

Basic Prompt Engineering Technique

Digital Skill Development Academy (DiSDA)

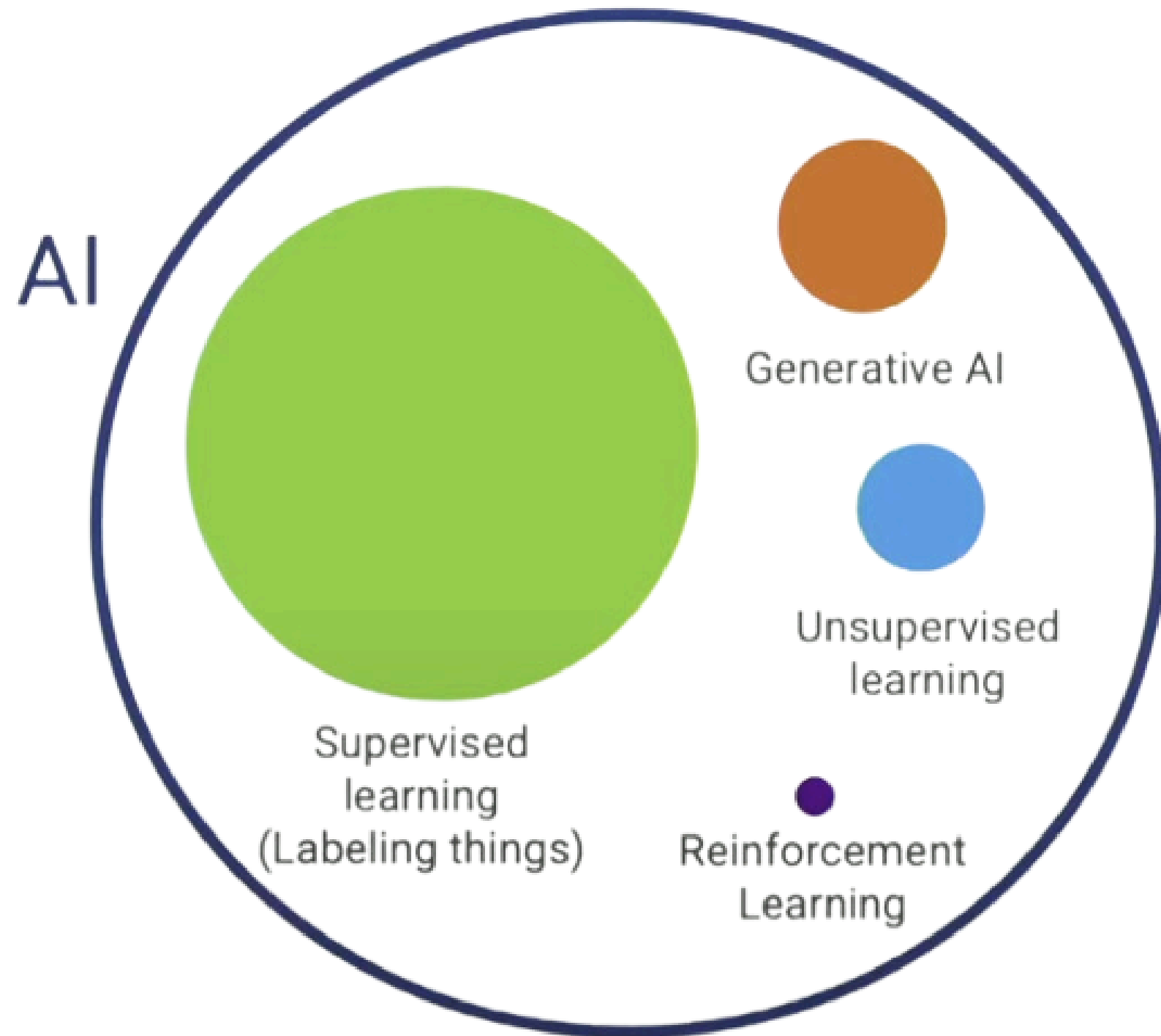
Department of Skill Development (DSD), Ministry of Labour

KM (Knowledge Management) Transfer

5 August 2024



AI (Artificial Intelligence)



AI is the new electricity

- **Electricity** transformed every industry **100 years ago**
- **AI will** transform every industry **from now on.**

Technology Landscape

- AI is a collection of tools
- 4 Categories
 - Supervised learning (Labeling things)
 - Generative AI
 - Unsupervised Learning
 - Reinforcement Learning

Generative AI : เจนเนอเรทีฟเอไอ



Generative AI is a type of artificial intelligence (AI) that uses machine learning algorithms to create new and original content like images, videos, text, and audio.

1 Forming a Database

A neural network, consisting of various information or media files like images, text, data, sounds, etc., forms the basis of artificial intelligence.



2 Inputting a Prompt

The user provides the AI with a description or sample of the desired content...

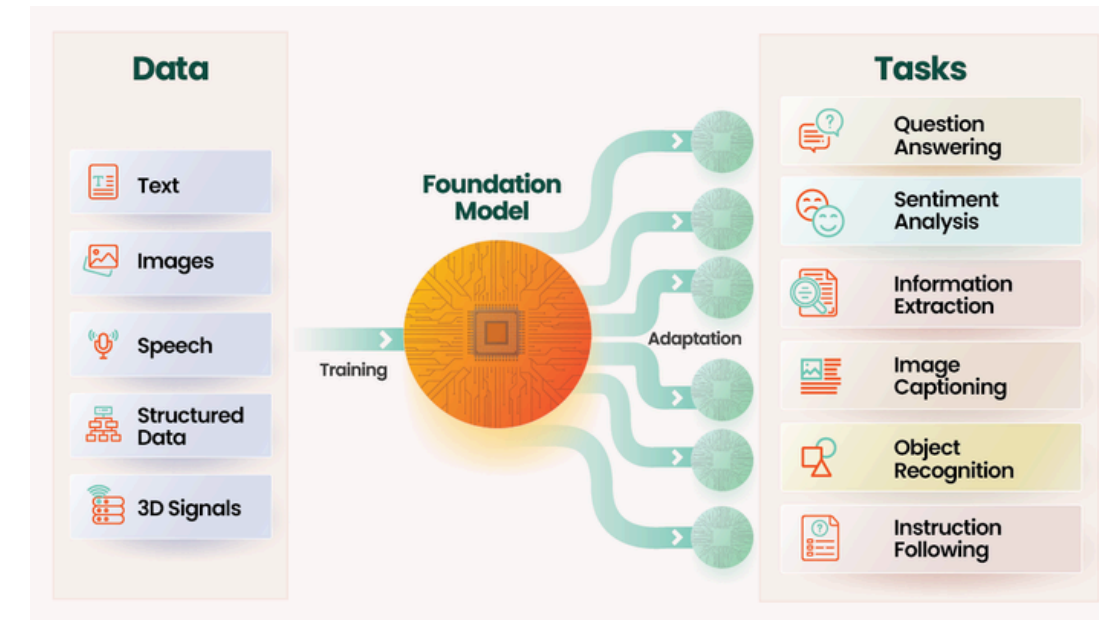


Prompts can be any user-submitted material, like words, numbers, or photos.

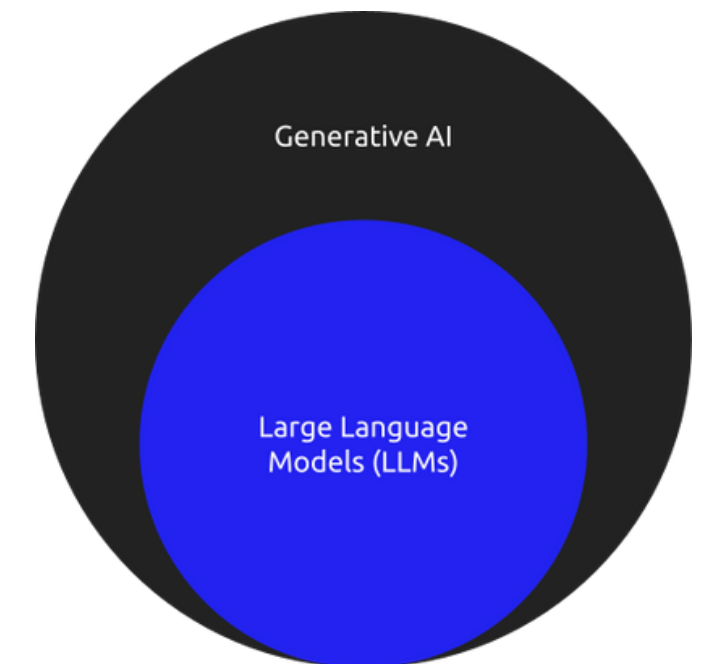


3 Generating Content

...and the AI uses its neural network to generate new examples that are similar to the ones it has trained from.

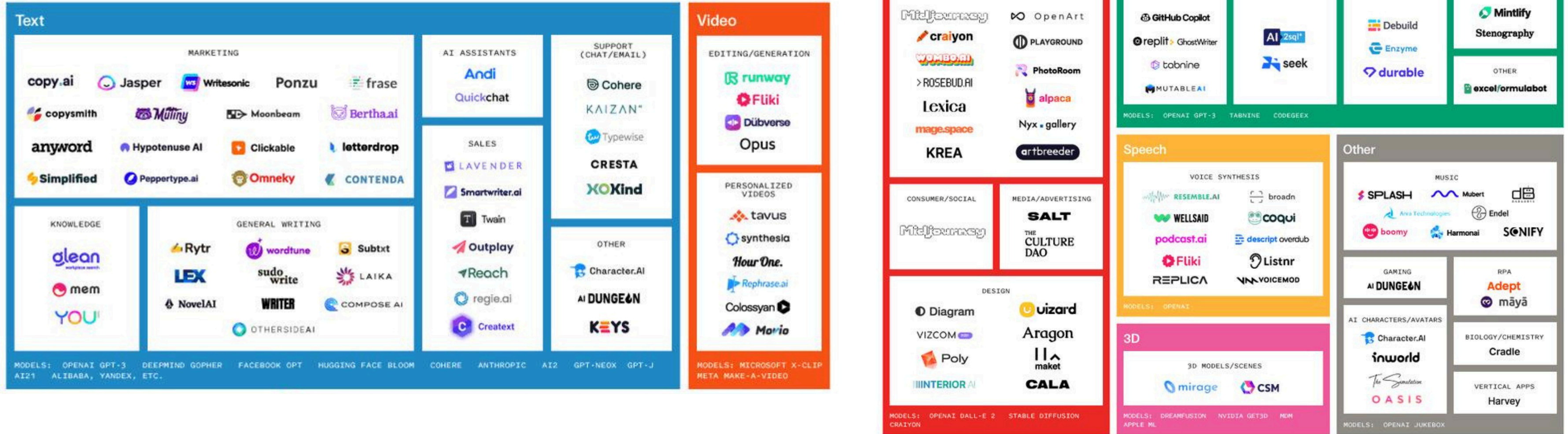


How does Gen AI work?



Generative AI vs LLM.

The Generative AI Application Landscape



Source : Generative AI Market Map. Image credit: Sequoia

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How does Generative AI work



When artificial intelligence software like ChatGPT writes, it considers many options for each word, taking into account the response it has written so far and the question being asked.

How does Generative AI work (Cont)



It assigns a score to each option on the list, which quantifies how likely the word is to come next, based on the vast amount of human-written text it has analyzed.

How does Generative AI work (Cont)



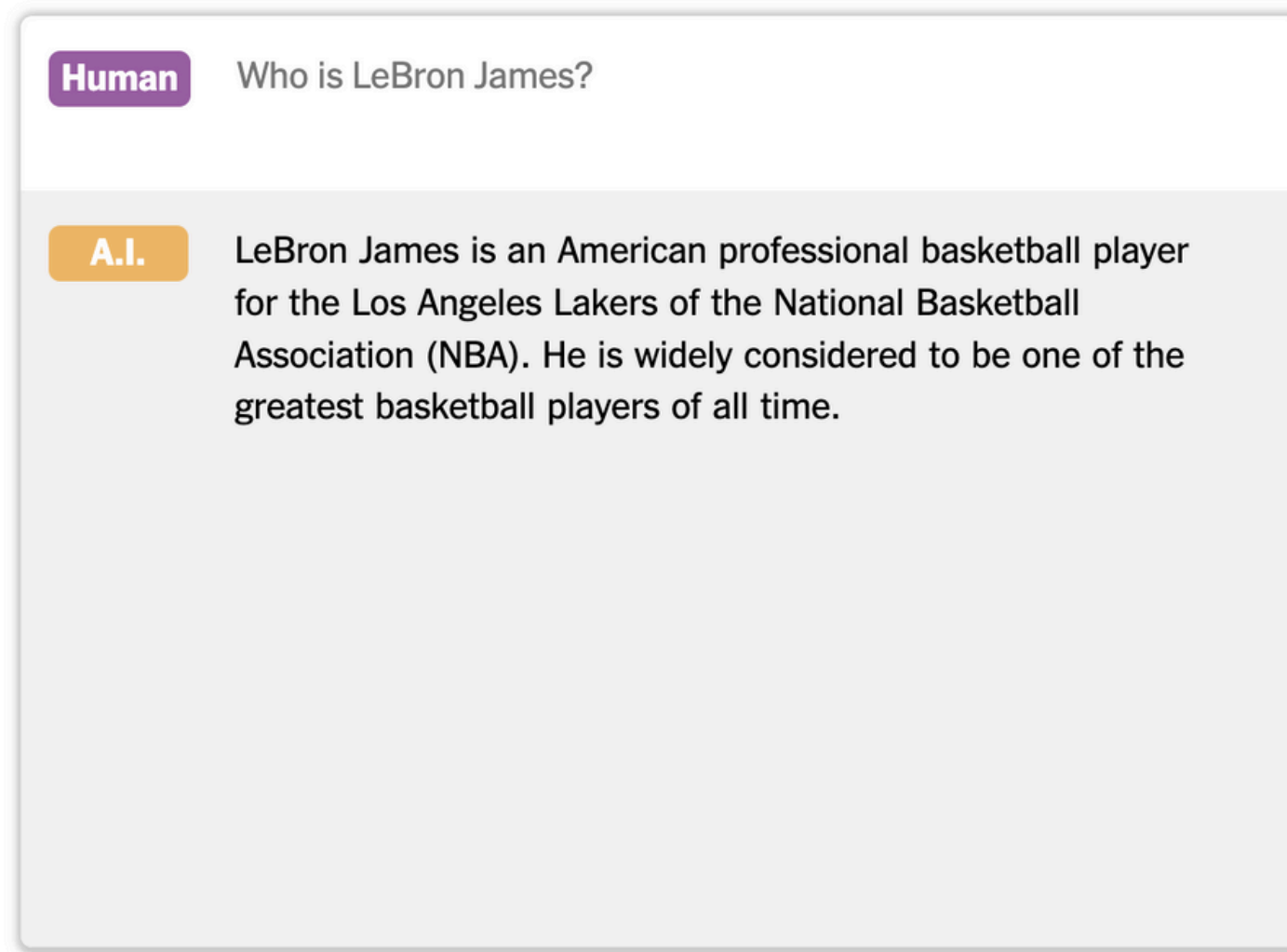
ChatGPT, which is built on what is known as a [large language model](#), then chooses a word with a high score, and moves on to the next one.

How does Generative AI work (Cont)



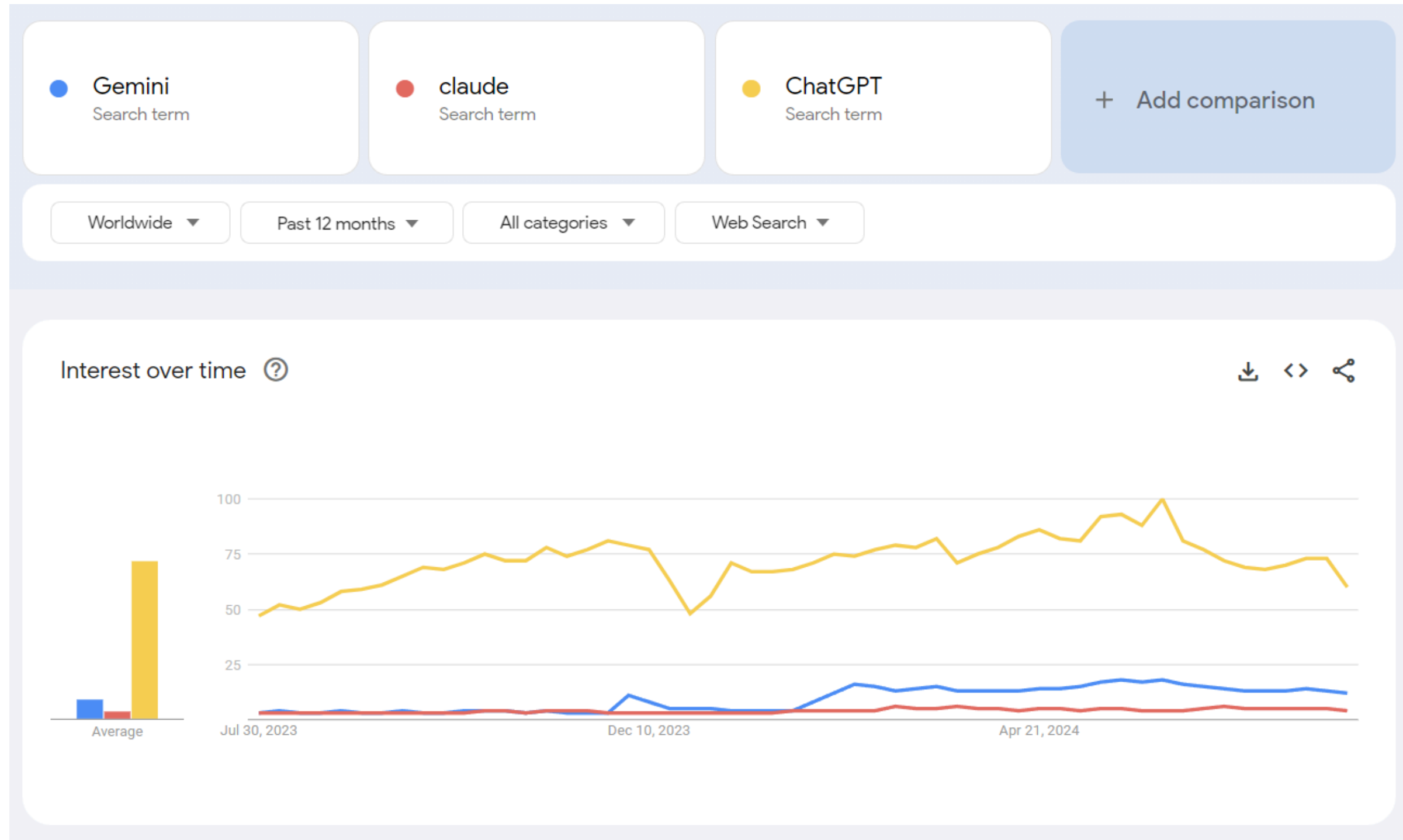
The model's output is often so sophisticated that it can seem like the chatbot understands what it is saying — but it does not.

How does Generative AI work (Cont)



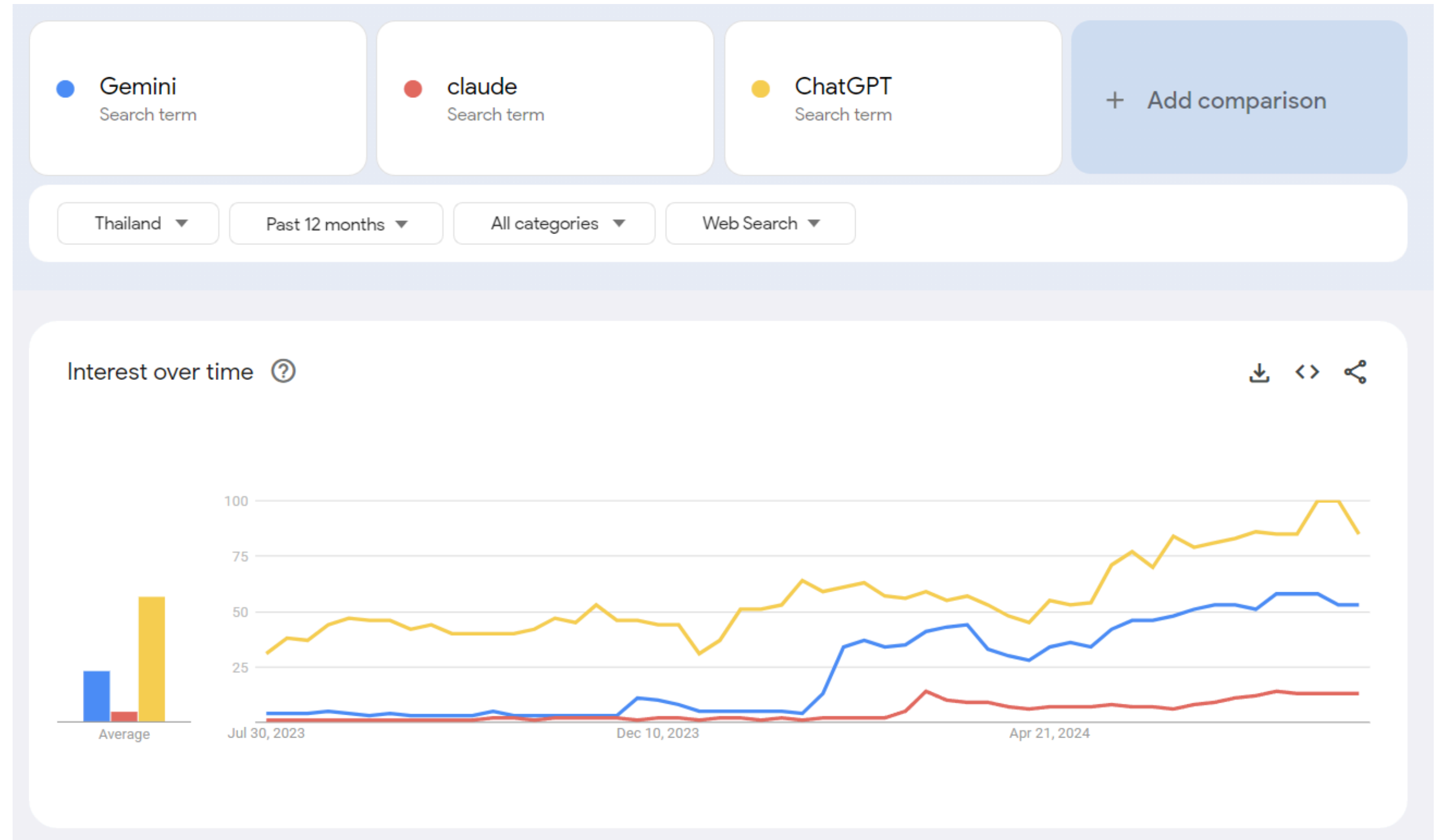
Every choice it makes is determined by complex math and huge amounts of data. So much so that it often produces text that is both coherent and accurate.

Top 3 Generative AI tools : Worldwide Scenario



Source : Google Trends

Top 3 Generative AI tools : Thailand Scenario



Source : Google Trends

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Suggested Generative AI tools



Option 1: Pick only 1

- Google Gemini

Option 2: Pick 2

- Google Gemini
- ChatGPT

Source : Updated on 5 August 2024

Prompt Engineering Framework

"Prompt = เขียน Input ให้ AI สร้าง Output ที่เราต้องการ"

```
Unset
// prompt
Explain how data science uses information to solve
real-world problems, in a way that a 15-year-old high
school student would understand. Use less than 100 words.
```



Data science is like being a detective, but instead of clues, you use information. Imagine having tons of data about your favorite video game – who plays it, when they play, and what they like. Data scientists find patterns in this information to help companies create better games or suggest other games you might enjoy. They're problem solvers who use math and computers to make sense of the world around us, from predicting traffic to finding new cures for diseases.

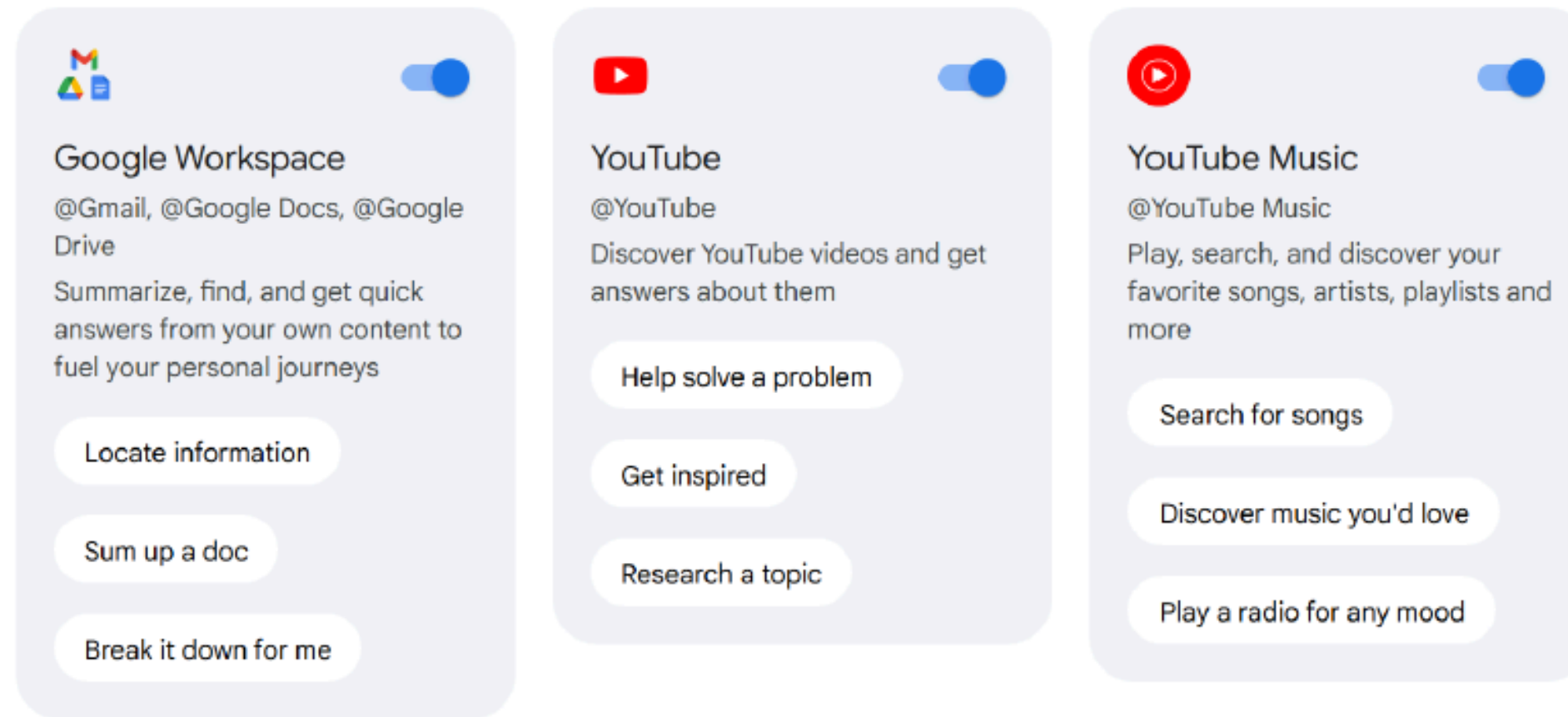
"Prompt"

"(Foundation) Model"

"Output"

Google Gemini

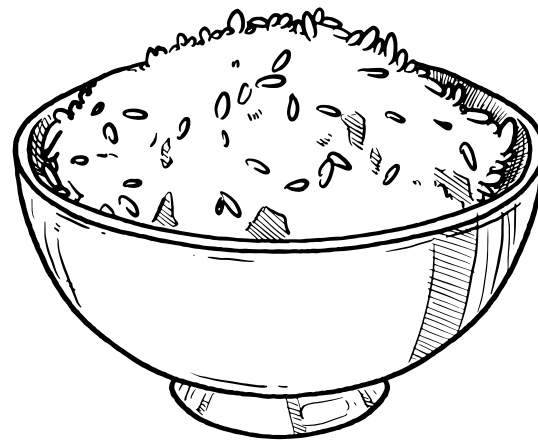
"Tips 1 : Enerble Extensions"



ก่อนจะใช้งาน Google Extensions ต้องกดเปิดฟีเจอร์นี้ก่อน ไปที่ Setting > Extensions และคลิกเปิดฟีเจอร์ที่เราต้องการ

Gemini Knowledge Cutoff : NOV 2023 >> to be updated soon

Effective Prompt – RICE



R-I-C-E Technique

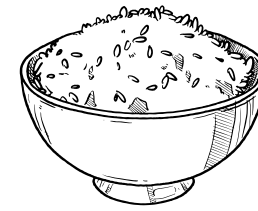
Role / Persona - อยากให้AI chatbot ทำ งานเป็นใคร

Instruction - คำ สั่ง (จำ เป็นต้องเขียนสิ่งนี้เสมอ)

Context - ข้อมูลเพิ่มเติมอื่นๆ ที่ช่วยให้ AI เข้าใจคำ สั่งได้ดีขึ้น

Example - ตัวอย่างผลลัพธ์ที่เราต้องการ หรือการกำหนด format ที่เราอยากได้เช่น paragraph, bullet point, table

Effective Prompt – RICE SAMPLE



โจทย์ : เขียน Blog-post เกี่ยวกับการใช้ AI ในงาน Marketing



Role / Persona – You are an expert content marketer with a deep understanding of SEO principles, persuasive writing techniques, and audience engagement strategies.

Instruction – Craft a blog post targeted toward marketing professionals interested in AI. The blog post should aim to educate them about the benefits of using AI for content marketing and position our company as a leader in the field.

Context –

Topic: The benefits of using AI for content marketing

Brand Voice/Tone: Informative, helpful, slightly technical but accessible to non-experts

Keywords: AI content marketing, AI tools, content creation, automation, efficiency, personalization

Word Count: 800–1000 words

Call to Action: Download our free guide to AI content marketing tools

Example – Optional – if you have one in mind

> *suggested words counts : 21 words minimum (most effective)***

> *iterative process*

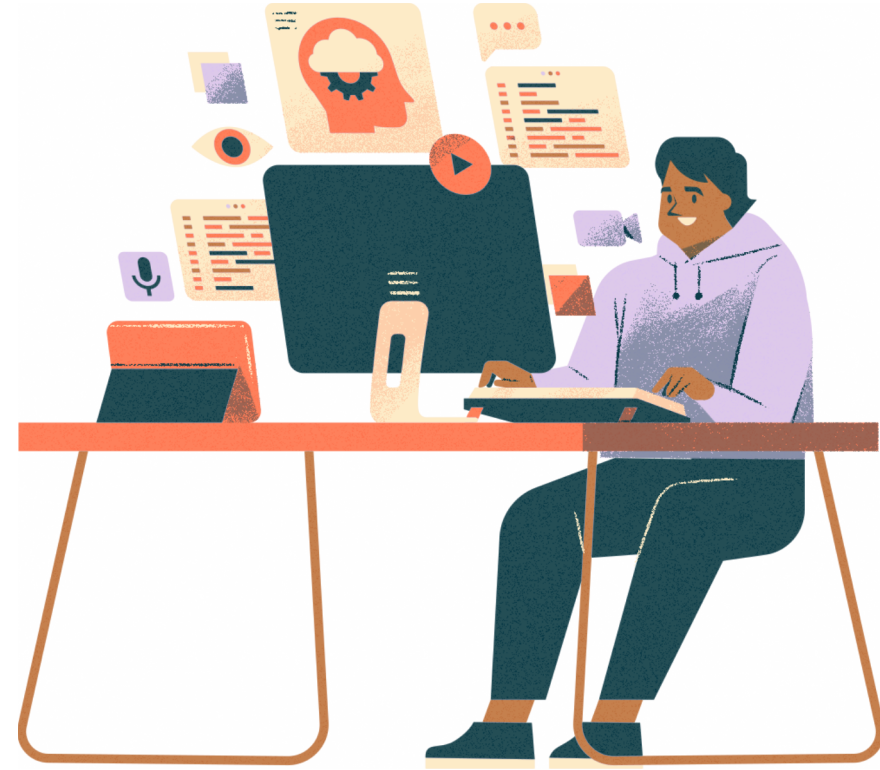
Source: Prompt Engineering Guide by Google /

Prompt Engineering guide / Prompt Engineering for Generative AI

Basic Prompt Engineering Technique



Effective Prompt – RICE Mini-workshop (Question)



*หา Job Discription อย่างง่ายของตำแหน่ง "LLM Reacher" ในประเทศไทย
พร้อมทั้งระบุความรู้ ทักษะ และทัศนคติที่จำเป็นต่อตำแหน่งดังกล่าว*

Effective Prompt – RICE Mini-workshop (Prompt)

R: Role

You are a human resource officer in Thailand's digital industry, responsible for analyzing competencies for positions in your company.

I: Instruction

Write a brief job description for an LLM Researcher and provide a short list of K(Knowledge), S(SKill), and A(Attitude). Skills should be related to something technical.

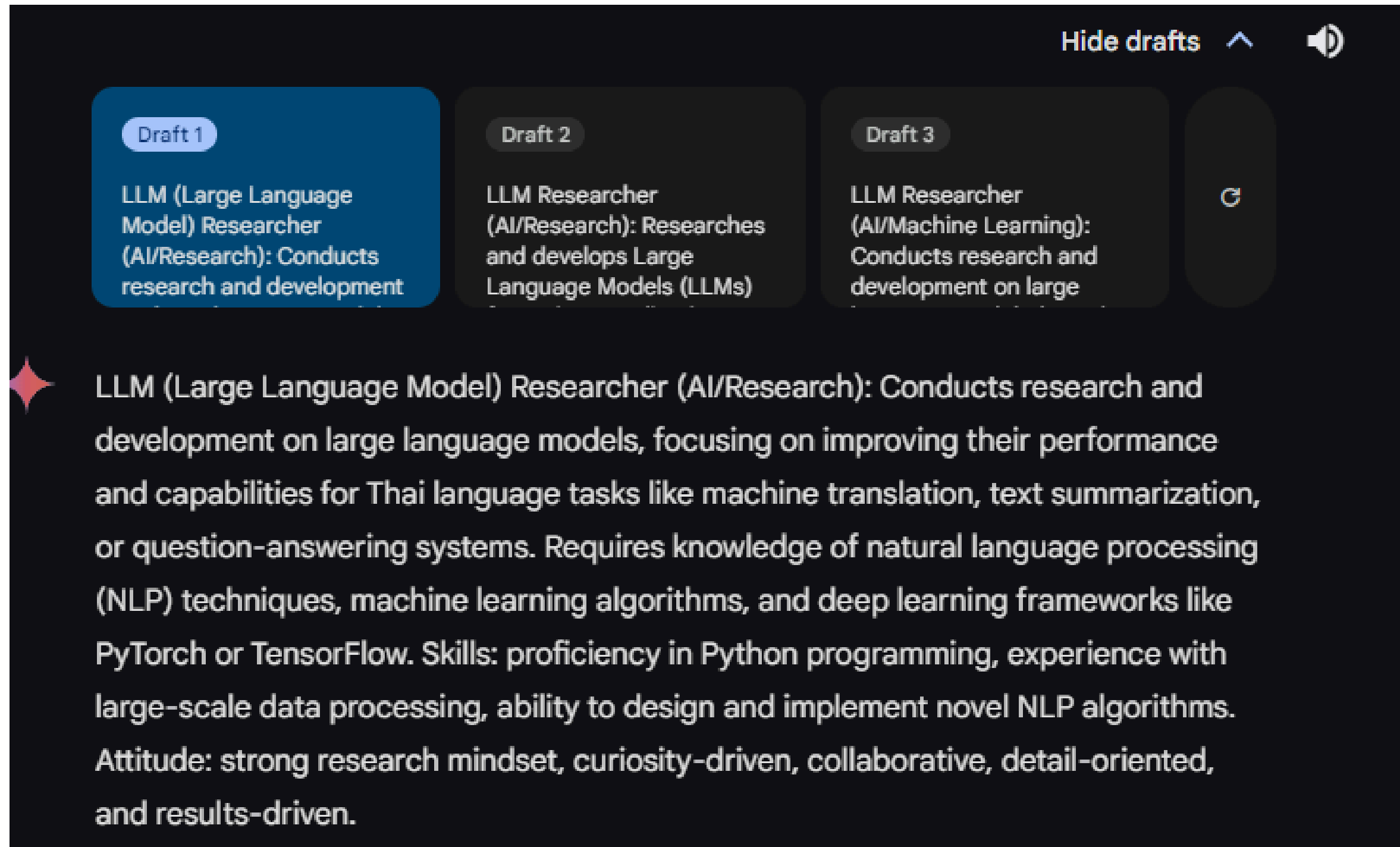
C: Context

The information should focus primarily on the job market in Thailand. Include the tools used in knowledge and skill. make it a line. Make sure to include full words after the abbreviation. Make sure to include the programming language used.

E: Example

Make sure to give some examples in the job description (if applicable)

Effective Prompt – RICE Mini-workshop (Output)



The screenshot shows a chat interface with three drafts of a prompt. Draft 1 is highlighted in blue and contains the text: "LLM (Large Language Model) Researcher (AI/Research): Conducts research and development". Draft 2 is "LLM Researcher (AI/Research): Researches and develops Large Language Models (LLMs)". Draft 3 is "LLM Researcher (AI/Machine Learning): Conducts research and development on large". A fourth draft is partially visible with a refresh icon. Below the drafts, a red star icon is followed by a detailed description of the role: "LLM (Large Language Model) Researcher (AI/Research): Conducts research and development on large language models, focusing on improving their performance and capabilities for Thai language tasks like machine translation, text summarization, or question-answering systems. Requires knowledge of natural language processing (NLP) techniques, machine learning algorithms, and deep learning frameworks like PyTorch or TensorFlow. Skills: proficiency in Python programming, experience with large-scale data processing, ability to design and implement novel NLP algorithms. Attitude: strong research mindset, curiosity-driven, collaborative, detail-oriented, and results-driven."

Prompt Engineering Technique

1. Zero-Shot Prompting

Analyze the sentiment of the following text:

Text: "I absolutely loved this movie! The acting was superb, and the storyline kept me engaged throughout."

Sentiment:



Sentiment: Positive

"Prompt"

"Output"

Prompt Engineering Technique

2. One-Shot Prompting

Analyze the sentiment of the following text:

sample

Text: "Samsung Galaxy Fold 6 is a very awesome foldable smartphone."
Sentiment: Positive



Sentiment: Negative

Text: "iPhone camera is not that good"
Sentiment:

"Prompt"

"Output"

Prompt Engineering Technique

3. Few-Shot Prompting

Analyze the sentiment of the following text:

sample 1

Text: "Samsung Galaxy Fold 6 is a very awesome foldable smartphone."
Sentiment: Positive

sample 2

Text: "iPhone camera is not that good"
Sentiment: Negative



✦ Sentiment: Positive

sample 3

Text: "I'm going to sleep now"
Sentiment: Neutral

"Output"

Text: "KFC chicken is very crisp and delicious"
Sentiment:

"Prompt"

Prompt Engineering Technique

4. Chain-of-Thought Prompting

Prompt:

Sarah has 5 apples. She gives 2 apples to her friend Emily. How many apples does Sarah have left?
Let's think step-by-step:

Response:

1. Sarah starts with 5 apples.
 2. She gives away 2 apples.
 3. To find out how many are left, we subtract the given apples from the starting apples: $5 - 2 = 3$
- Therefore, Sarah has 3 apples left.

Prompt Engineering Technique

5. Other Use-Case Demonstration