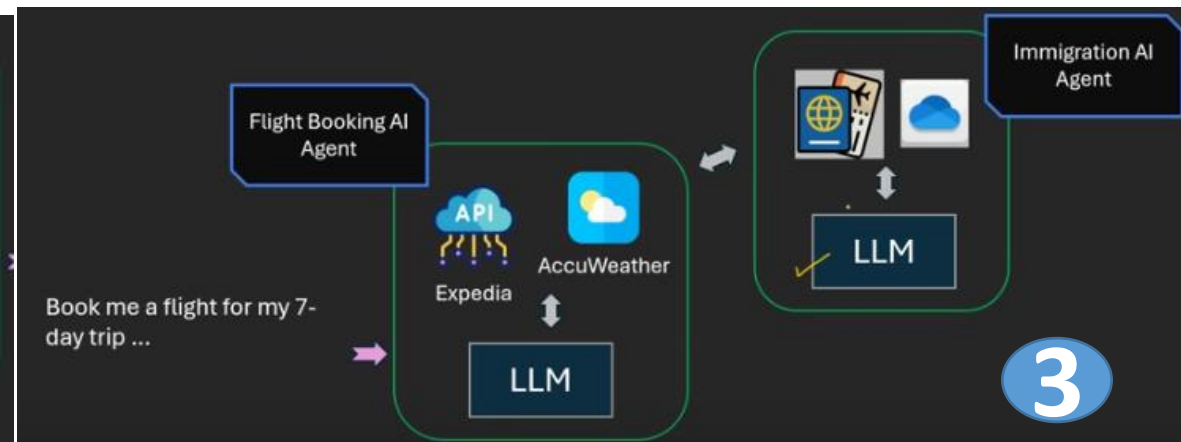# Ai System Types:

- **Generative AI**
- **AI Agent**
- **Agentic AI**

Category	Tools
Text	GPT, Claude, Gemini, LLaMA.
Images	Midjourney, DALL·E, Stable Diffusion.
Audio	ElevenLabs, Bark, MusicGen.
Videos	Sora, Runway, HeyGen.
Code	Gitlab Duo, Copilot, Code Llama, Code Whisperer

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

What is the price of Emirates flight from New York to Delhi tomorrow? → LLM → The price is 1200 $ - economy and 3400 $ business class

API

Expedia

1

Flight Booking AI Agent

Book me a flight for my 7-day trip to New Delhi in May. The weather should be sunny all days. Flight budget < 1600 $. No layovers.

API Expedia AccuWeather LLM

2

Flight Booking AI Agent

Immigration AI Agent

Book me a flight for my 7-day trip ...

API Expedia AccuWeather LLM LLM

3

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**.
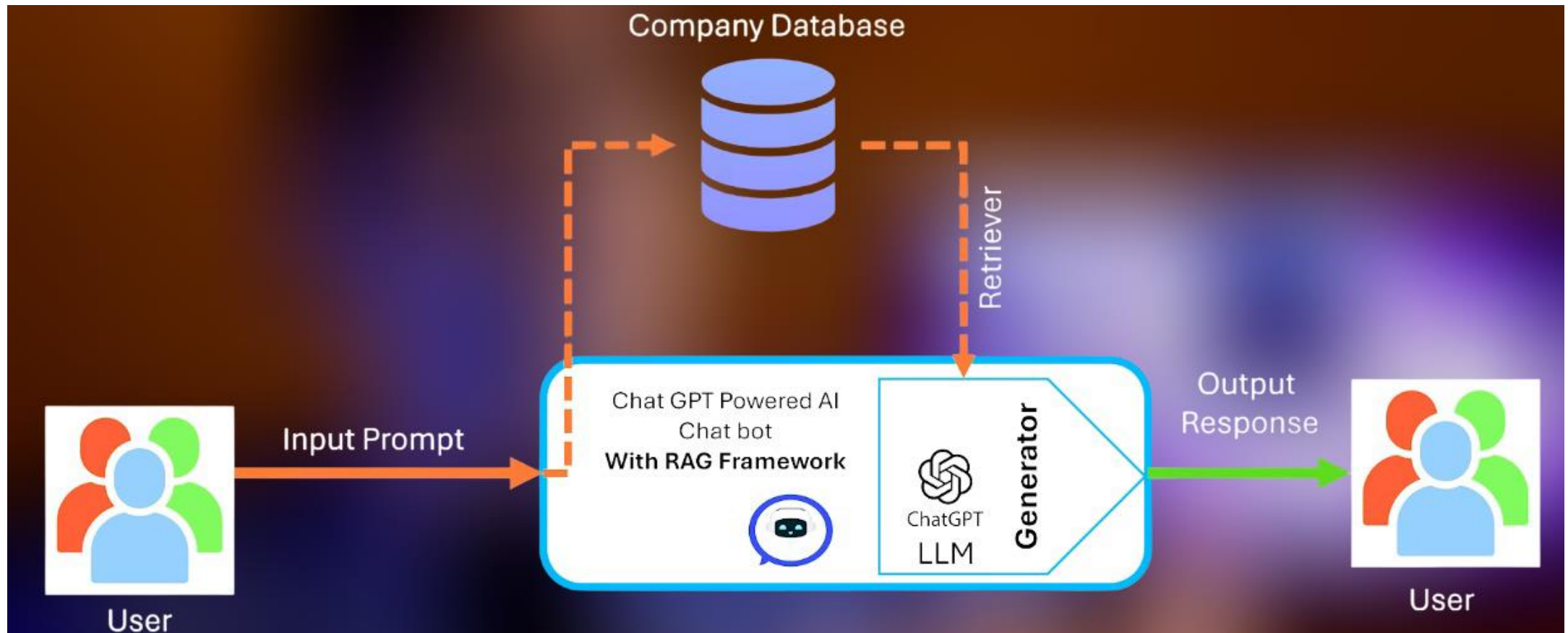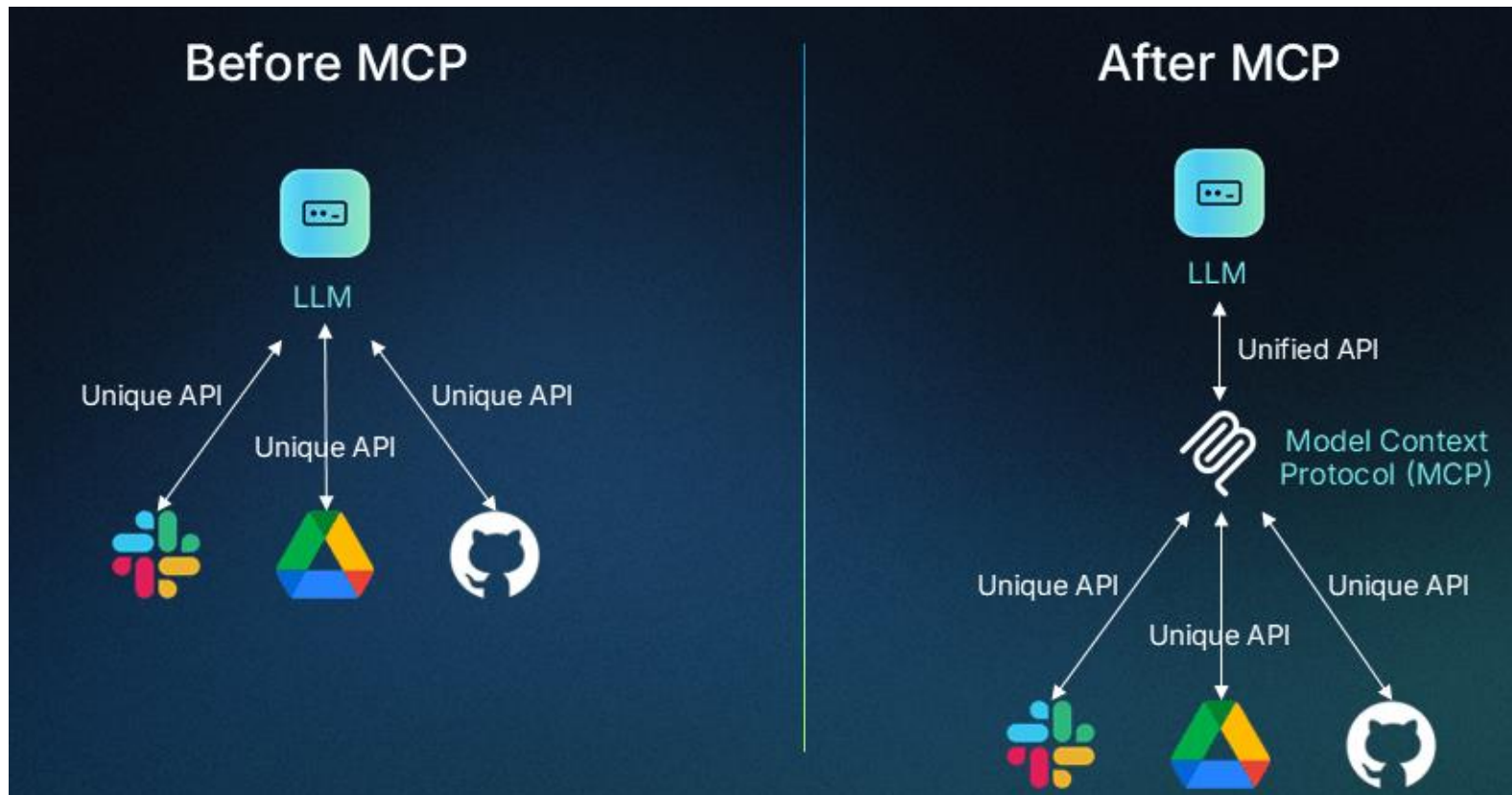
Retrieval-Augmented Generation (RAG) Framework
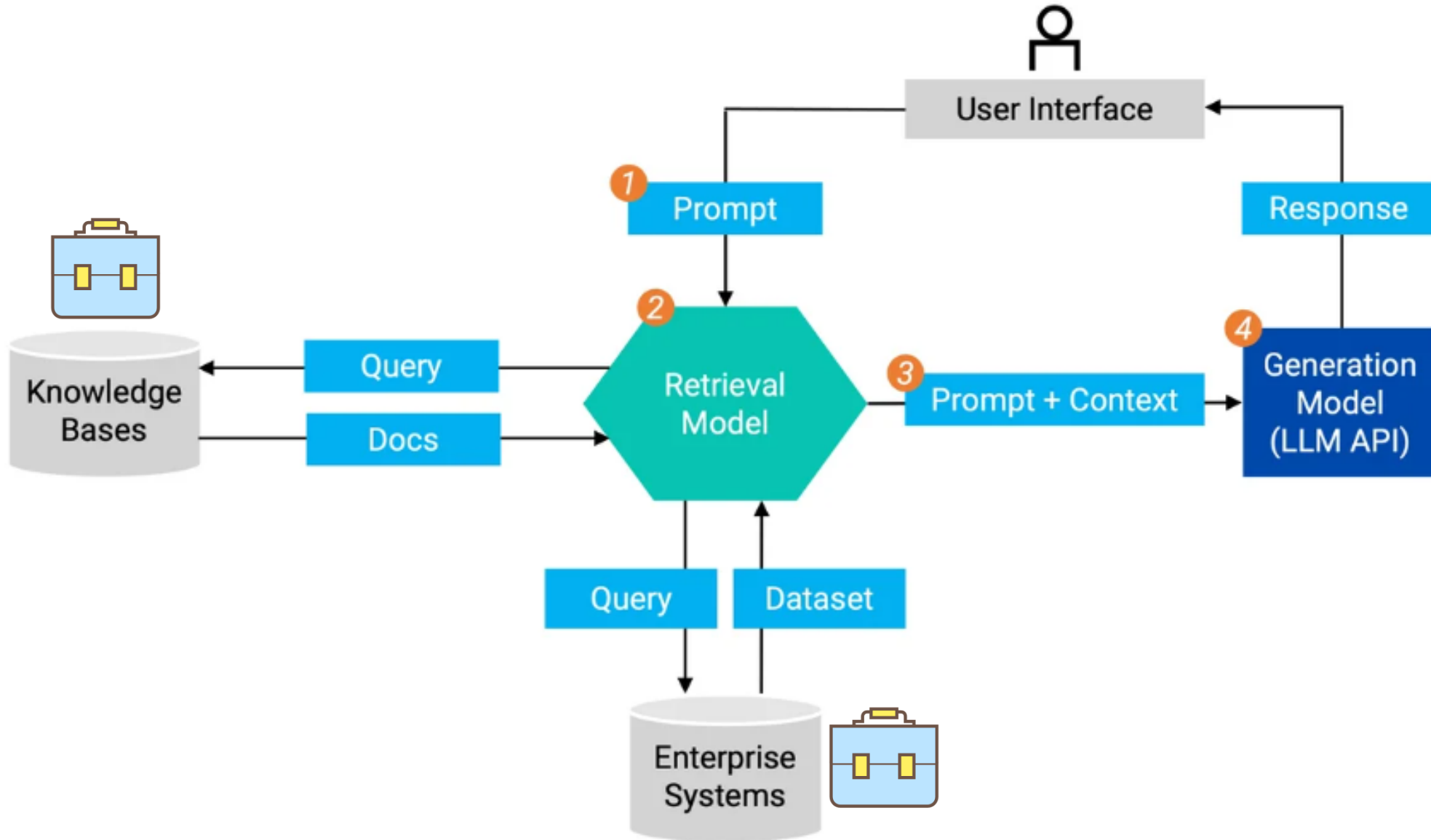
MCP - Model Context Protocol

- 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.

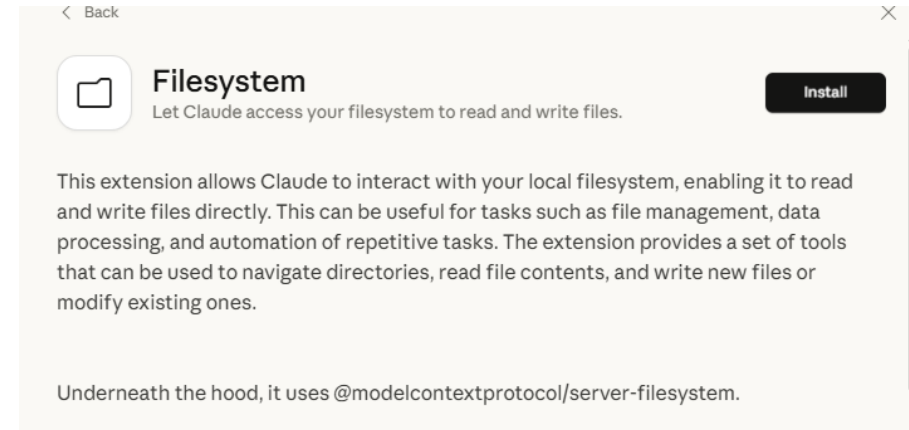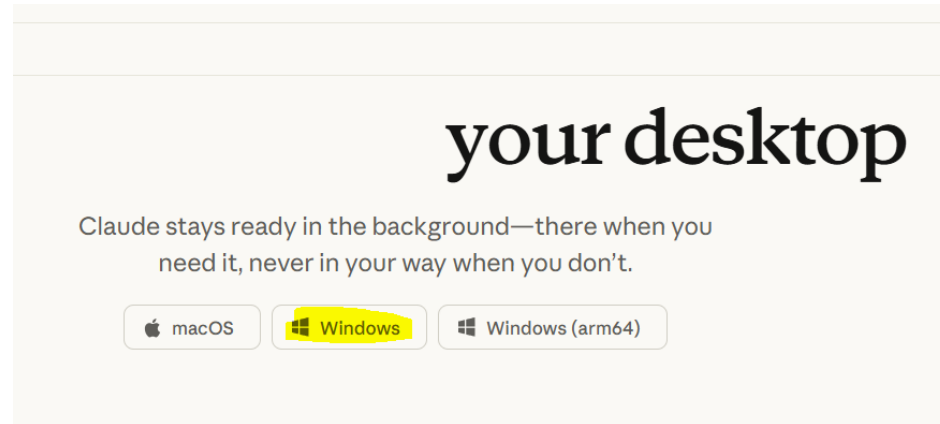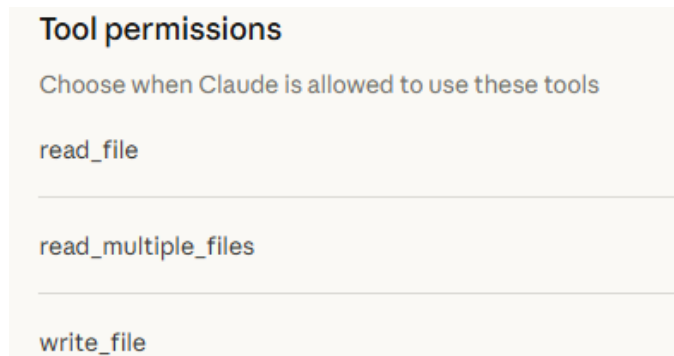- **RAG and MCP combined integration tools more powerful.**
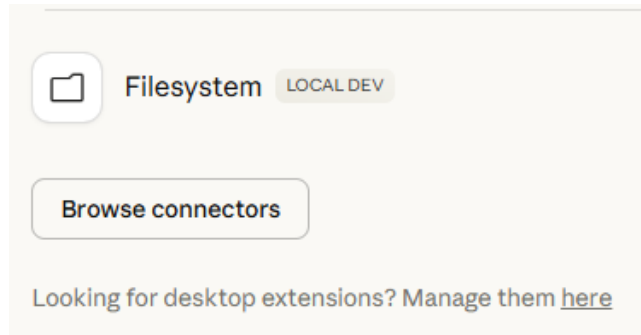
MCP – Example

https://www.claude.com/download

1

your desktop

Claude stays ready in the background—there when you need it, never in your way when you don't.

- macOS
- **Windows**
- Windows (arm64)

2

< Back   ✕

📁 **Filesystem**   [Install]
Let Claude access your filesystem to read and write files.

This extension allows Claude to interact with your local filesystem, enabling it to read and write files directly. This can be useful for tasks such as file management, data processing, and automation of repetitive tasks. The extension provides a set of tools that can be used to navigate directories, read file contents, and write new files or modify existing ones.

Underneath the hood, it uses @modelcontextprotocol/server-filesystem.

3

📁 Filesystem LOCAL DEV

[Browse connectors]

Looking for desktop extensions? Manage them here

Tool permissions

Choose when Claude is allowed to use these tools

read_file

read_multiple_files

write_file

4

MS What folder access do you now?

I'll check what directories I have access to.

📁 List allowed directories   ⌄

I have access to one directory:

D:\Githup PPT

This appears to be a folder on your D: drive related to GitHub and PowerPoint files. Would you like me to explore what's inside this directory, or help you with any specific files or operations within it?

🗐 👍 👎   Retry ⌄

Claude can make mistakes. Please double-check responses.

https://github.com/mohan4295work/Doc

5

> This PC > MN-DATA (D:) > Githup PPT

Print ▼ 🖨 Photo Print

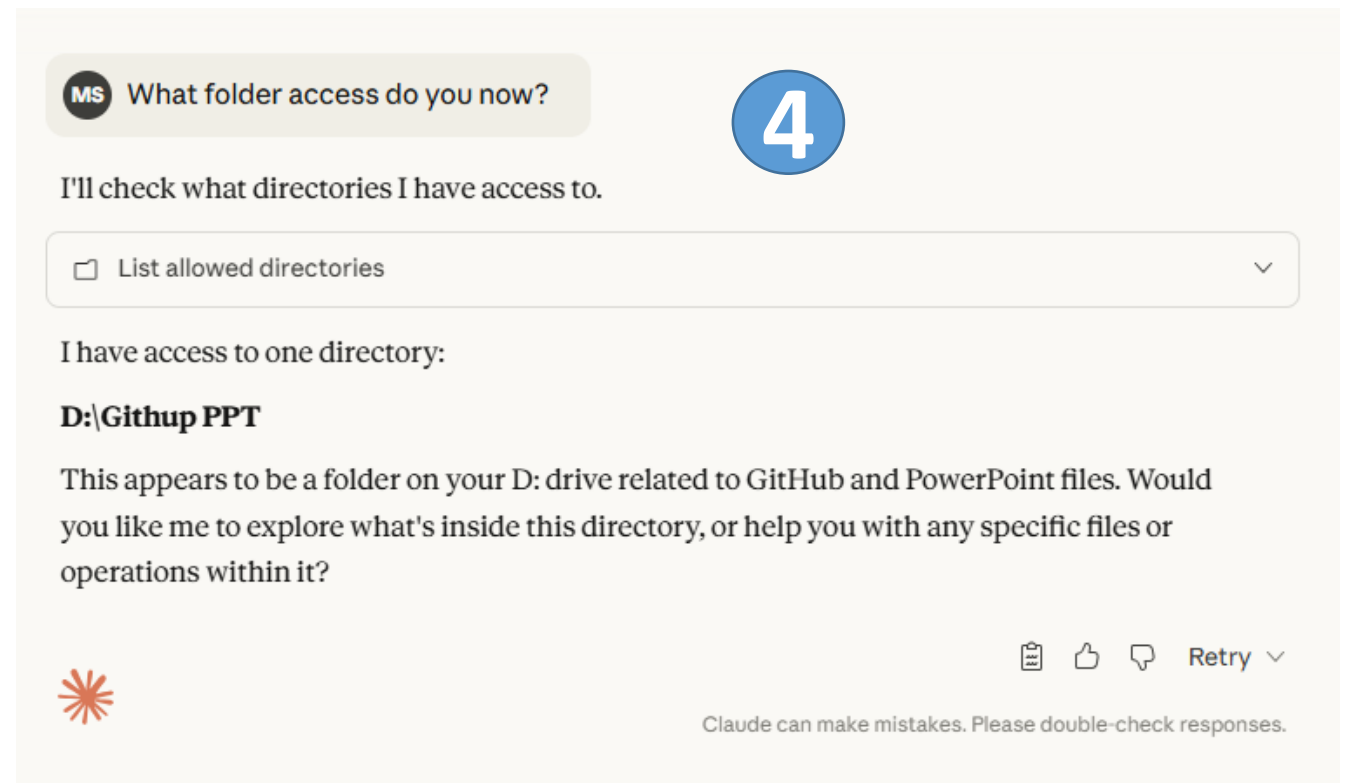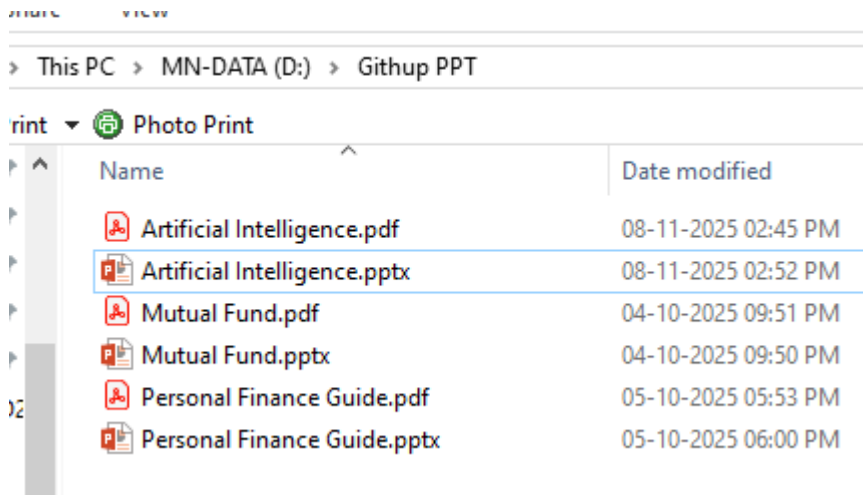| Name	Date modified
📕 Artificial Intelligence.pdf	08-11-2025 02:45 PM
📘 Artificial Intelligence.pptx	08-11-2025 02:52 PM
📕 Mutual Fund.pdf	04-10-2025 09:51 PM
📘 Mutual Fund.pptx	04-10-2025 09:50 PM
📕 Personal Finance Guide.pdf	05-10-2025 05:53 PM
📘 Personal Finance Guide.pptx	05-10-2025 06:00 PM

6

> **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

7

> **MS** Copy AI.txt file into another name Personal Finance Guide.txt

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.

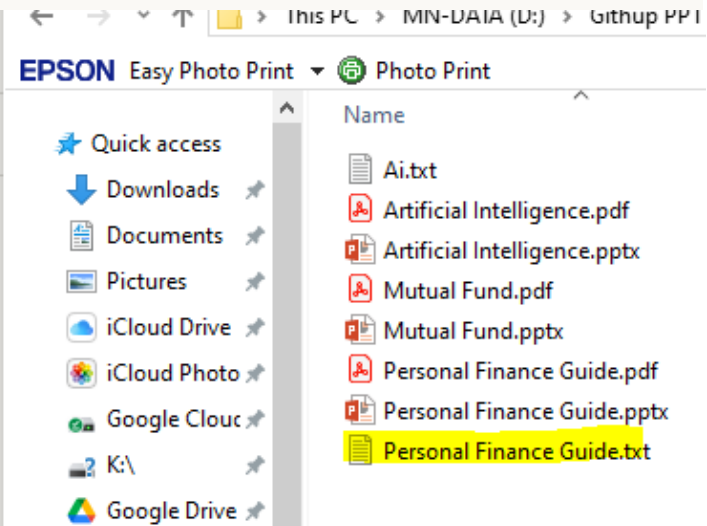
8

Let me verify by listing the directory again:

🗀 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.

> This PC > MN-DATA (D:) > Githup PPT

EPSON Easy Photo Print ▼ 🖨 Photo Print

★ Quick access

⬇ Downloads 📌
📄 Documents 📌
🖼 Pictures 📌
☁ iCloud Drive 📌
☁ iCloud Photo 📌
☁ Google Cloud 📌
💾 K:\ 📌
▲ Google Drive 📌

Name
📄 Ai.txt
📕 Artificial Intelligence.pdf
📘 Artificial Intelligence.pptx
📕 Mutual Fund.pdf
📘 Mutual Fund.pptx
📕 Personal Finance Guide.pdf
📘 Personal Finance Guide.pptx
📄 Personal Finance Guide.txt

AI Prompt Engineering:

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

Explain API in FastAPI in Python with code example

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**

https://github.com/mohan4295work/Doc

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("/")
```

Continued...

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.

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**.

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.

🍀 **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.

Continued…

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. digichasers.com +1	Known for strong build quality, especially in XPS or business series; often uses metal. Max International	More variance: budget models more plastic; some higher or gaming lines are better, but generally not as premium as Dell's high-end. Laptop Outlet, UK

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: HP 15 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) HP +1	DDR4-3200 MHz on many HP models HP Support +1	PCIe NVMe M.2 SSD (e.g., 512GB NVMe) HP	Wi-Fi 6 (802.11ax) on many recent HPs, e.g. Realtek Wi-Fi 6 2×2 HP
Dell	For Dell Inspiron 15 5515, memory spec sheet indicates 12-core / 16-thread Ryzen — (very high power) Dell	DDR4-3200 MHz (e.g., Inspiron 5509/5502 specs: 3200 MHz) Dell +1	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) Wikipedia
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. Laptop Decision (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) Laptop Decision	In notebook review, Acer Aspire 5 A515 with Intel Wi-Fi 6 AX201 achieved ~1,422 Mbit/s receive on test router. Notebookcheck

https://github.com/mohan4295work/Doc

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 >

2

Analyzing ∨

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 ⇅

friends-snake-pwa-chatgpt **⑤** Owned by **MohanDevOps**
Deploys from **GitHub** Published at 2:29 PM (5 minutes ago)

◆ Project overview

Project configuration

Deploys

Preview Servers

Agent runs **⑥**

Logs ⌄

Metrics ⌄

Web security

friends-snake-pwa

● friends-snake-pwa.netlify.app

Deploys from **GitHub**.

Published at 2:29 PM.

Quick setup **Add database**

⑦

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

→ ⟳ ⌖ friends-snake-pwa-chatgpt.netlify.app ☆ Ⓖ

Friends Snake Start Pause ☑ Music ☑ SFX

Score: 0
Speed: 1
Length: 1
Running
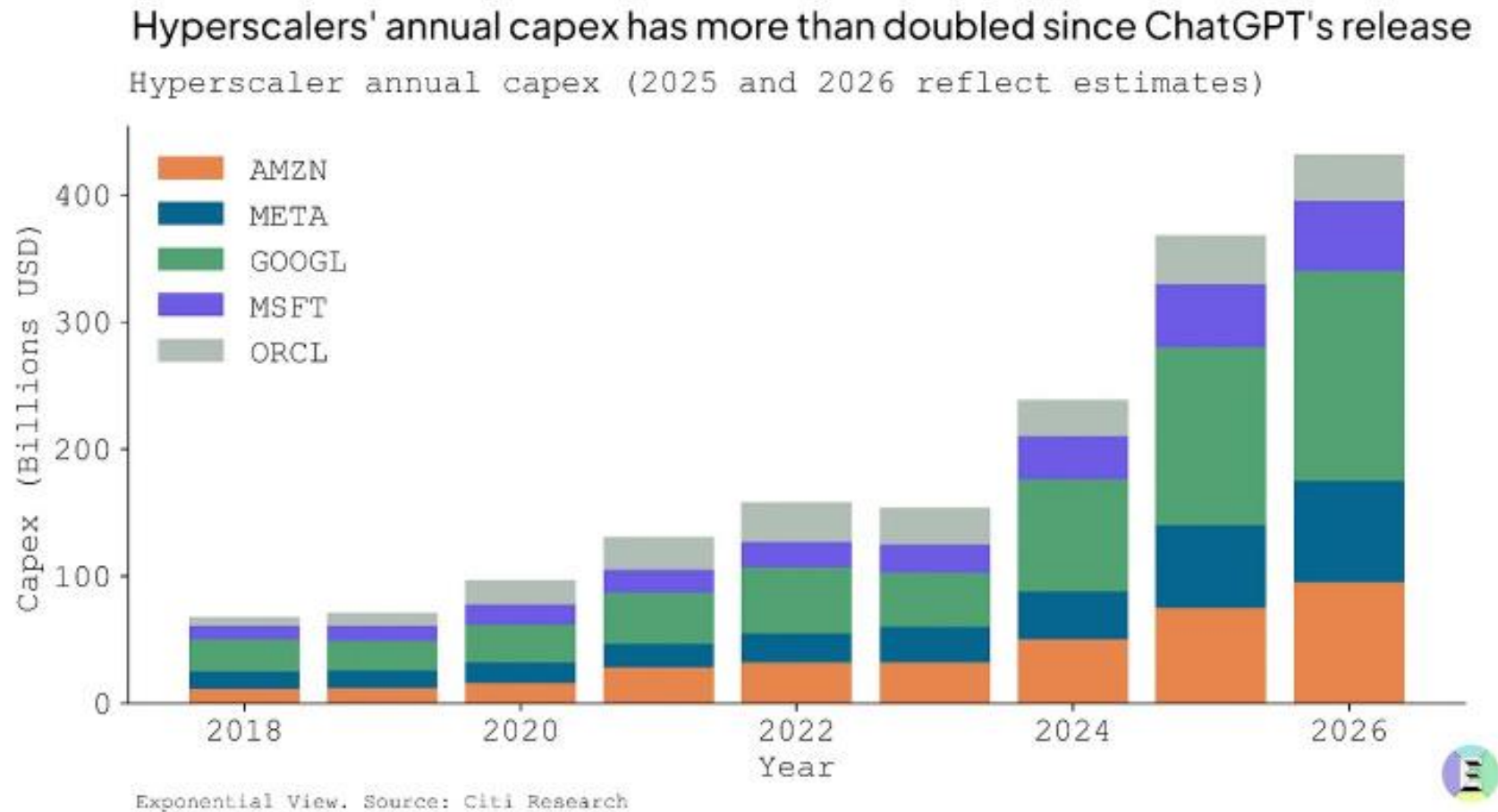
AI as a tool to get the job done better!

Programmer Productivity
Testers Productivity
UI Programming Productivity
SQL Query Conversion Productivity
.....etc.

Is the AI Bubble About to Burst?

Hyperscalers' annual capex has more than doubled since ChatGPT's release

Hyperscaler annual capex (2025 and 2026 reflect estimates)

Exponential View. Source: Citi Research

- 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/

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

https://gitlab.com/mohan4295work

https://github.com/mohan4295work

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