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scan with your phone to take
our Pre-Assessment Survey.

AI Prompt Engineering Basics

Unlocking the power of conversational Artificial Intelligence

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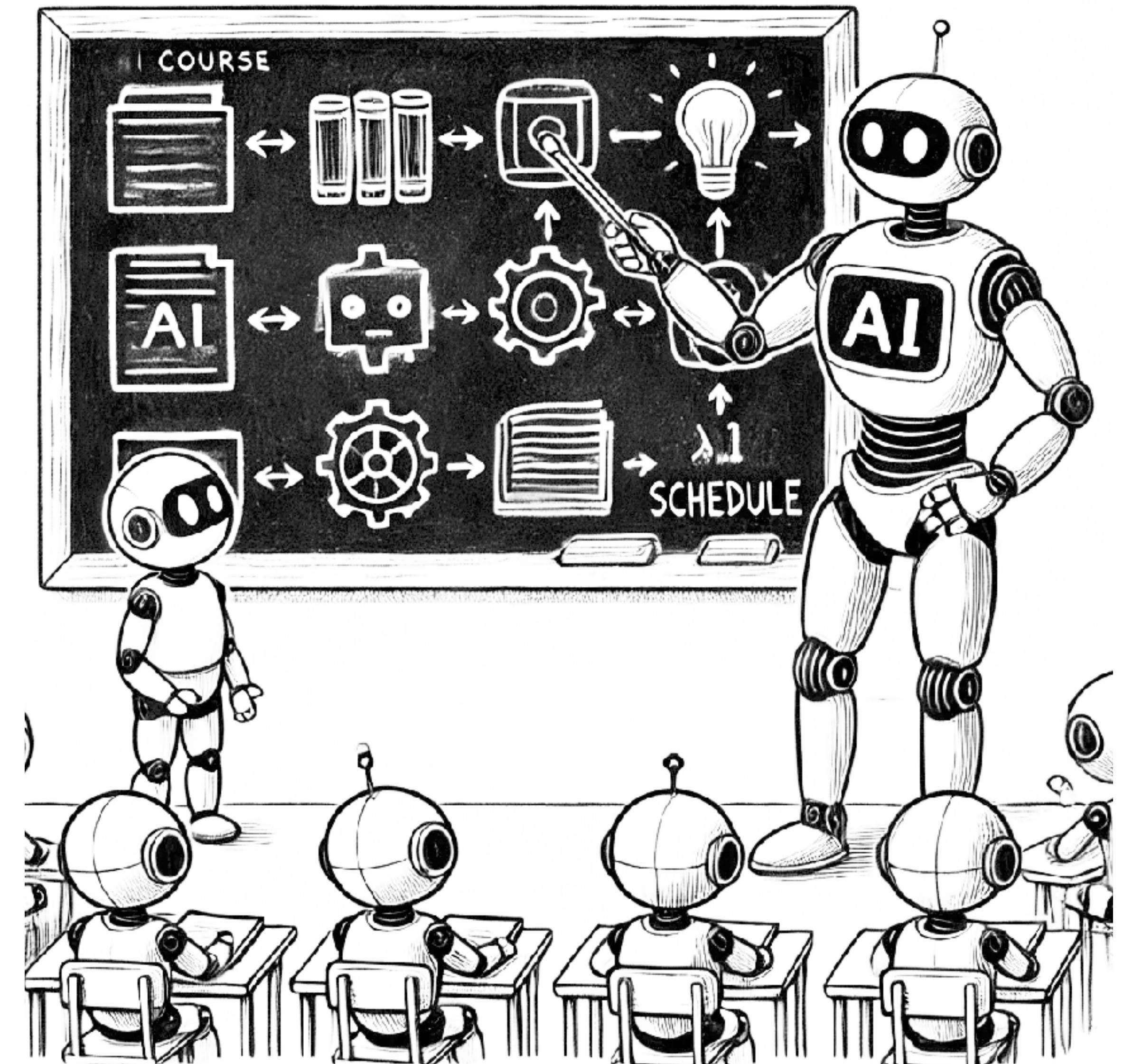
Course Schedule

Our 2-Day Objectives

- **Day #1** - AI prompting knowledge and practicals.
- **Day #2** - Business use case AI Prompting and creating your own custom AI Agent.



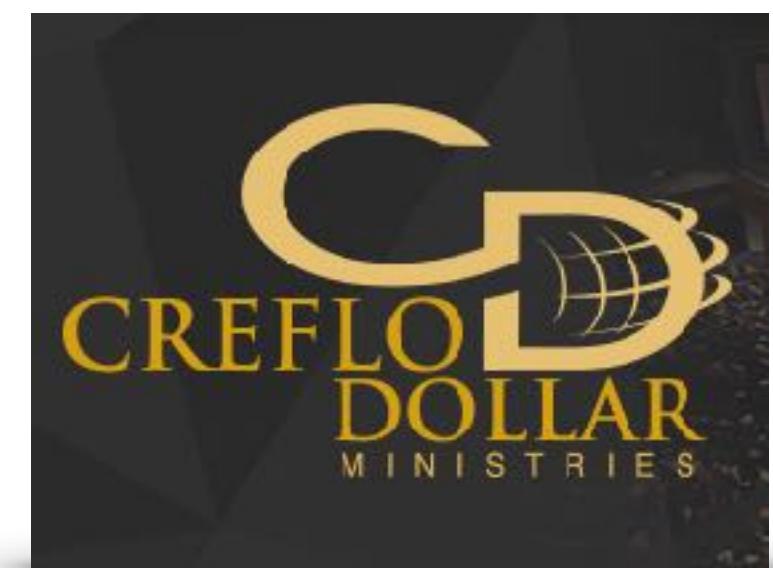
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A little about me...

- Born & Raised in Springfield, Ohio USA
- Bachelors of Science from Hampton University in Hampton, Virginia USA
- SAQA (Level 7) & Member Institute of Information Technology Professionals of South Africa (IITPSA) with +20 yrs. of Experience
- Worked for Fortune 500 Companies & International Christian Ministries

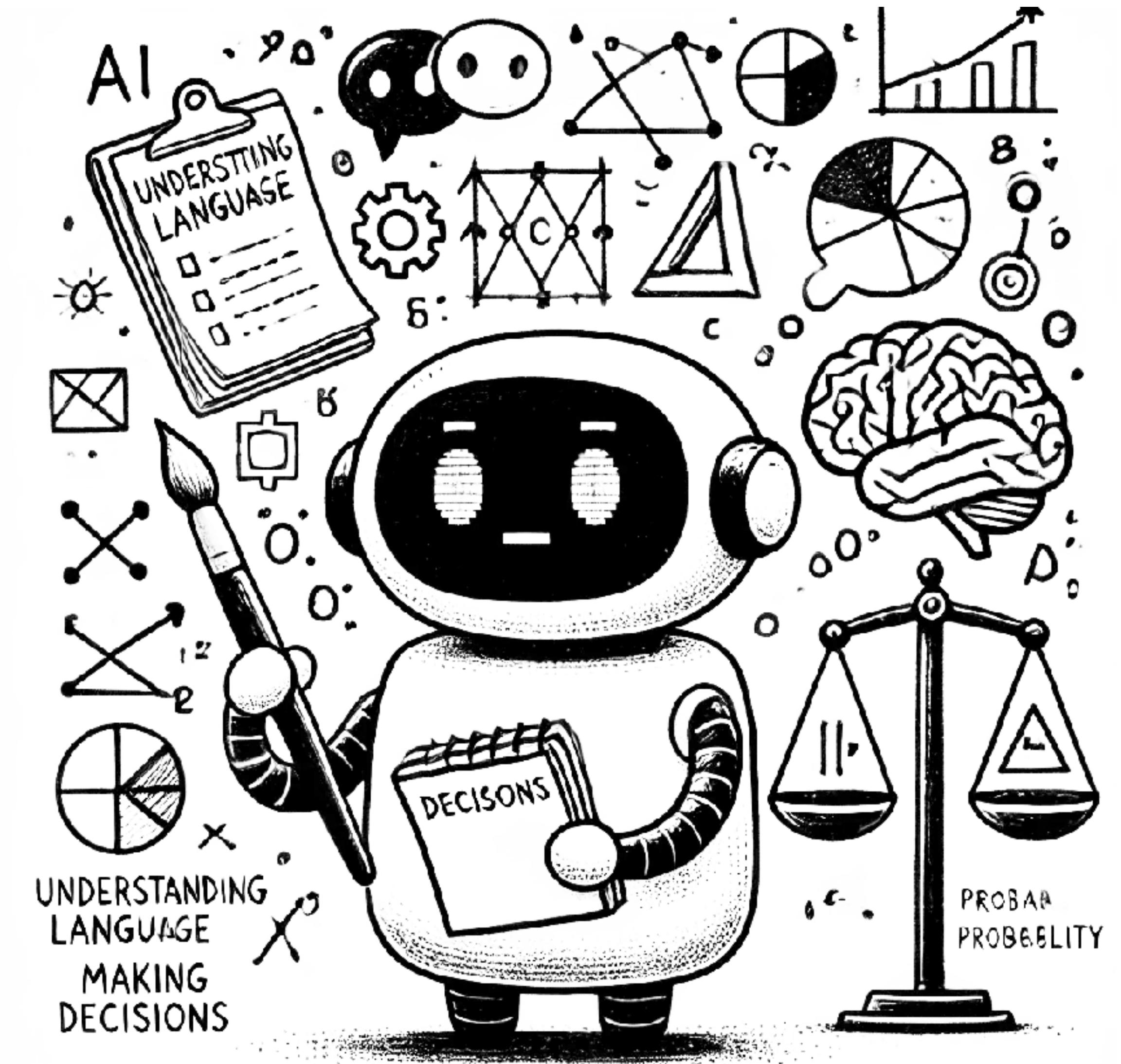


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What is Artificial Intelligence (AI)?

Artificial Intelligence, or AI, is a type of technology that allows computers to do tasks that usually require human intelligence—like understanding language, making decisions, or even creating art.

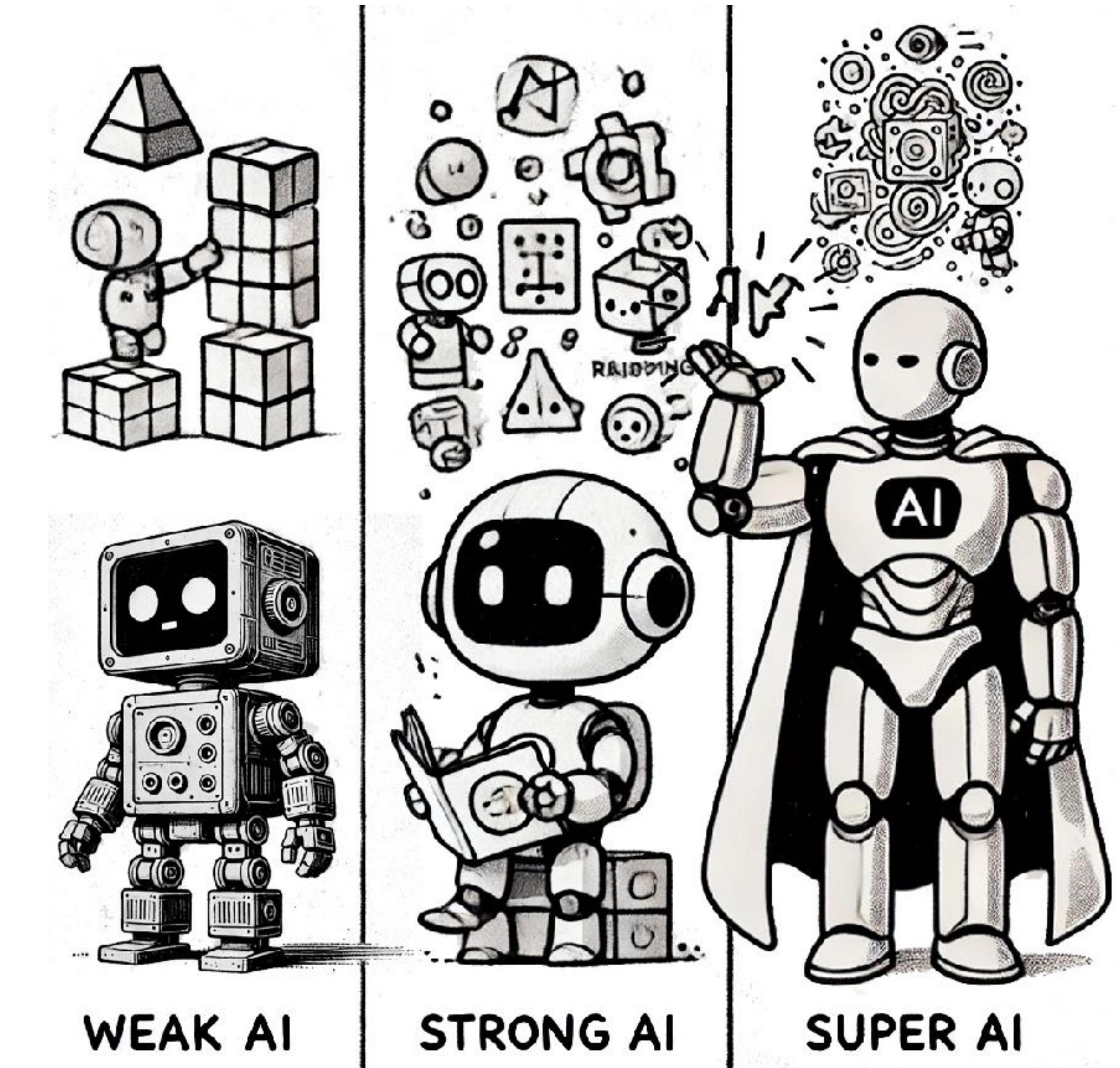


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3 Types of AI based on Capability

1. Narrow AI (i.e. Weak AI)
2. General AI (i.e. Strong AI)*
3. Artificial Super-intelligence*

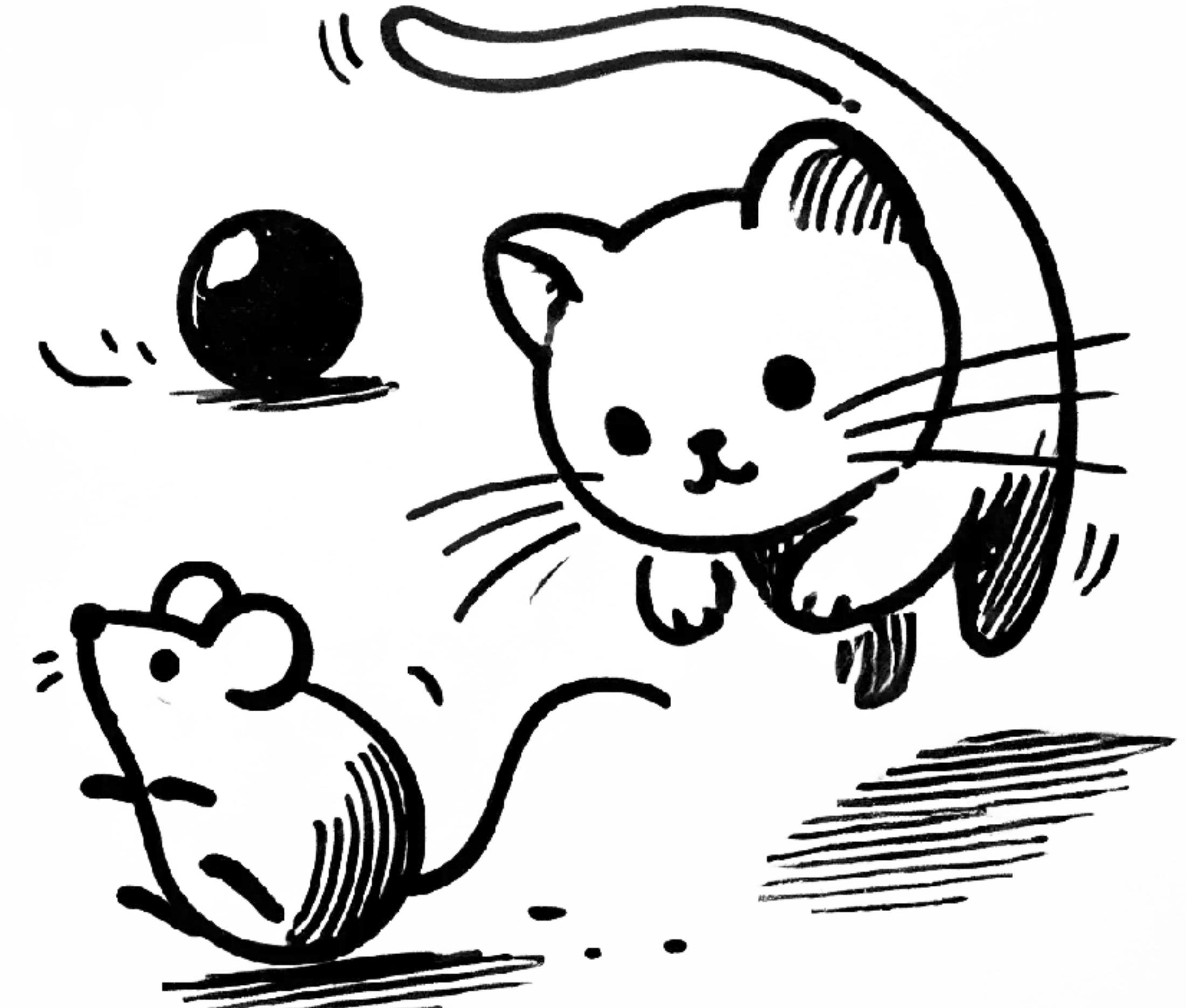


*Theoretical concepts not yet conceived.



AI makes predictions based on high probability

It doesn't "think" or "know" things the way humans do; instead, it calculates the highest likelihood of certain words, phrases, or actions being correct based on the data it has seen before.



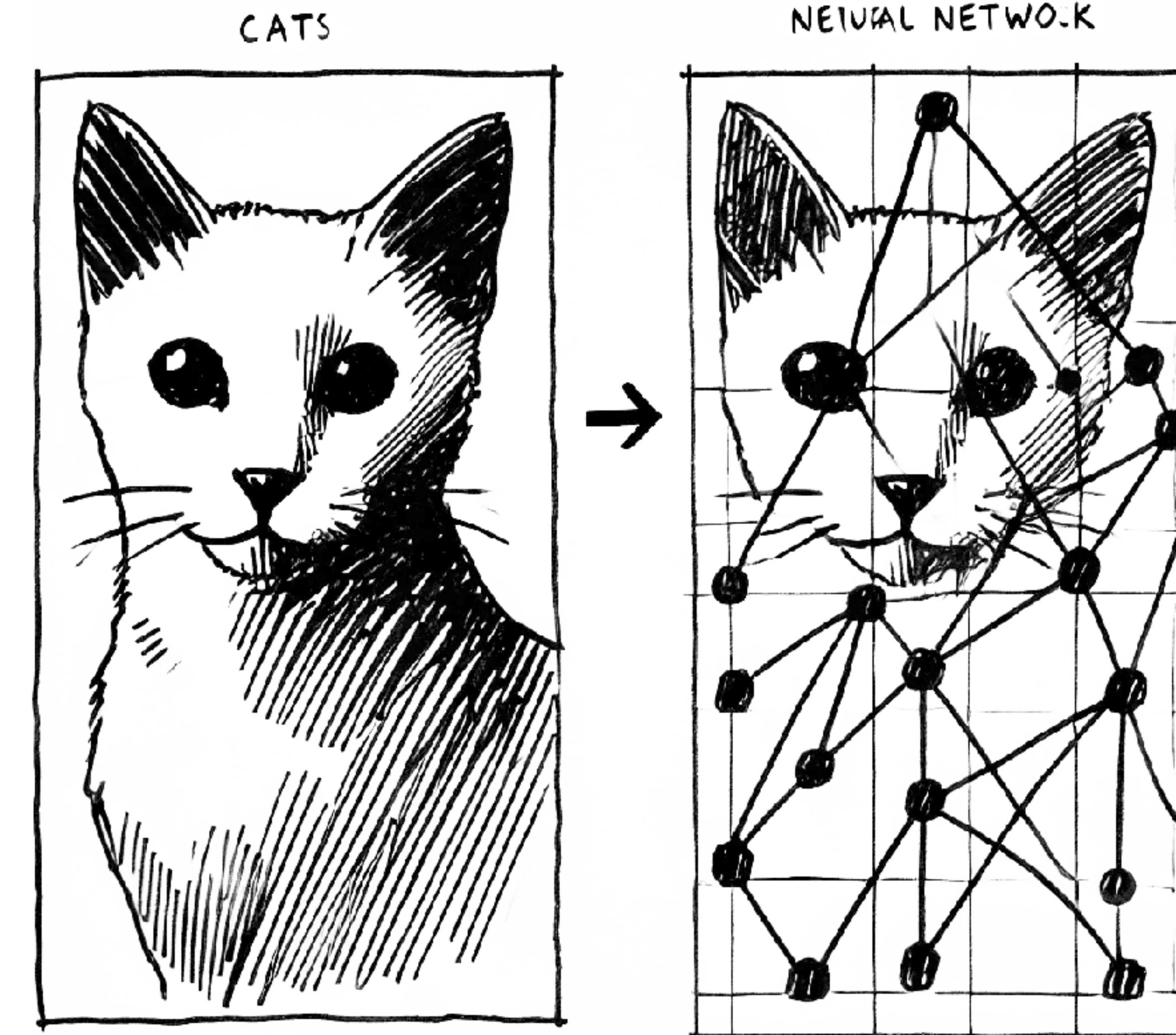


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What is a Neural Network?

A neural network is like a computer's version of your brain.

The network breaks a picture (or text) into tiny pieces (like the ears, tail, or whiskers) and tries to figure out what it is.

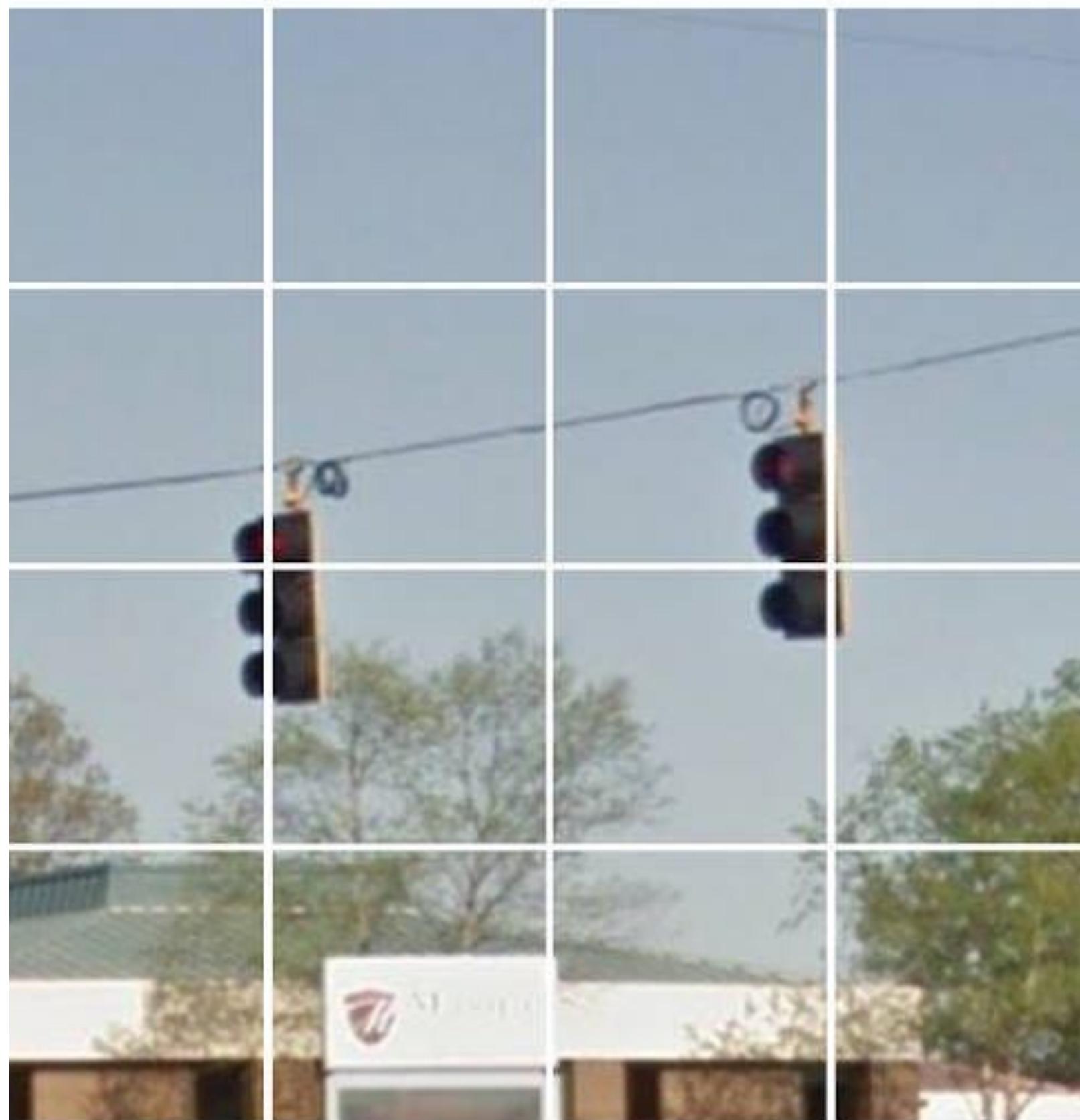


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traffic lights

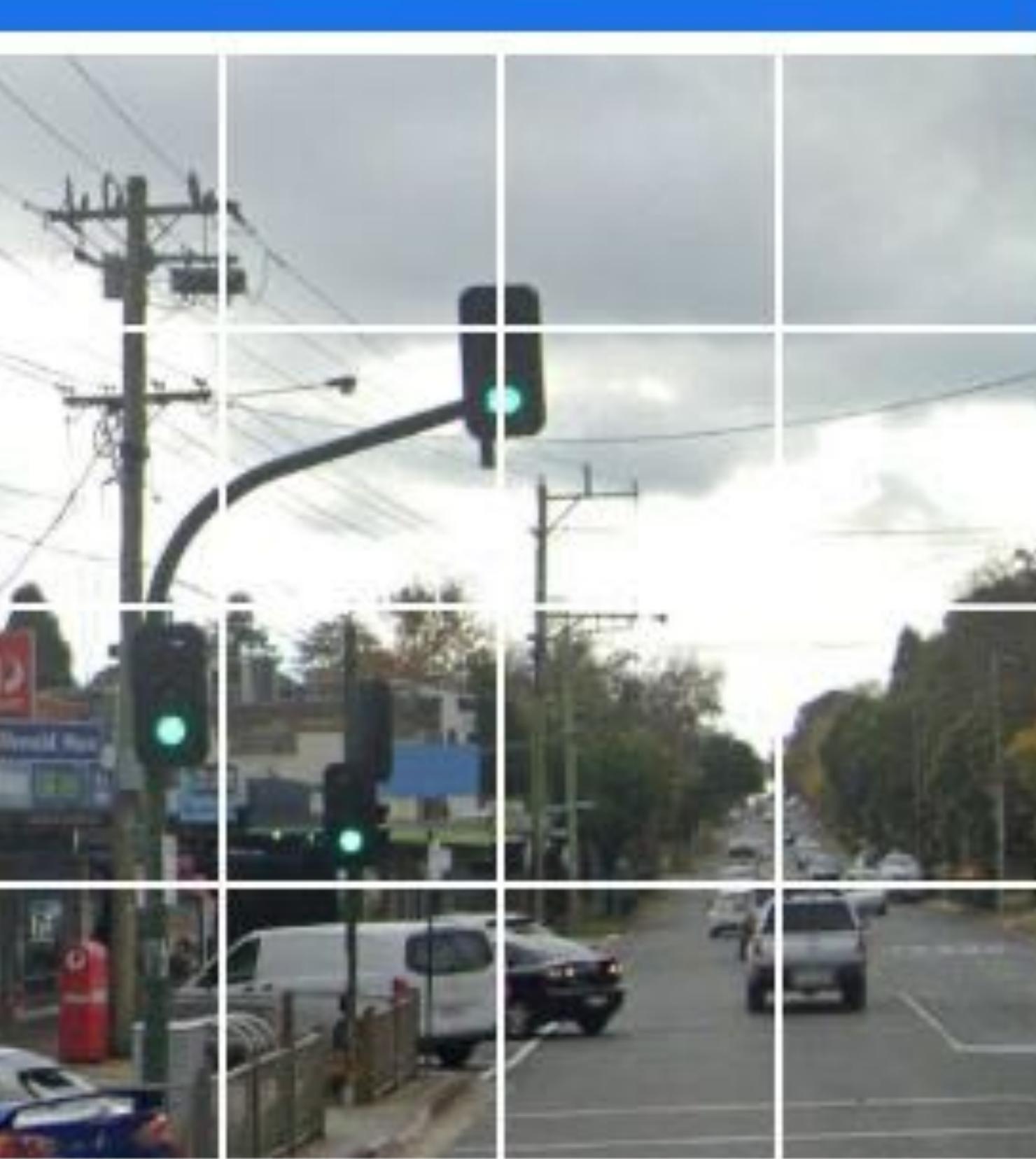
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SKIP

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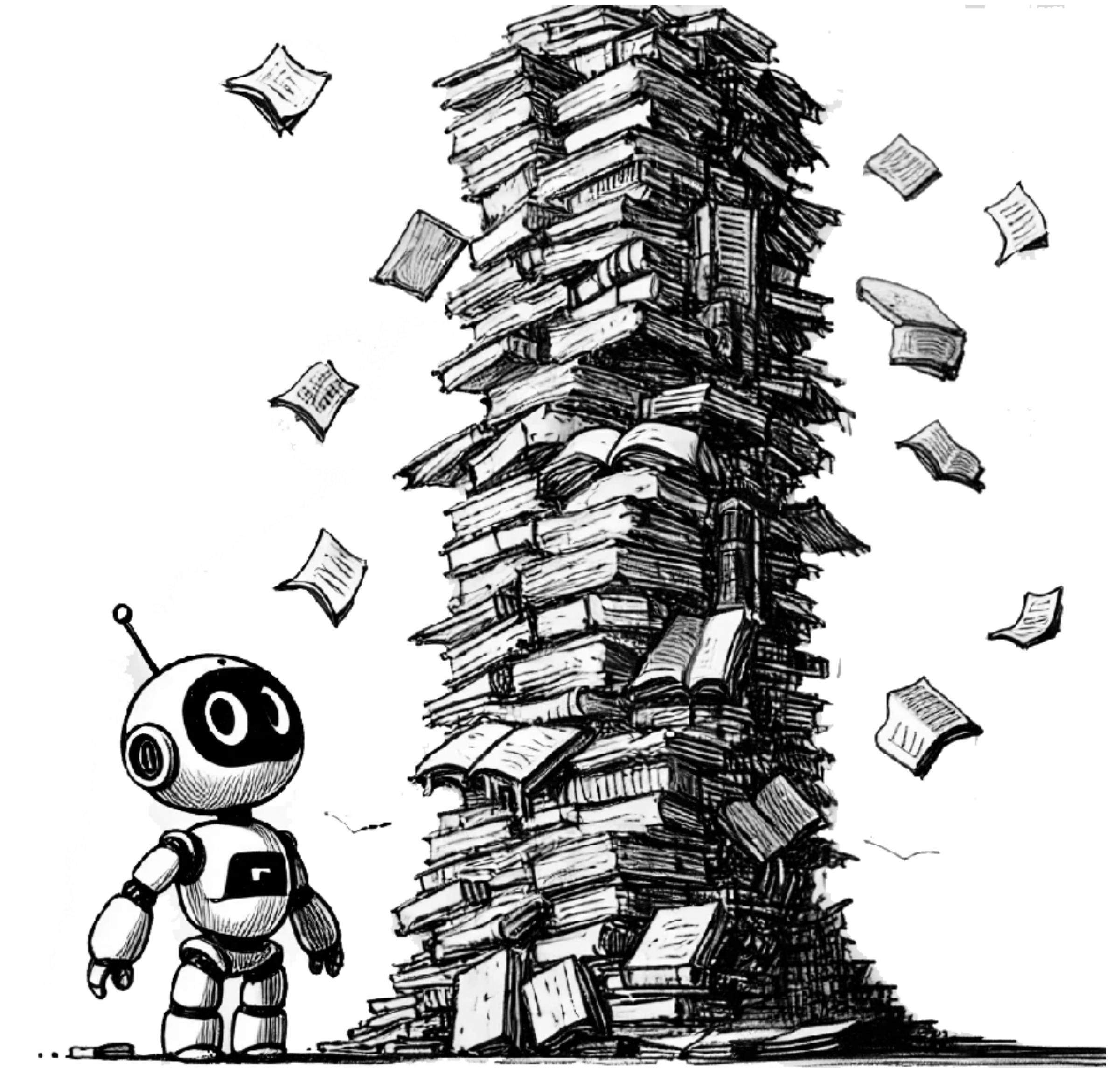


SKIP



What are Large Language Models (LLMs)?

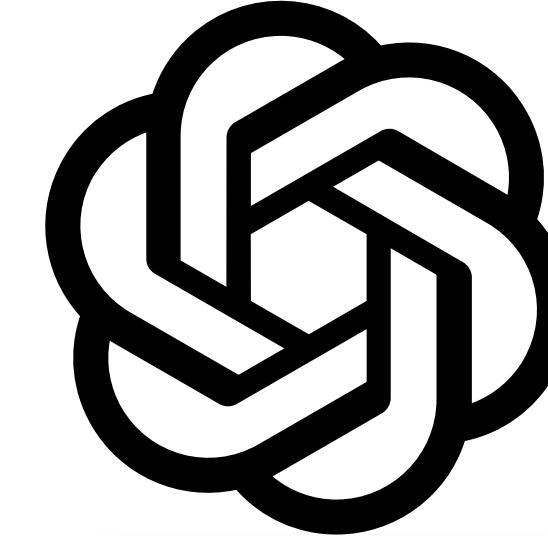
A Large Language Model (LLM) is a type of AI that understands and generates natural language. "Large" means it's trained on huge amounts of text—books, websites, conversations, and more.



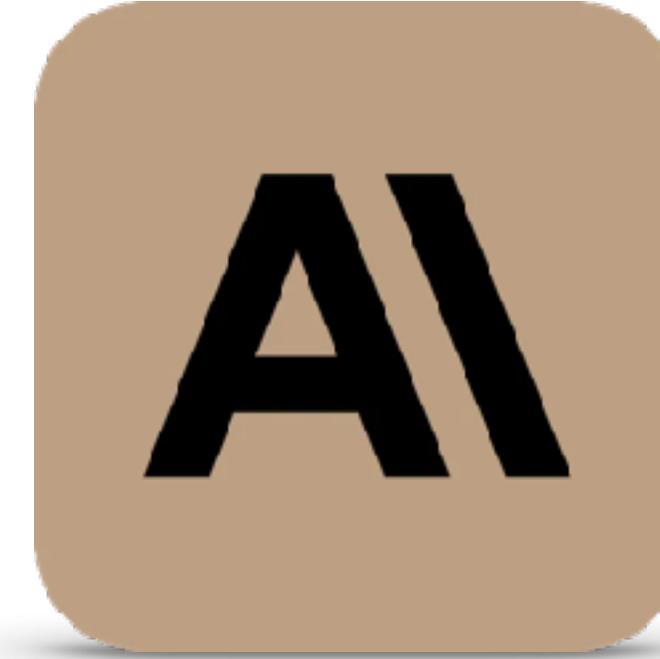
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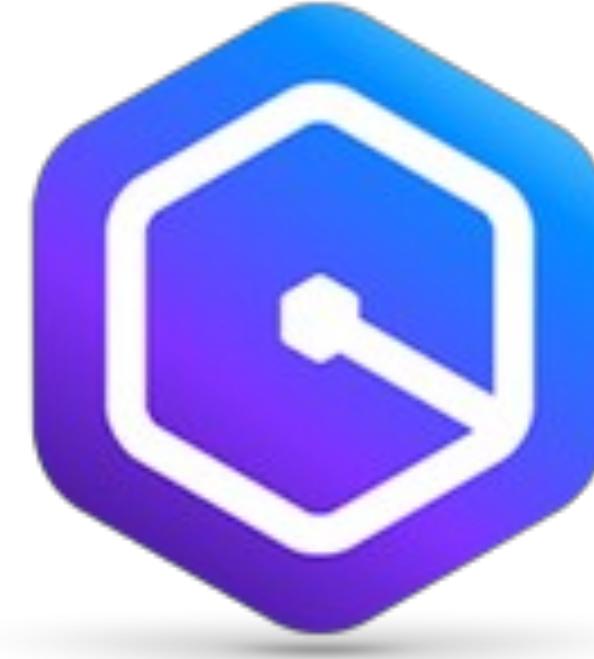
Azure OpenAI



OpenAI ChatGPT



Claude



Amazon Q



Microsoft Copilot

Major LLM AI Models



Google Gemini



deepseek



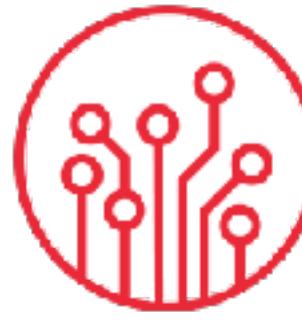
Meta LLaMA



Midjourney

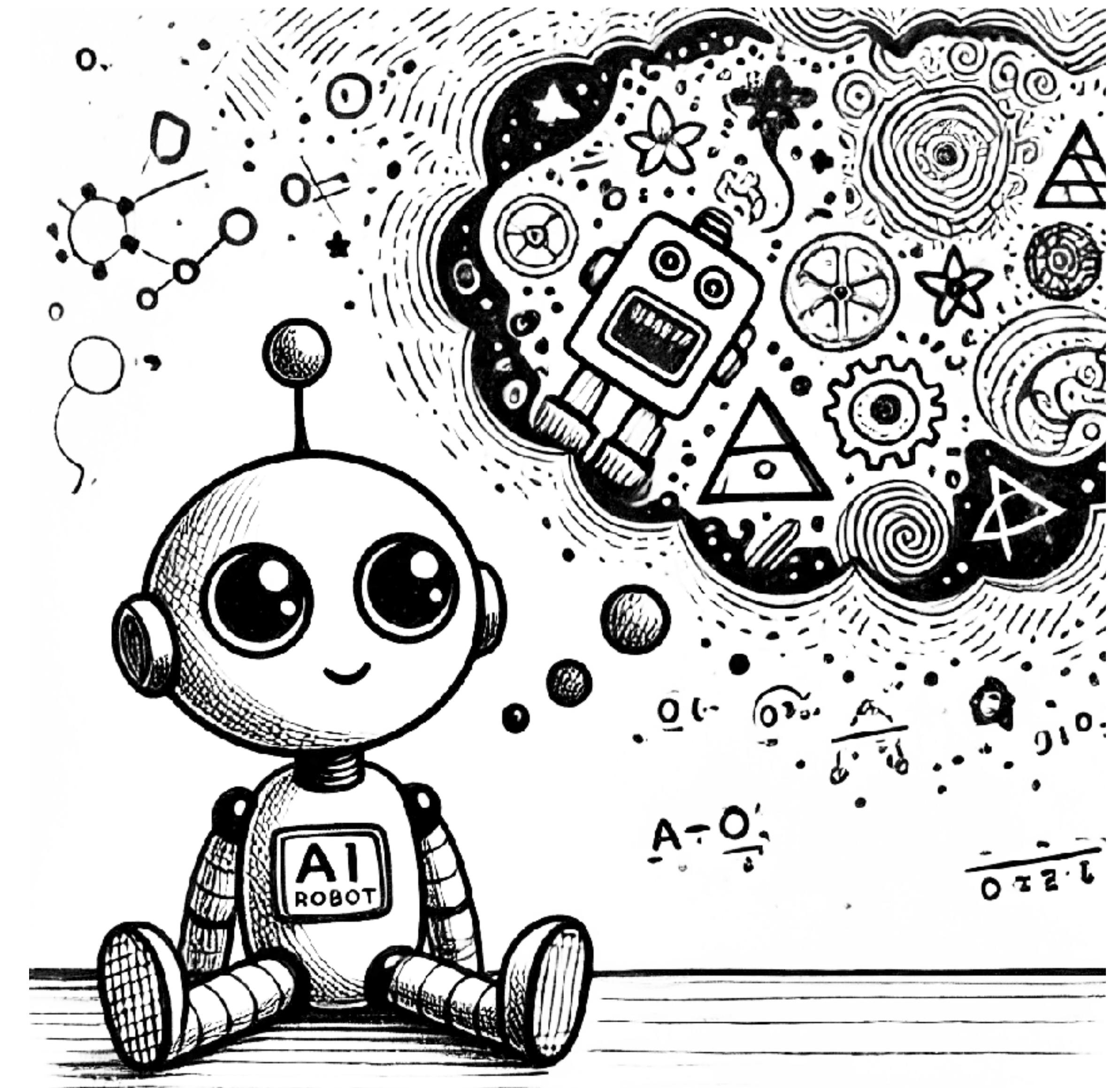


Grok



AI Hallucinations

When AI gives you information that isn't true or makes something up entirely, it's called a hallucination. They happen from **Vague Prompts, Limited Information and Overconfidence**

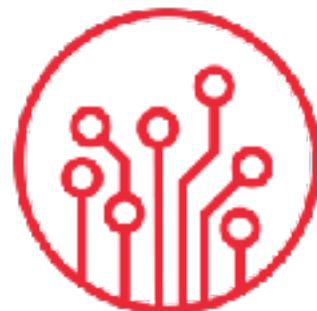


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The AI Prompt Framework:

**Thoughtfully Create
Really Excellent Inputs.**

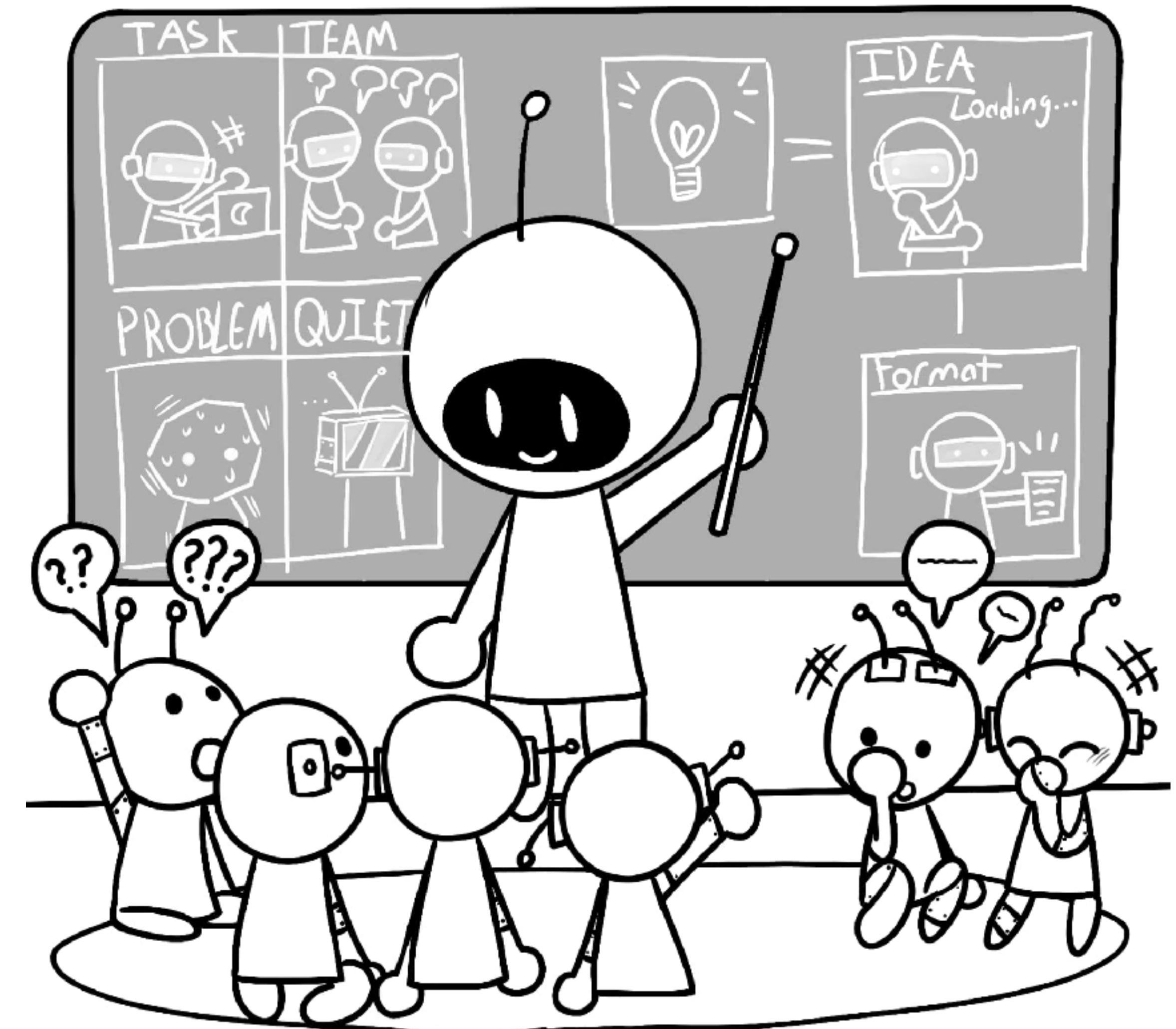
Task. Context. References. Evaluate. Iterate.



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#1 Thoughtfully Describe the Task

- What it means: Tell the AI exactly what you need it to do.
- How: Pretend you're talking to a friend who doesn't know what you're thinking—explain clearly!
- Example: Instead of saying, "Tell me a story," say, "Tell me a short story about a brave astronaut who finds a mysterious planet."



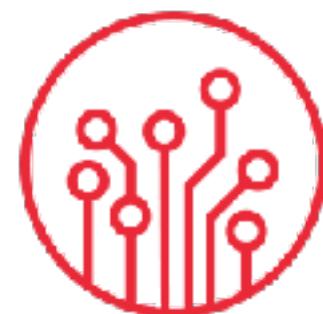
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Illustration by Liya Grant

#2 Create

Add **Context** (Details)

- What it means: Share important background information.
- How: Include the “why” or extra facts to help the AI understand.
- Example: Instead of saying, “Describe pizza,” say, “Describe pizza for someone who has never eaten it before. Tell them what it looks like, tastes like, and why people love it.”



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Illustration by Liya Grant

#3 Really Include References

- What it means: Add facts or examples that the AI can use to make its answer better.
- How: Give it something real to work from!
- Example: Instead of asking, "Tell me about superheroes," say, "Tell me about superheroes, like Spider-Man and Wonder Woman, and what makes them special."

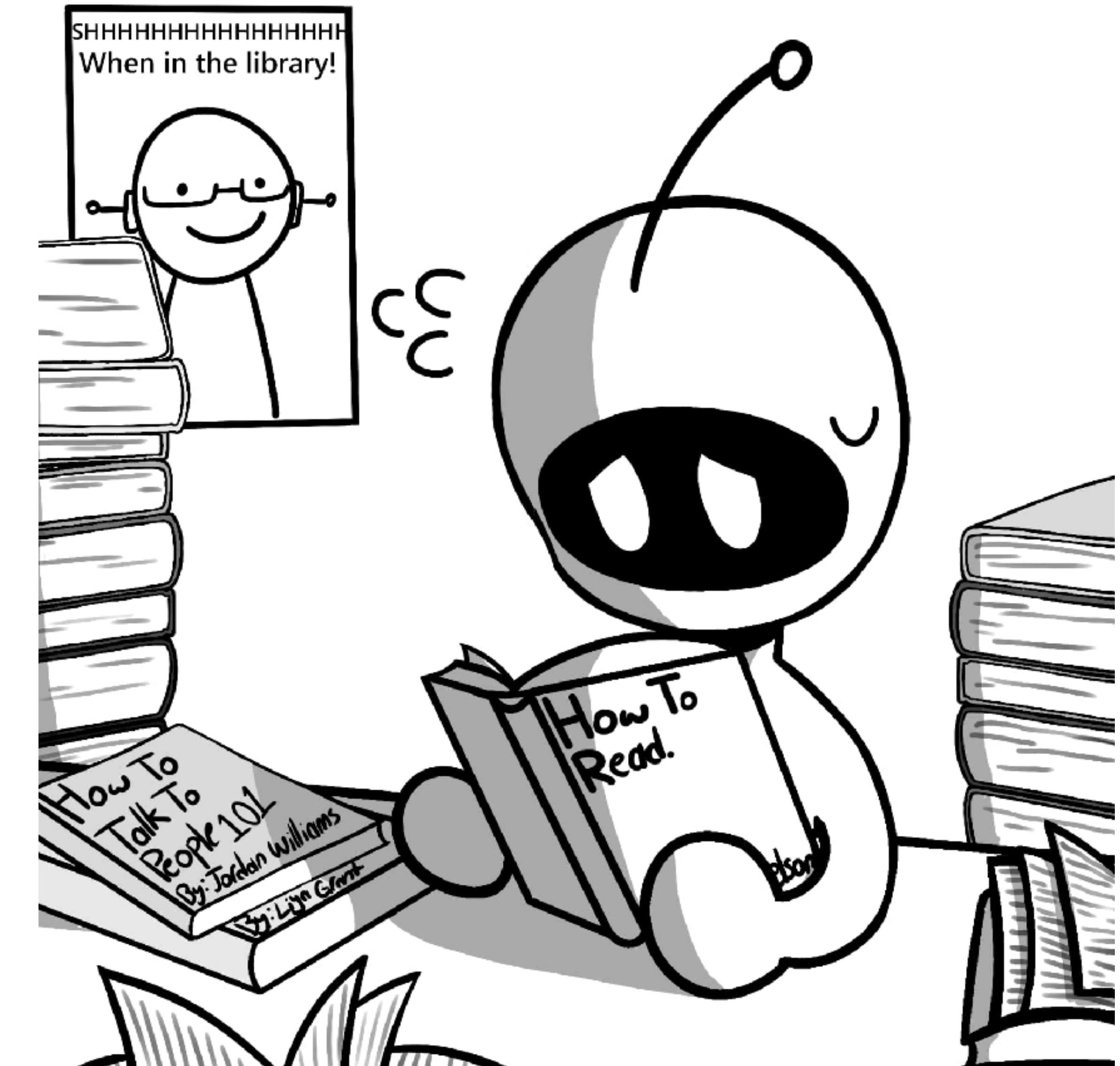
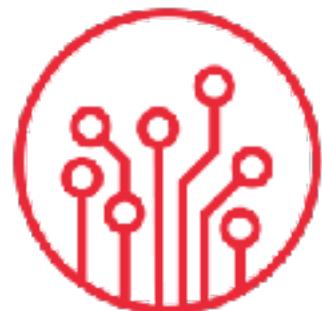


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#4 Excellent

Evaluate the Answer

- What it means: Check if the answer makes sense and has everything you asked for.
- How: Look for missing pieces or mistakes.
- Example: If the AI forgets a detail, say, "You forgot to mention the spaceship!" and ask for a fix.



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Illustration by Liya Grant

#5 Inputs

Keep Improving (Iterate)

- What it means: If the answer isn't right, try again by changing the instructions.
- How: Ask in a new way or make your question clearer.
- Example: If the first story isn't exciting, you can say, "Make the astronaut's adventure scarier and add a twist!"

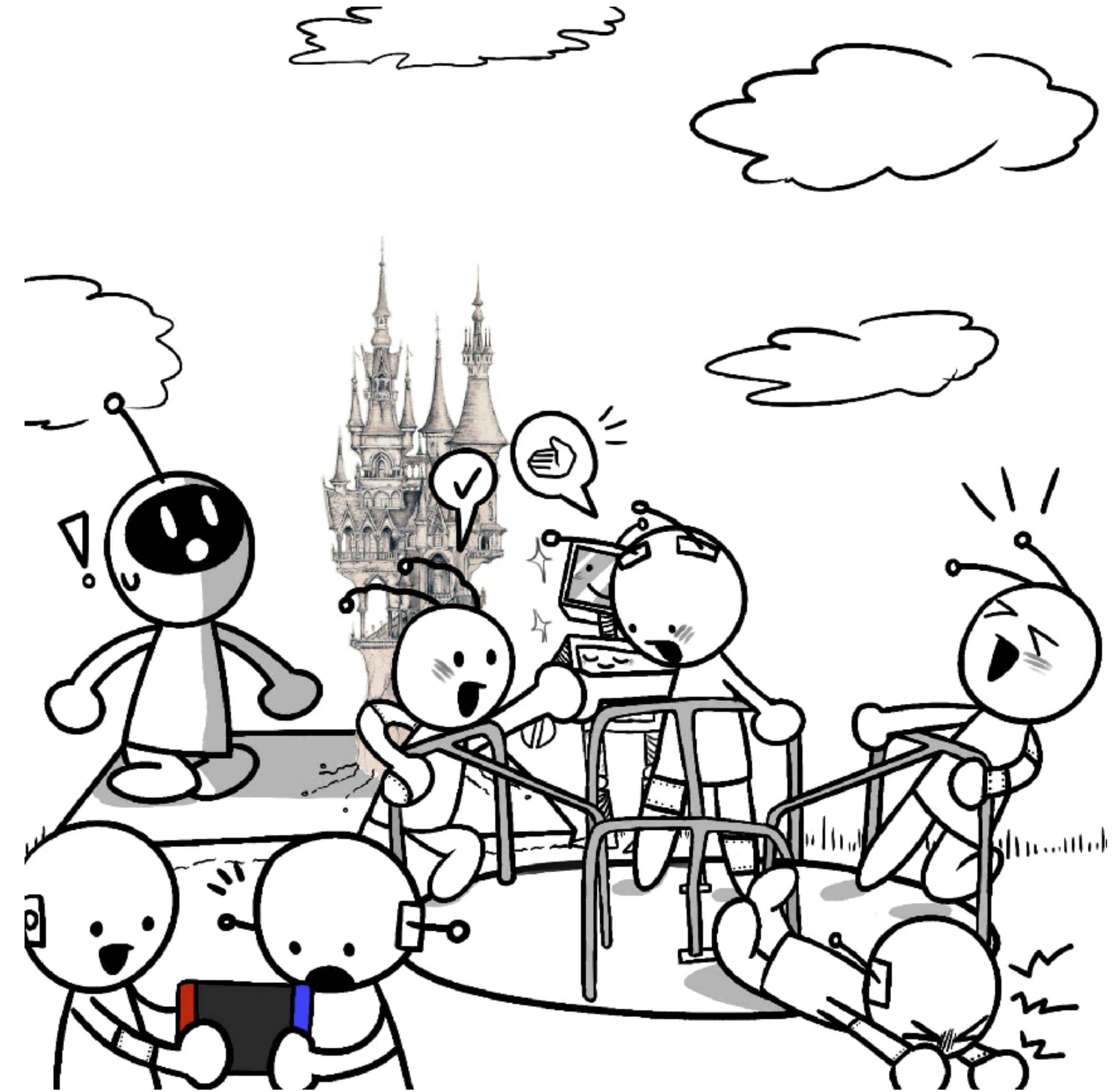
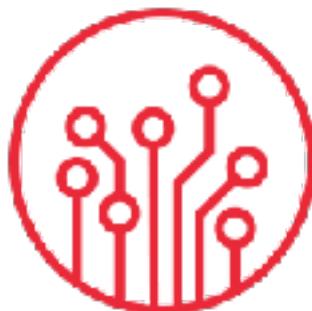


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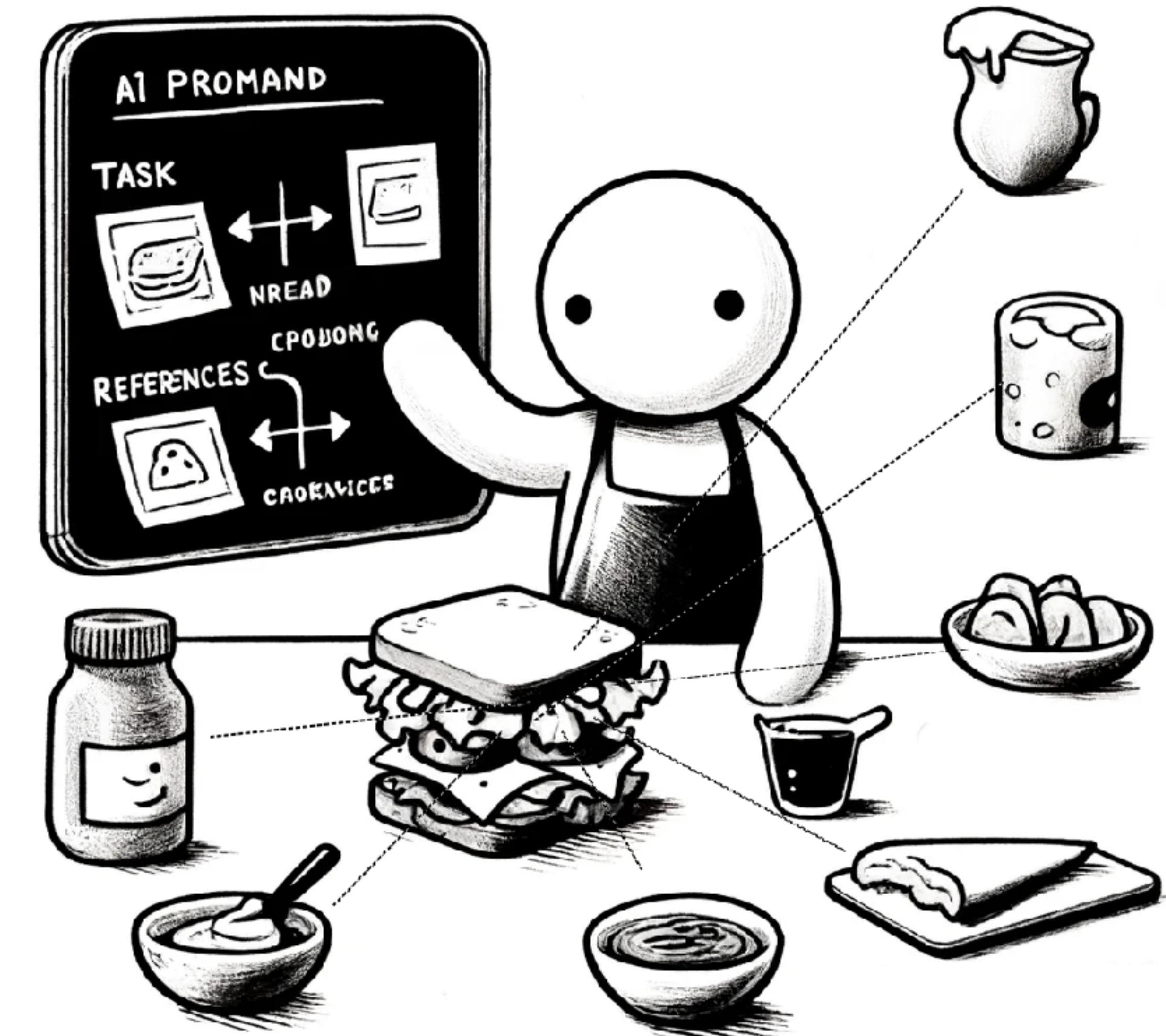


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Thoughtfully Create Really Excellent Inputs

Think of it like making a sandwich:

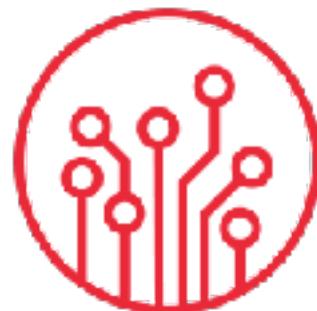
- Decide what kind of sandwich (**Task**).
- Gather the right ingredients (**Context**).
- Use a recipe if you need it (**References**).
- Taste it to see if it's good (**Evaluate**).
- Change it if you want more mustard or less cheese (**Iterate**)!



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Let's Prompt!



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Email your AI work project:

marshall@grithub.org.za

AI Prompt Engineering Basics, Part 2

Unlocking the power of conversational Artificial Intelligence

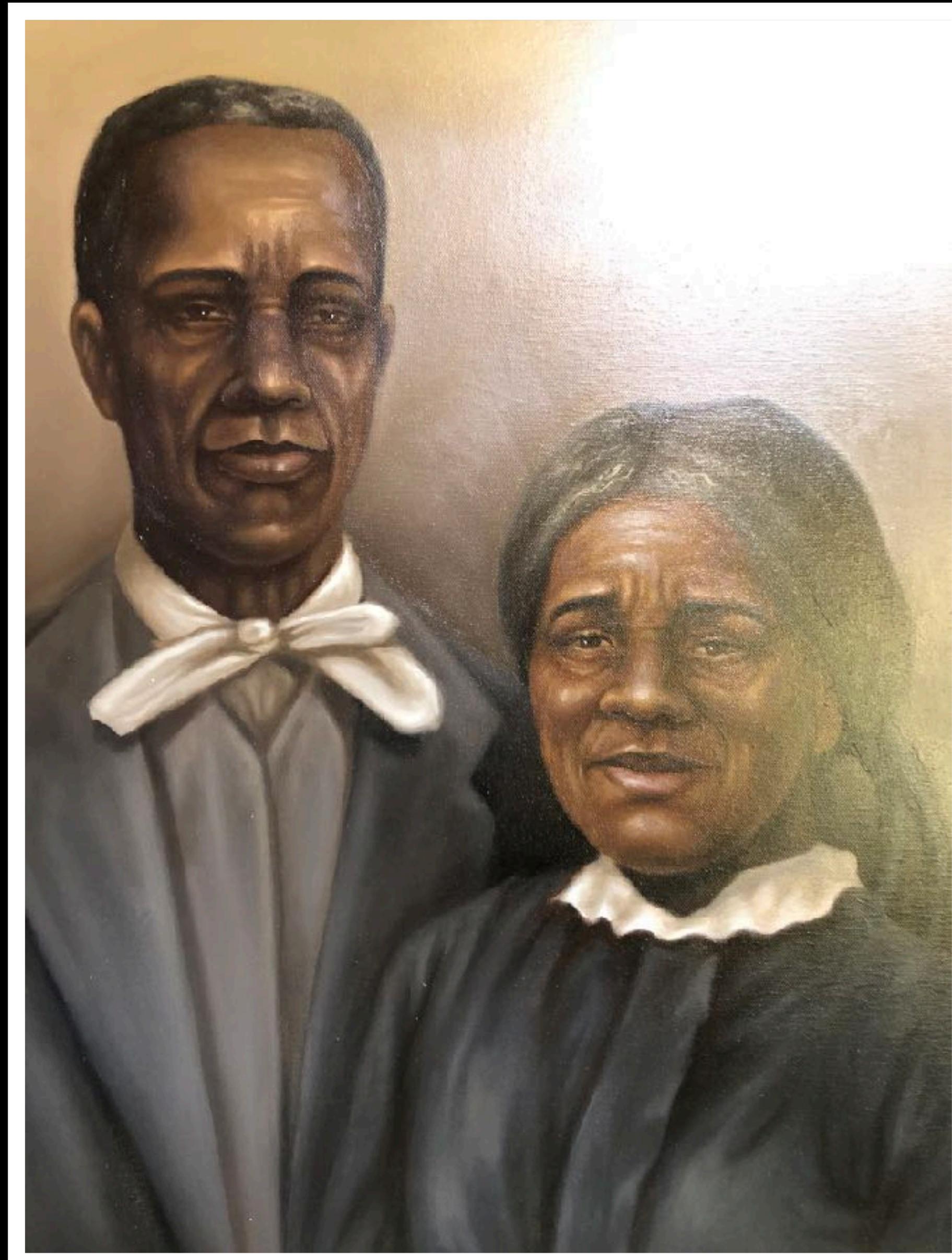
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Original Painting

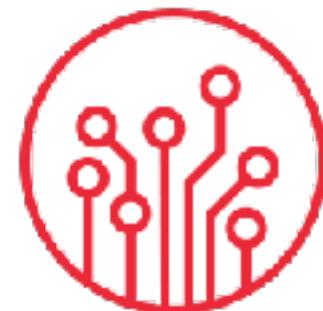
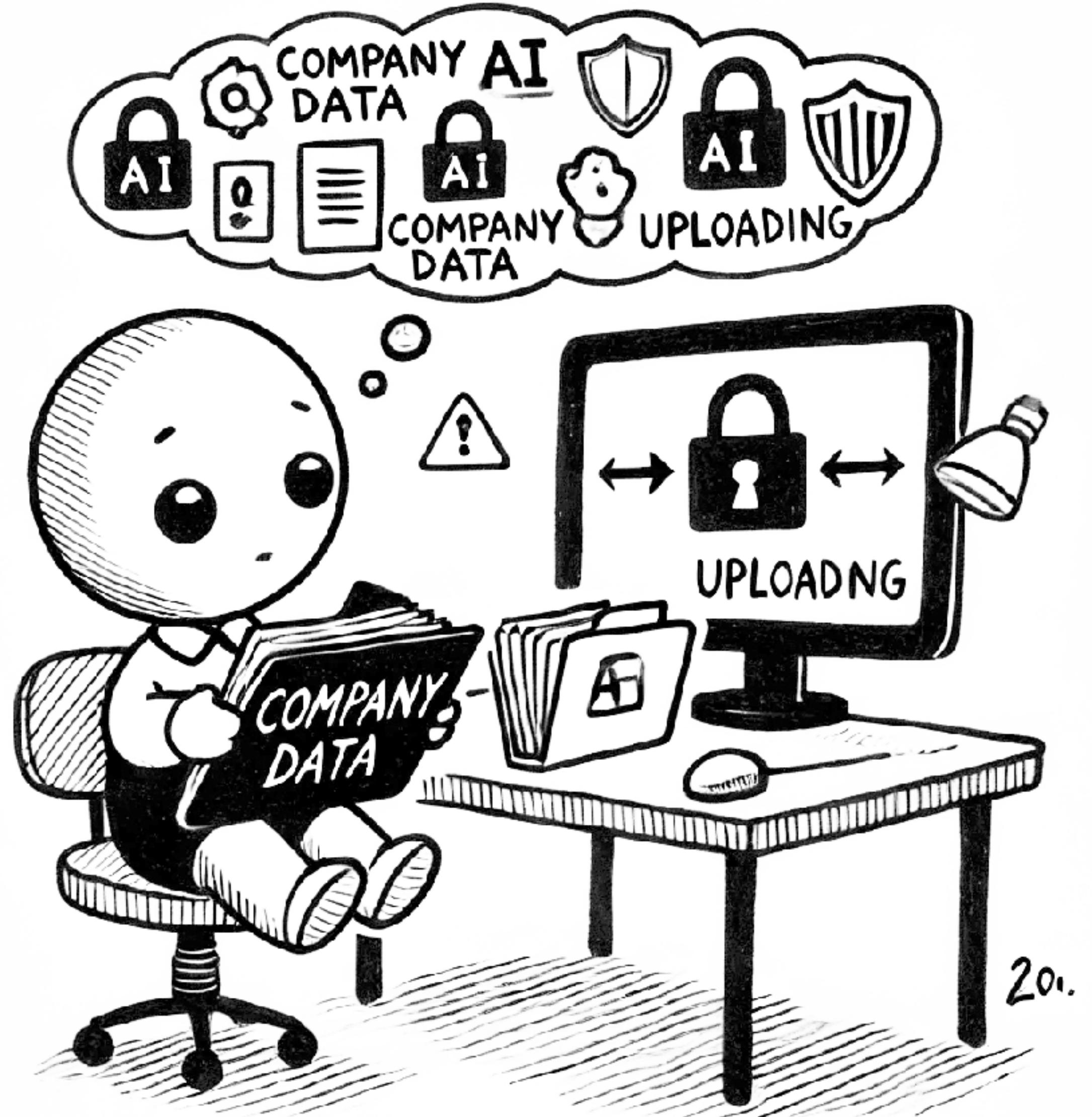


AI Generated from Painting

Uploading Data to AI

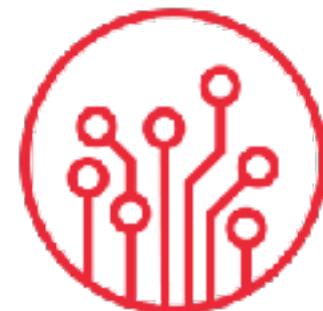
Safety Considerations

- Data Privacy: AI may retain or learn from uploaded data.
- Unauthorized Access: Some platforms may use data to improve models.
- Regulatory Compliance: Ensure data handling aligns with GDPR, POPIA, or industry regulations.

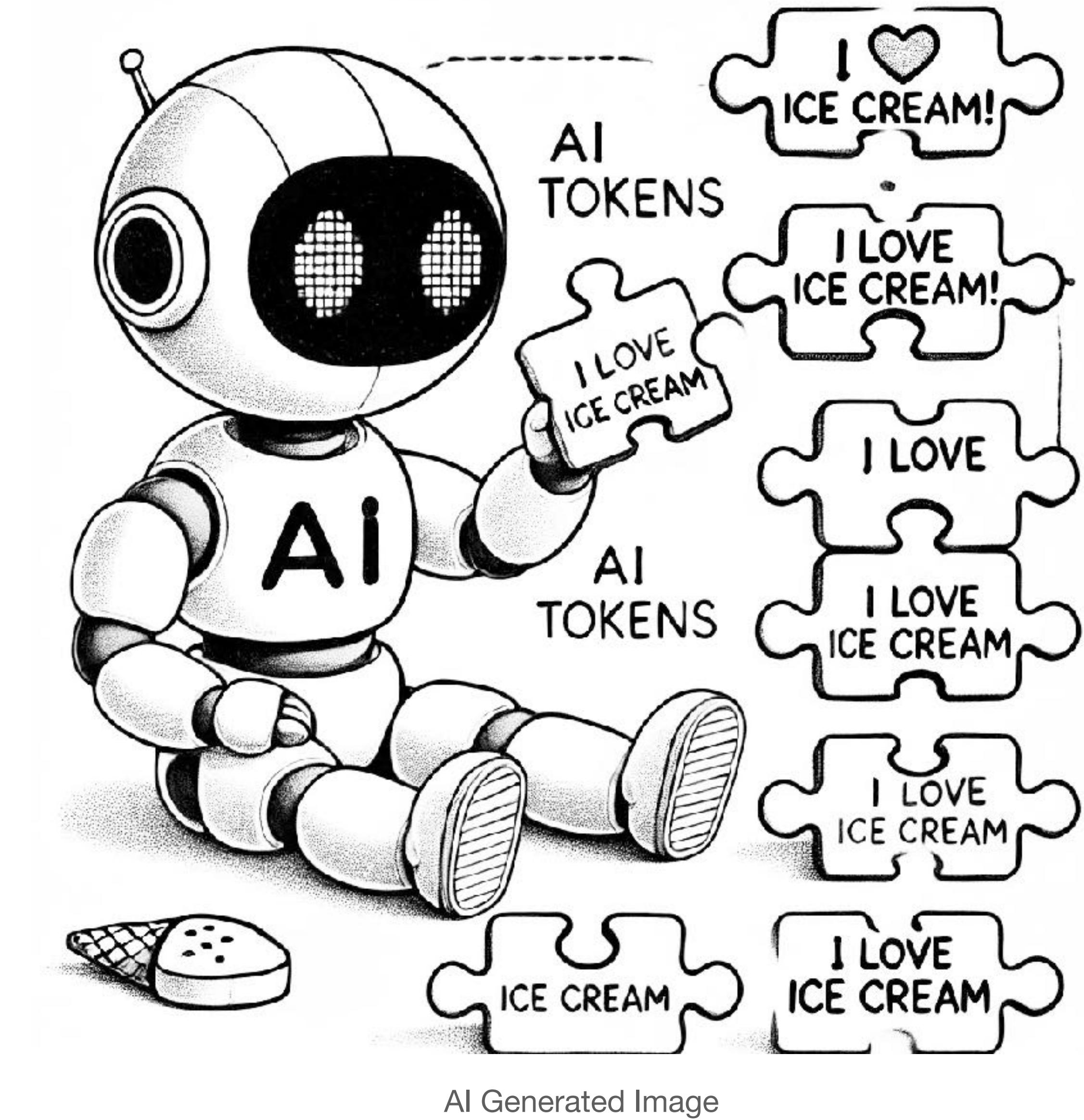


Understanding AI Tokens

- GPT-3.5: 4,096 tokens (~3,000 words)
- GPT-4: Up to 32,000 tokens
- Tokens: ['I', 'love', 'ice', 'cream', '!'] → (5 tokens)

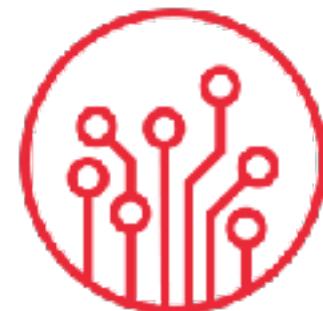


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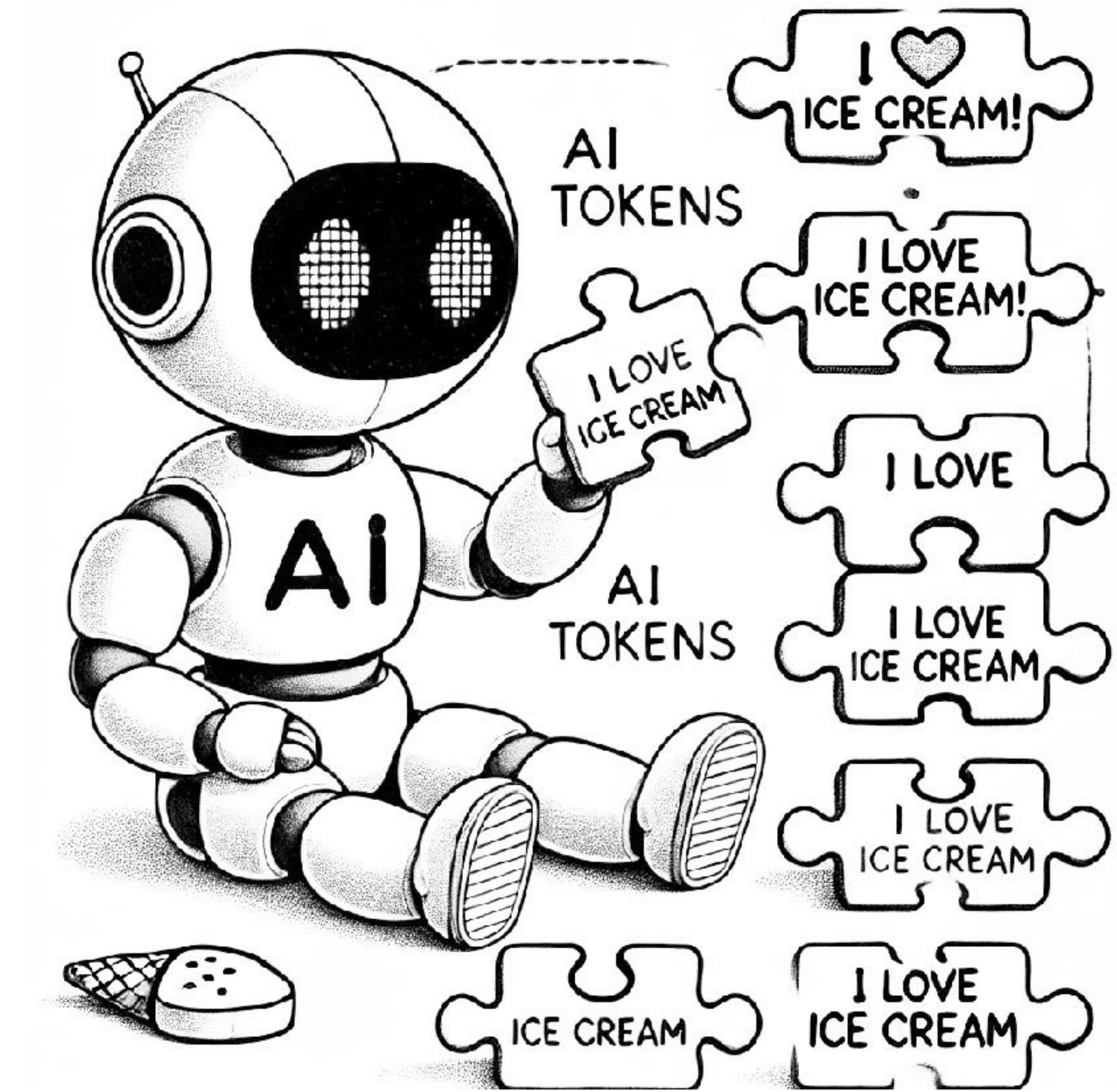


Why do tokens matter?

- Shorter prompts = More space for AI responses
- Precise words save tokens
- Long chats use more tokens



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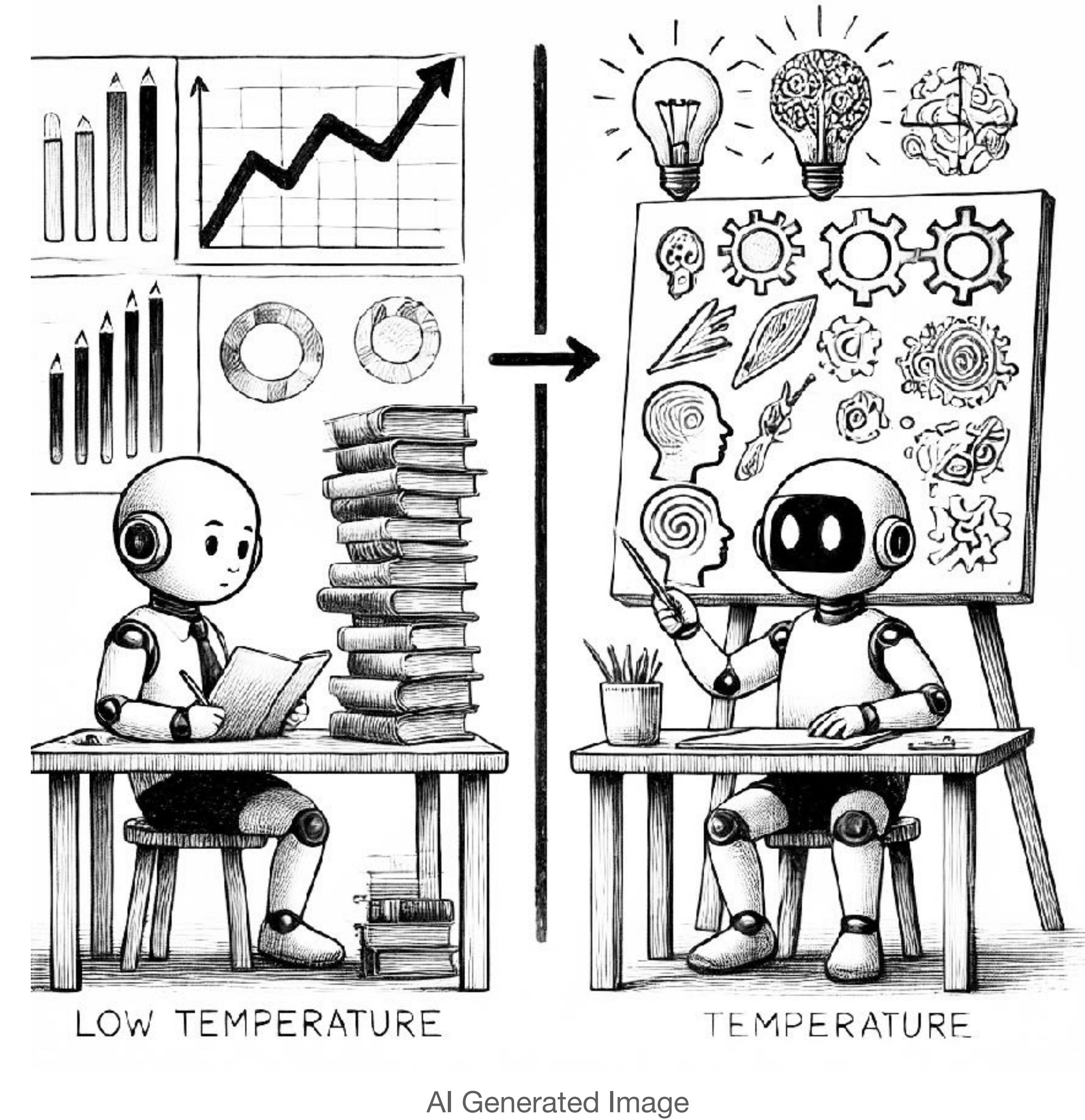
AI Temperature

🌡️ Low temperature (0 - 0.3) = The AI plays it safe and gives very predictable answers (good for facts).

🔥 High temperature (0.7 - 1.0) = The AI gets more creative and unpredictable (great for storytelling).



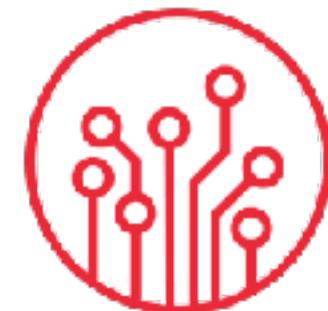
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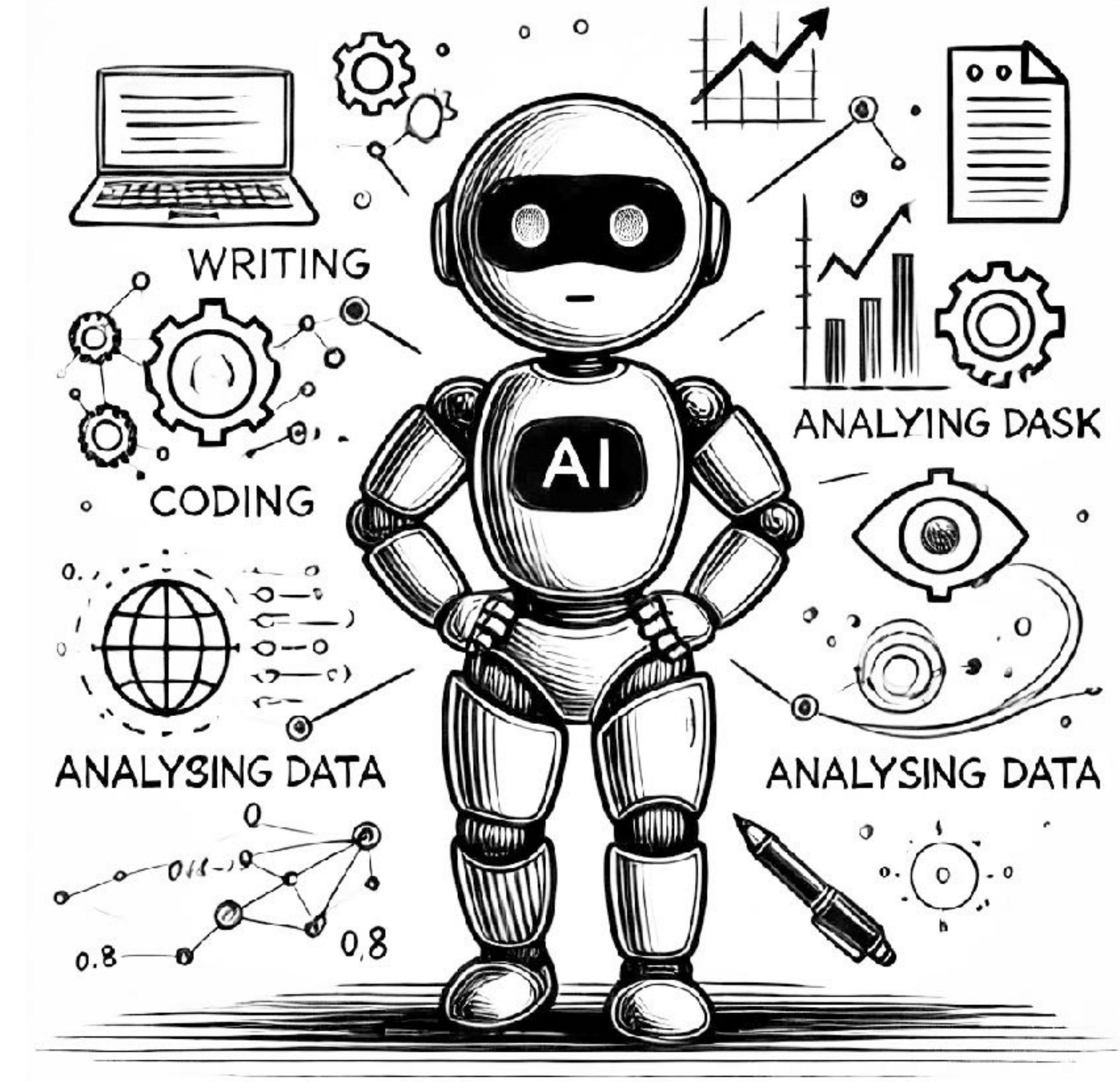
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AI Agents

An AI Agent is like a customizable digital assistant that can think, learn, and complete tasks on its own. It follows instructions, looks at information, and makes smart decisions to help you.



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**Please let us know
if this short-course
helped you.**

This survey will help us evaluate how much participants have learned during the course and identify areas for improvement in future sessions.



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