

What is ChatGPT?

INTRODUCTION TO CHATGPT



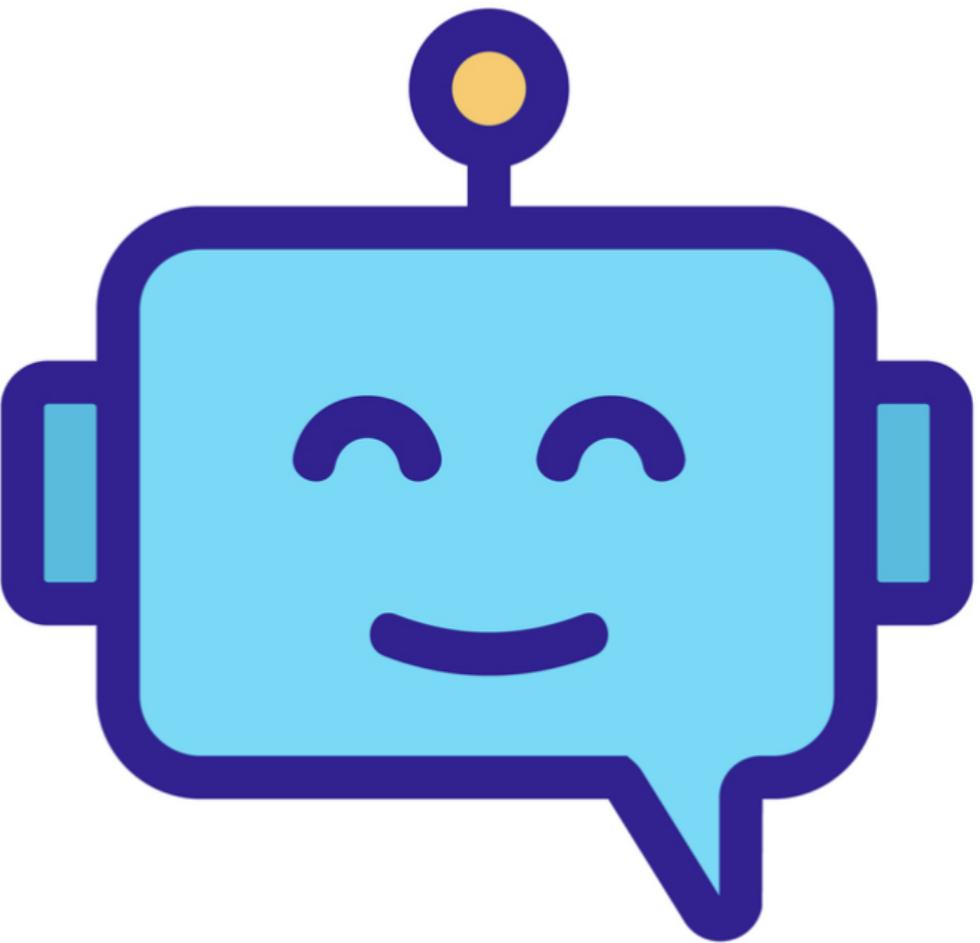
James Chapman

Curriculum Manager, DataCamp

What is ChatGPT?

Conversational language model:

- Answer questions
- Perform tasks
- Text-based response



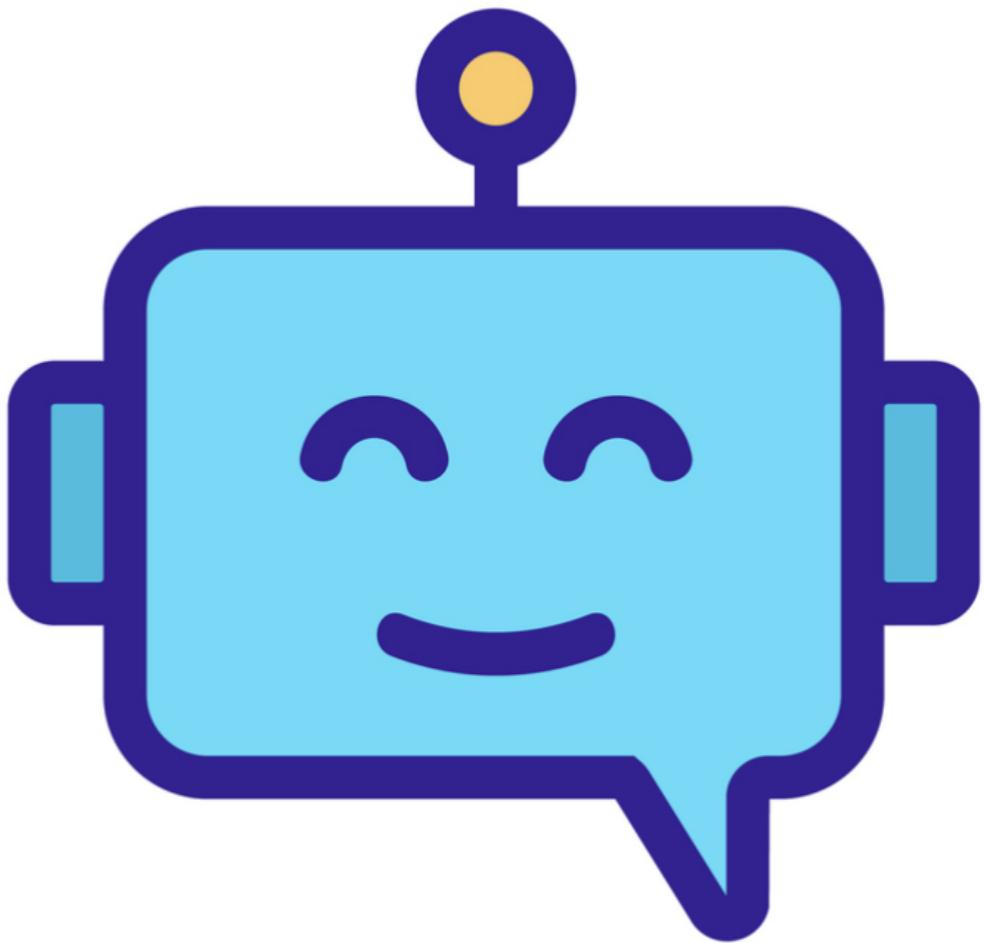
What is ChatGPT?

Standard chatbots

- Predetermined responses
- Limited questions

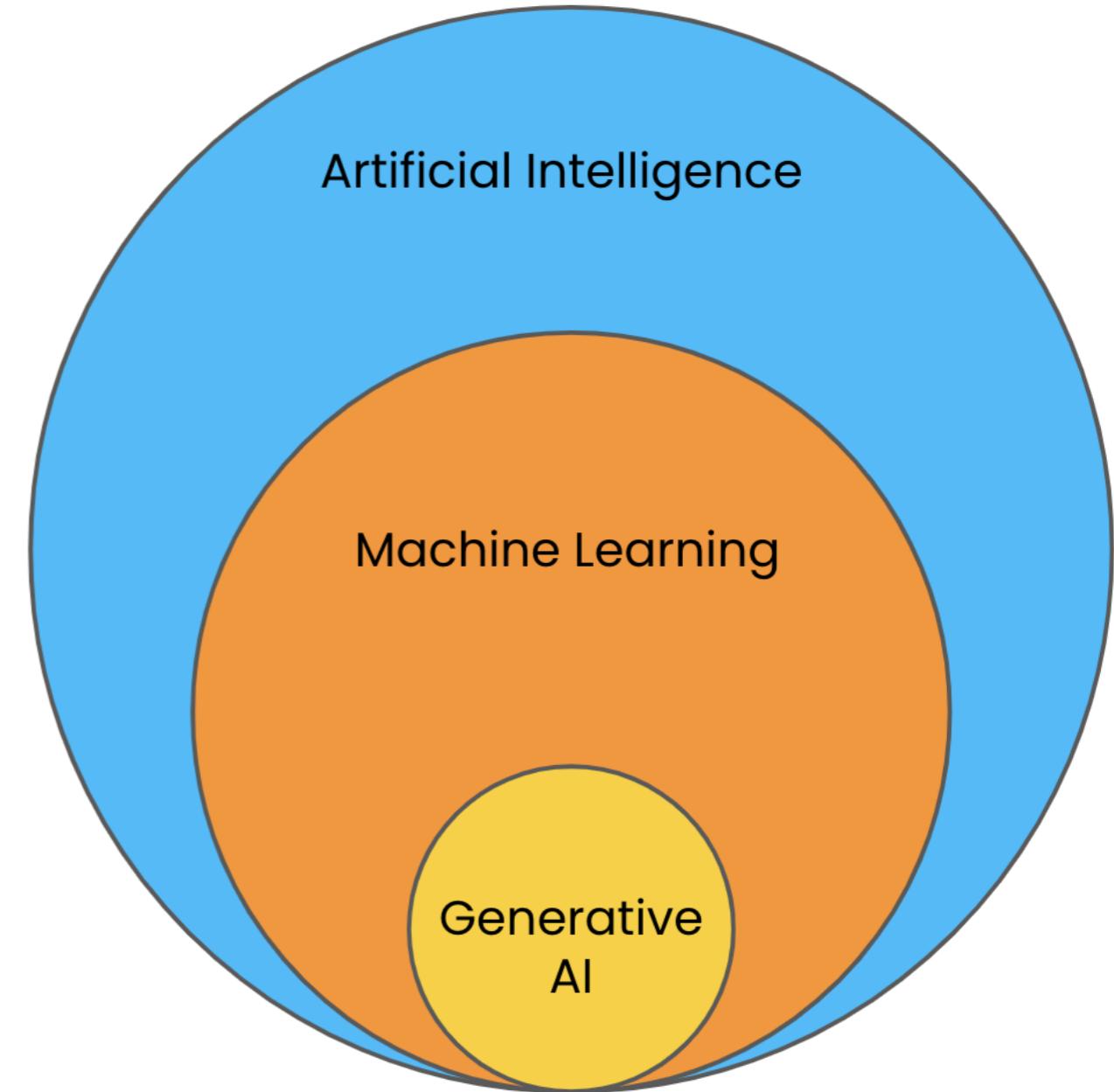
ChatGPT

- More generalizable
- Uses its *understanding of language* to interpret the question and respond
- Wide range of potential applications



Generative AI

- Subset of **AI and Machine Learning**
- Generates new content
- Uses patterns in information it has already seen
- Can generate text, images, audio, and video!



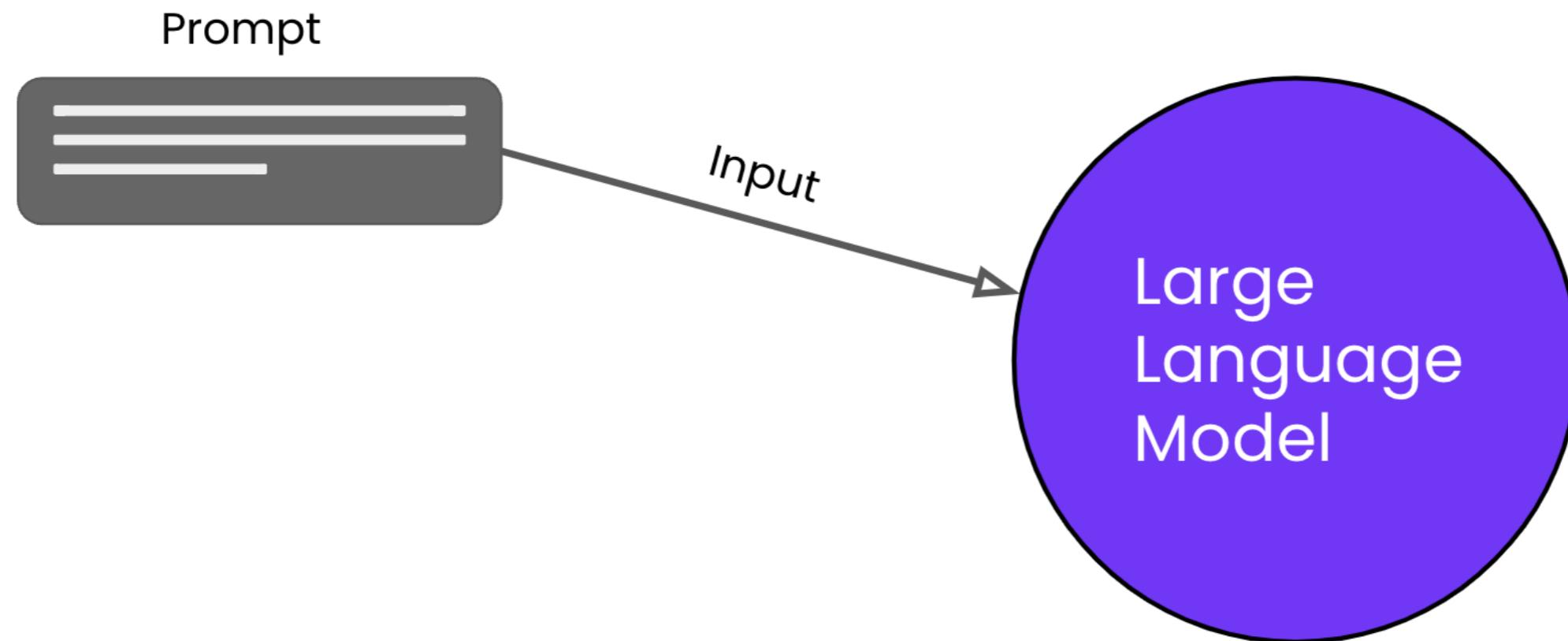
From prompt to response

Prompt



Step 1: User writes a question or instruction: *prompt*

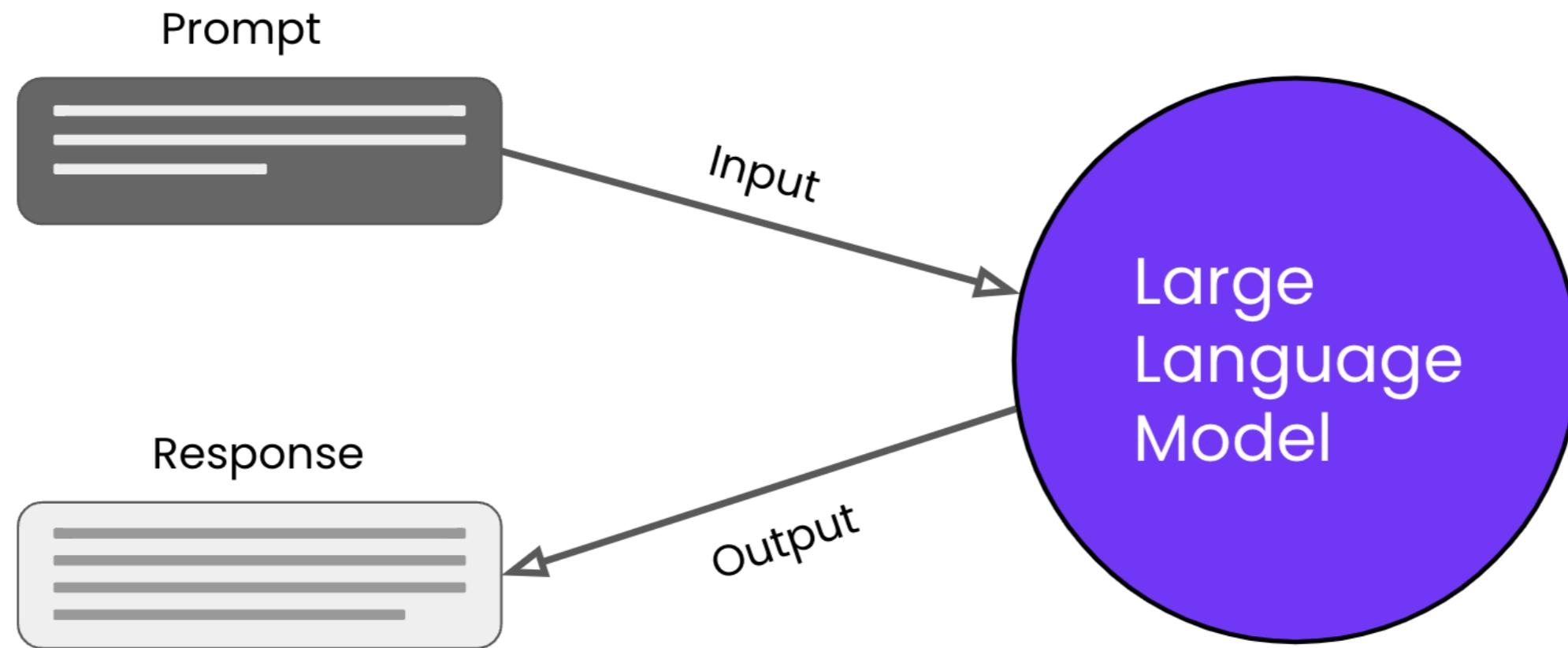
From prompt to response



Step 2: LLM interprets the prompt

Step 3: LLM generates new, relevant language in response

From prompt to response



Step 4: Response is returned to the user

Summarizing text

- ChatGPT is great at **summarizing** text and **explaining** concepts
- *Save time* when summarizing reports
- Interpret complex information *more easily*

Summarizing text



Summarize GDPR in simple terms.

Summarizing text



Summarize GDPR in simple terms.



The General Data Protection Regulation (GDPR) is a law designed to protect the personal data of individuals living in the European Union (EU). It applies to all businesses, organizations, and websites that collect, process, or store personal data of EU citizens.

The GDPR gives individuals more control over their personal data and requires organizations to obtain clear and specific consent before collecting and processing their data. It also gives individuals the right to access their data, request corrections, and have their data deleted.

Under the GDPR, organizations must also implement strong data protection measures and notify individuals of any data breaches that may compromise their personal information. Failure to comply with GDPR can result in hefty fines and other penalties.

Summarizing text

The screenshot shows a conversation between a user and ChatGPT. The user, represented by a small portrait icon, asks: "Please reduce the summary to two sentences." ChatGPT, represented by its green logo icon, responds with a detailed explanation of the GDPR: "The GDPR is a set of rules designed to protect the privacy and personal data of EU citizens. It gives individuals greater control over their personal data and requires companies to obtain explicit consent before collecting personal data and take steps to protect it."

Please reduce the summary to two sentences.

The GDPR is a set of rules designed to protect the privacy and personal data of EU citizens. It gives individuals greater control over their personal data and requires companies to obtain explicit consent before collecting personal data and take steps to protect it.

- ChatGPT can *remember* information from earlier in the conversation
- User can provide *follow-up corrections* to responses

Creating marketing content



Write a tweet encouraging people to acquire data literacy skills.

Creating marketing content



Write a tweet encouraging people to acquire data literacy skills.



"Data is power! 🔎💪 Unlock the potential of information by honing your data literacy skills. Learn to analyze, interpret, and communicate data effectively to make better decisions in any field. #dataliteracy #dataskills #empowerment"

Generating and debugging code



Write Python code to load an Excel spreadsheet.



To load an Excel spreadsheet in Python, you can use the `pandas` library. Here's an example code snippet to get you started:

python

Copy code

```
import pandas as pd

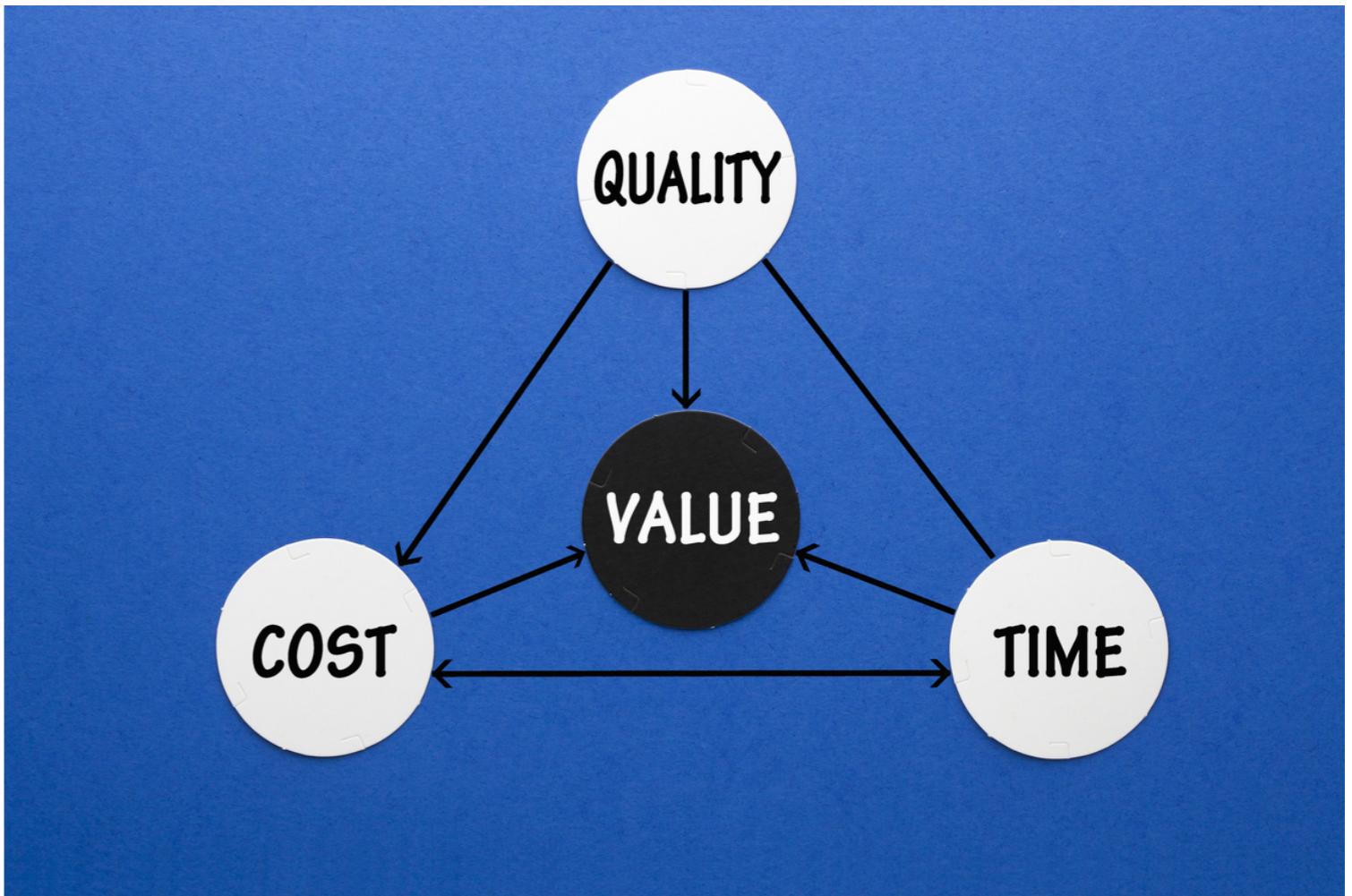
# Load the Excel spreadsheet
df = pd.read_excel('path/to/spreadsheet.xlsx')

# Print the contents of the spreadsheet
print(df)
```

This code loads the Excel spreadsheet located at `'path/to/spreadsheet.xlsx'` using the `read_excel()` function from the `pandas` library. The function returns a `DataFrame` object, which is essentially a table of data. You can then use this object to manipulate or analyze the data as needed. The code snippet also includes a call to the `print()` function to display the contents of the spreadsheet in the console.

Why utilize ChatGPT?

- ChatGPT can perform many tasks with **greater efficiency**
- New workflow: AI → Human
- Save **time** and **money**
- Greater **personalization**



Let's practice!

INTRODUCTION TO CHATGPT

Limitations of ChatGPT

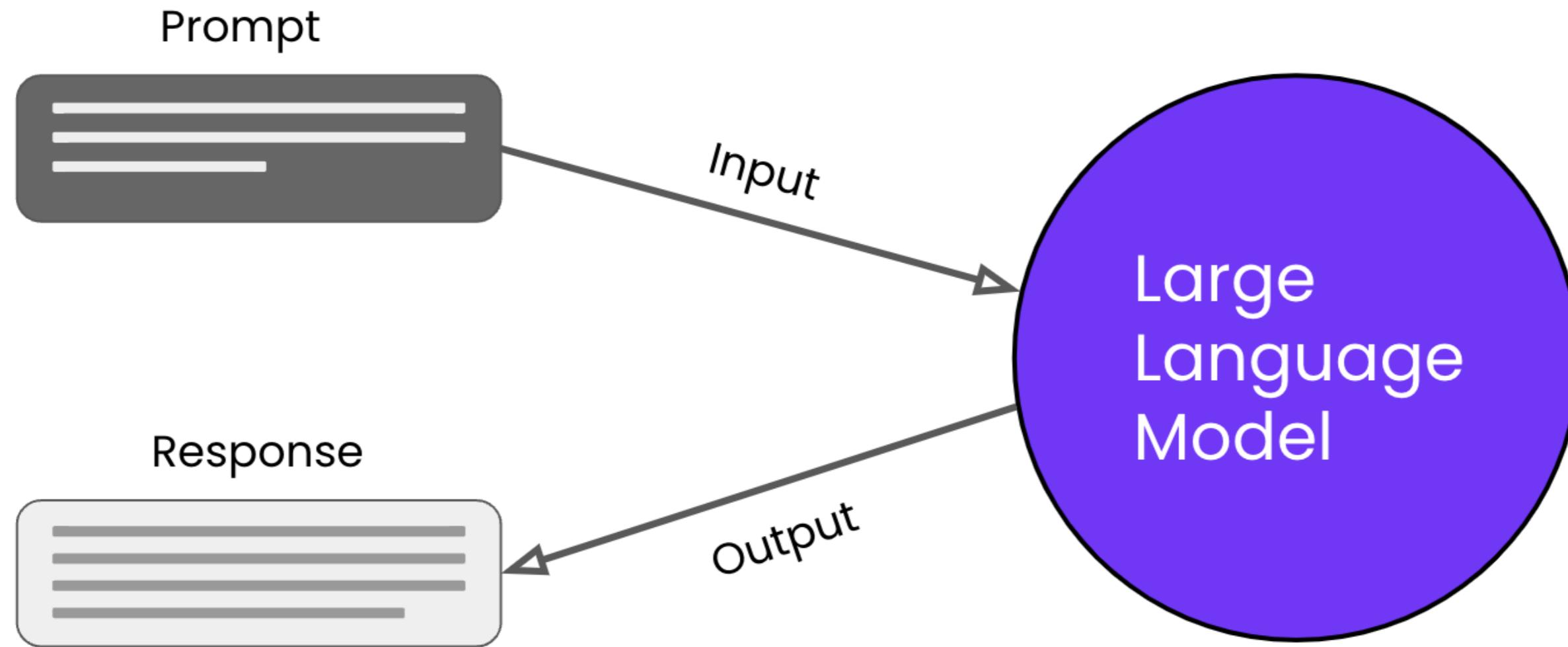
INTRODUCTION TO CHATGPT



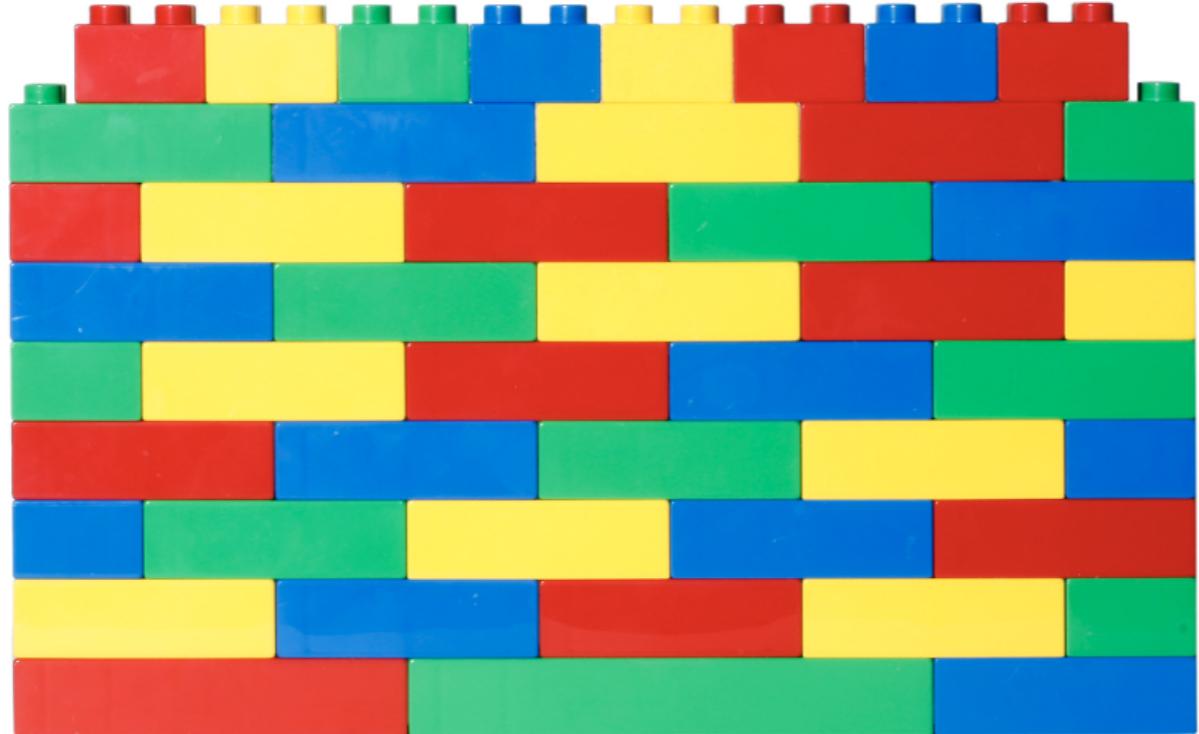
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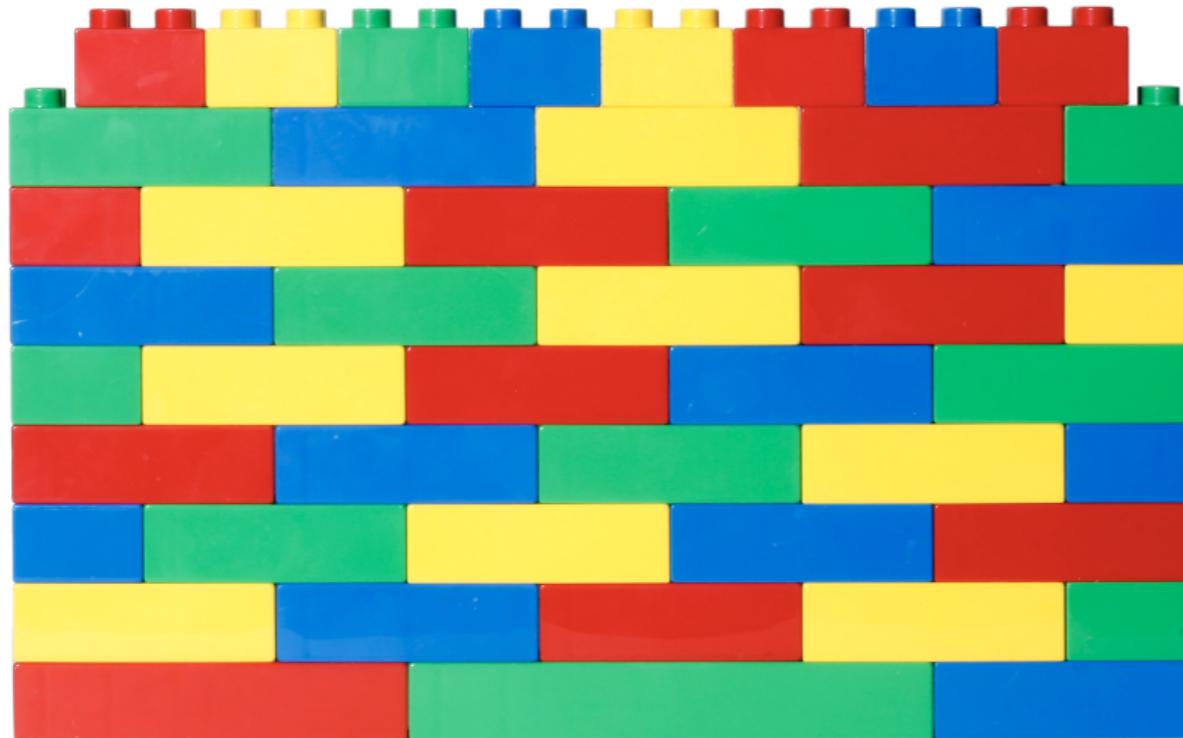
ChatGPT under the hood



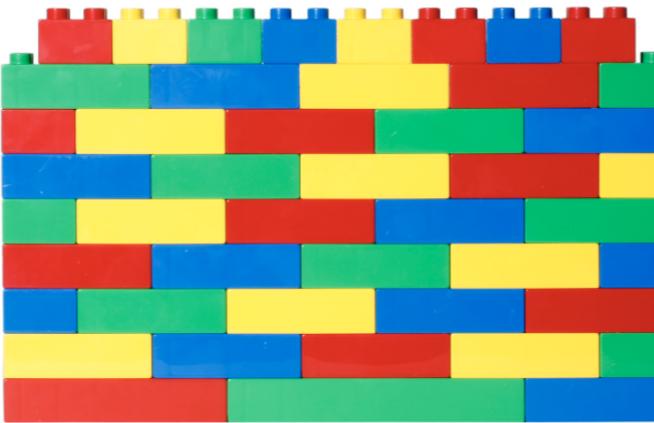
Demystifying the LLM



Demystifying the LLM

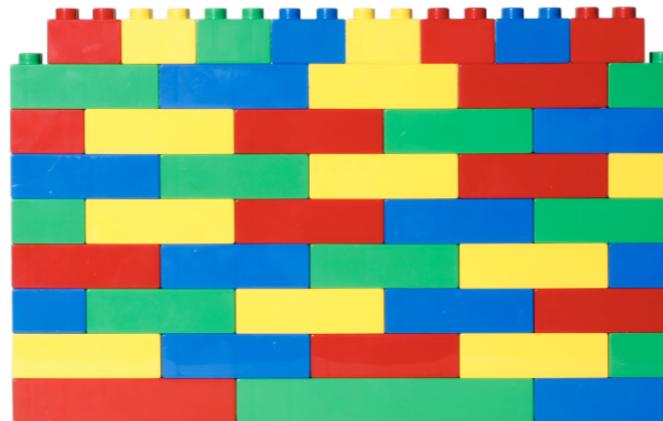


Demystifying the LLM



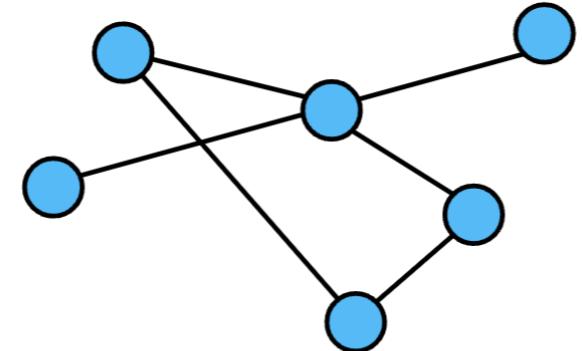
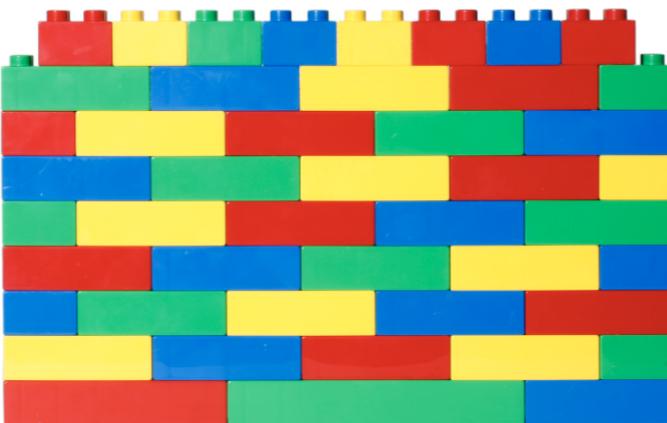
Demystifying the LLM

Training Data



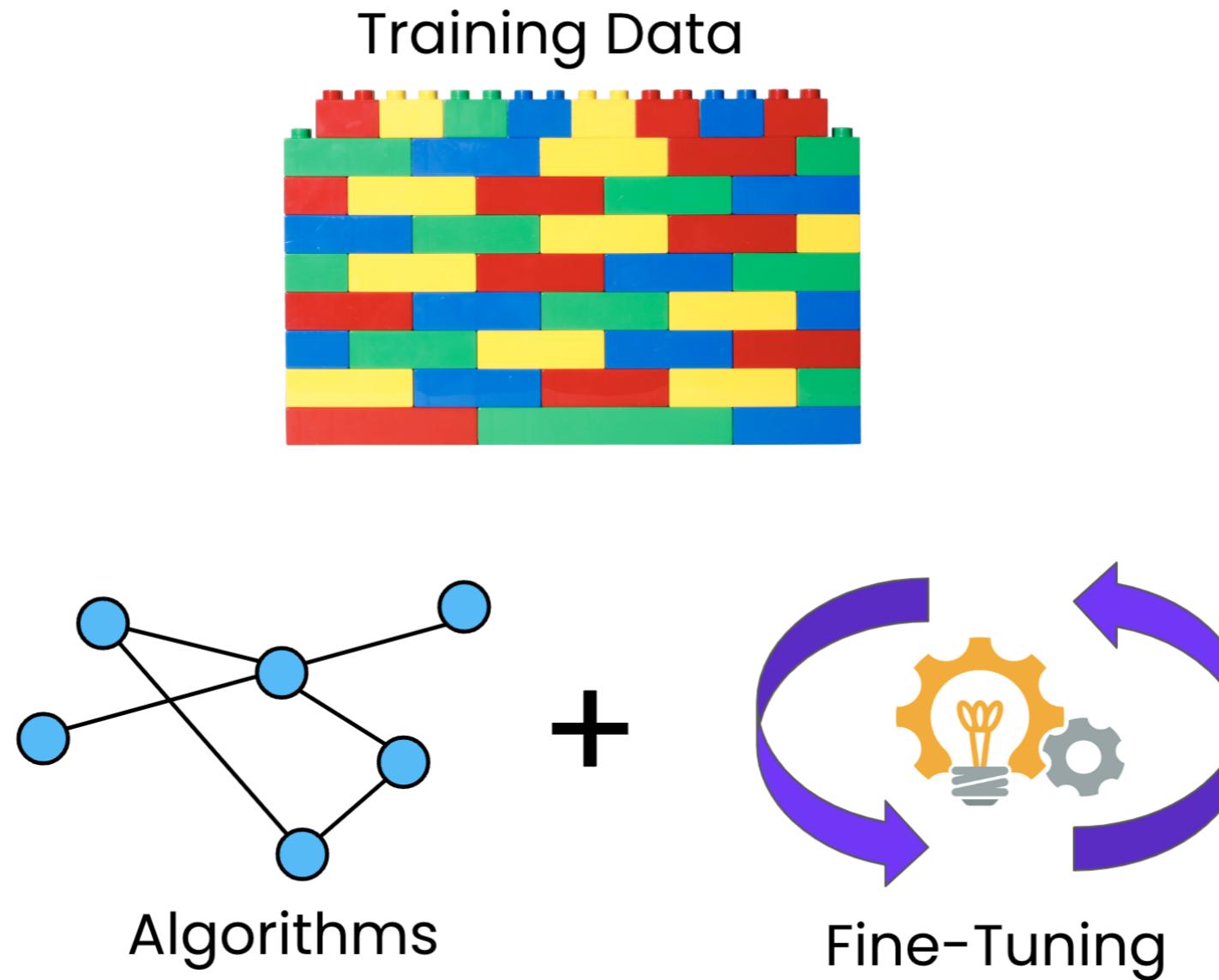
Demystifying the LLM

Training Data



Algorithms

Demystifying the LLM



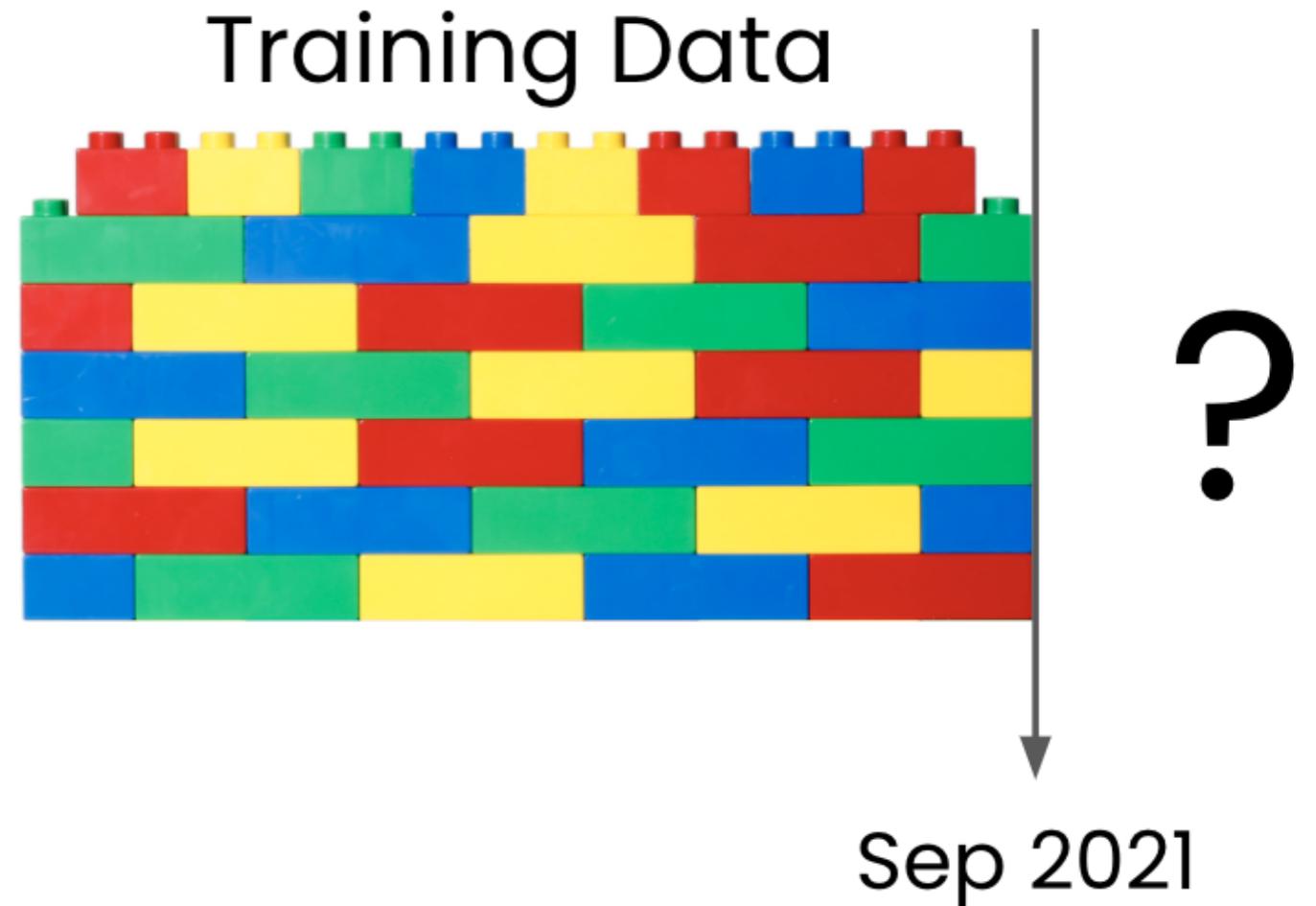
Demystifying the LLM

ChatGPT



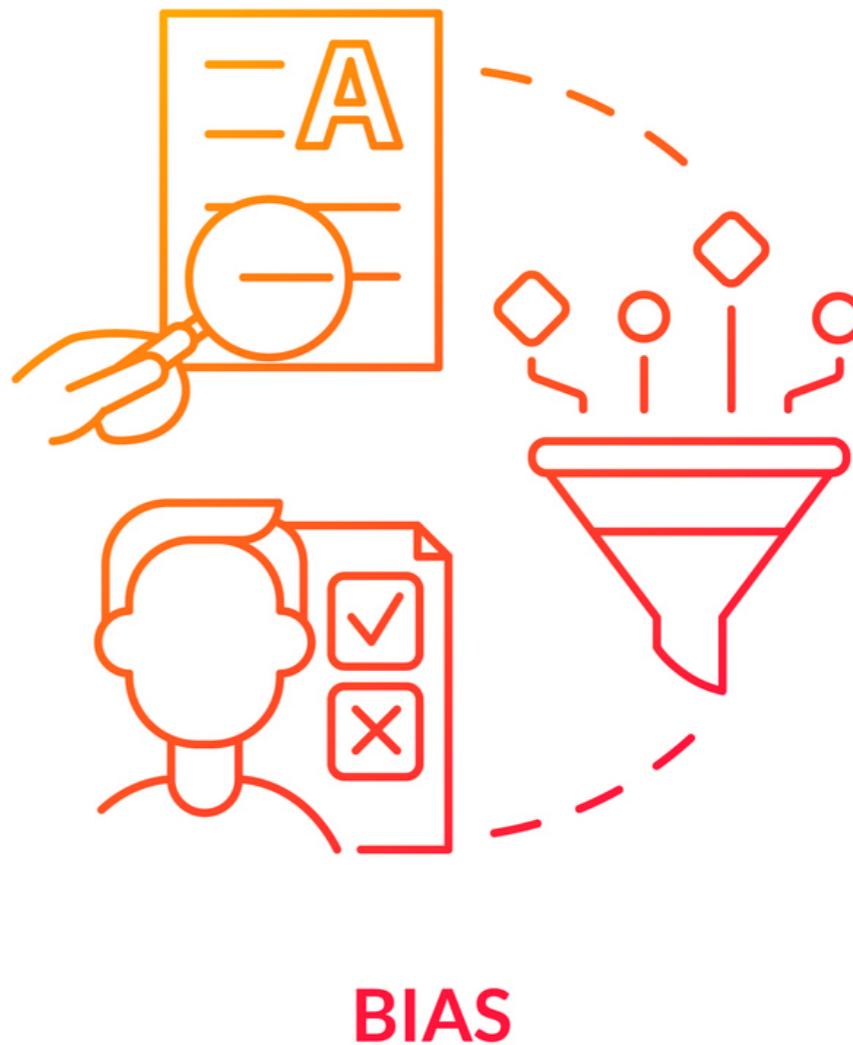
Limitation 1 - Knowledge cutoff

- Trained on data from up to September 2021
- Not connected to external sources
- Isn't aware of events beyond this date

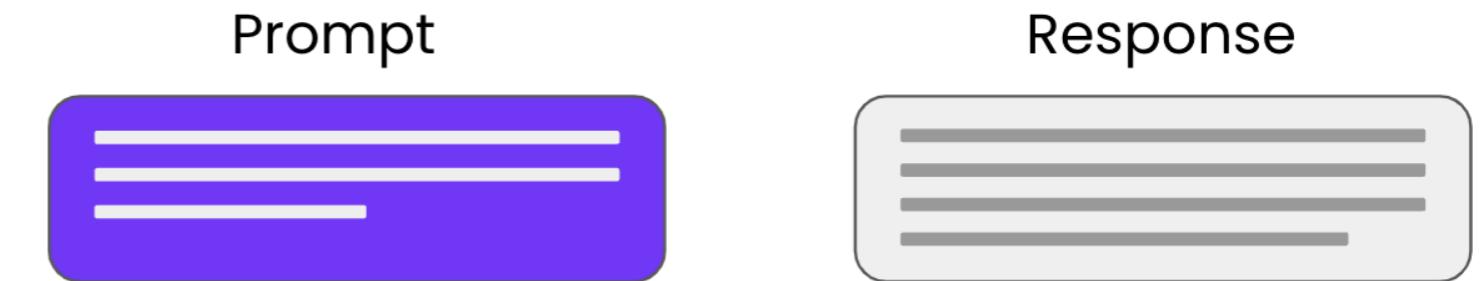


Limitation 2 - Training data bias

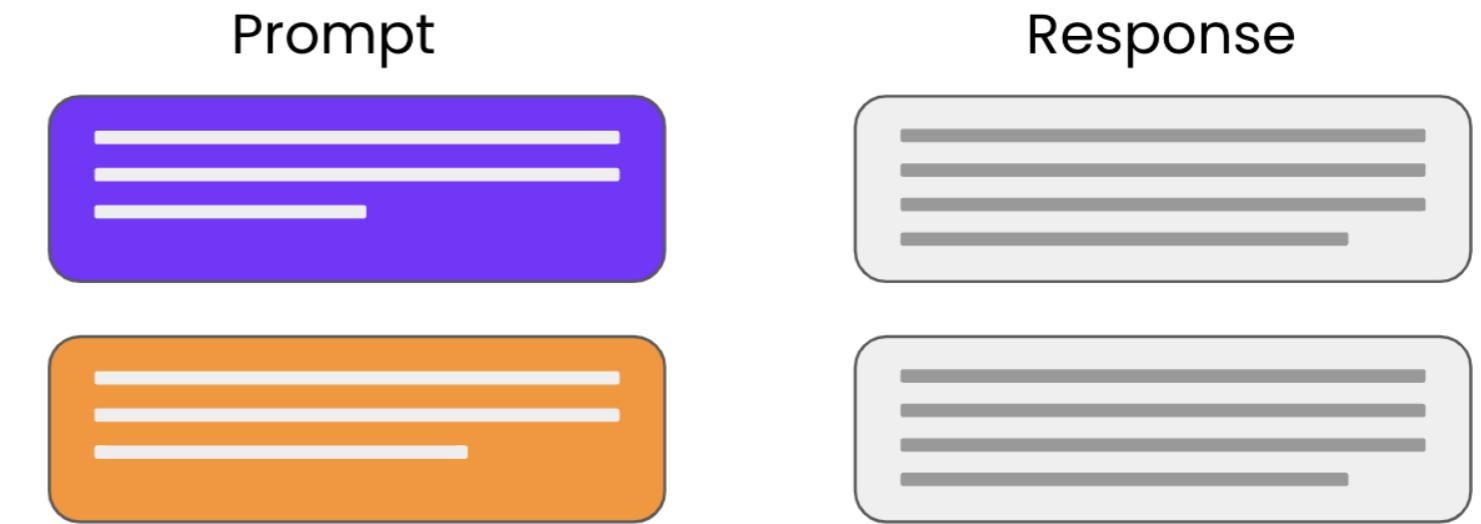
- ChatGPT was trained on a huge text dataset, including:
 - Books
 - Articles
 - Websites
- Model may learn the biases from the training data
- Could bias the responses



Limitation 3 - Context tracking



Limitation 3 - Context tracking



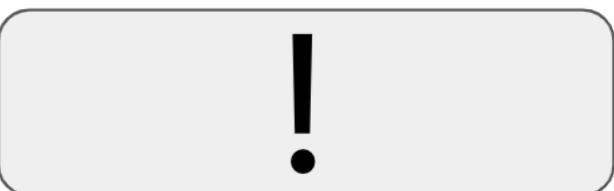
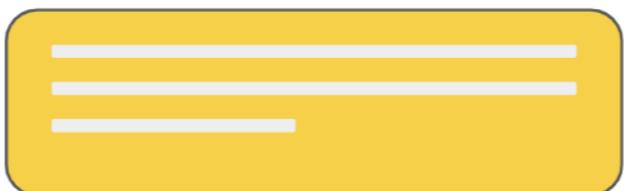
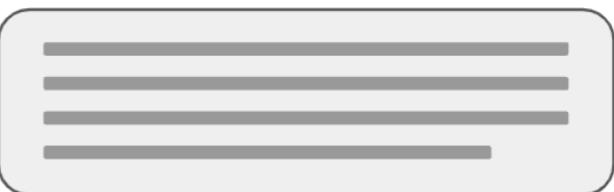
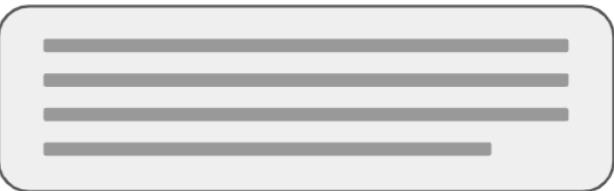
Limitation 3 - Context tracking

- Struggles to keep track of the context if the focus shifts
- Can lead to inaccurate or irrelevant results
- **Tip:** Keep conversations to a single topic

Prompt



Response



Limitation 4 - Hallucination

- Model confidently provides inaccurate information
- Often occurs when trying to go beyond the model's knowledge or abilities



Provide a summary of this LinkedIn profile: <https://www.linkedin.com/in/jameschapman5/>



The LinkedIn profile of James Chapman shows that he is currently working as a Senior Director of Marketing at a company called TradeRev. Prior to this role, he worked as a Senior Manager of Digital Marketing at the same company. He has over 10 years of experience in marketing, with a focus on digital marketing and brand development.

Chapman has a Bachelor's degree in Business Administration and Management from Western University and a Digital Marketing Management Certificate from the University of Toronto. He has experience in developing and executing marketing strategies, managing budgets, and leading cross-functional teams.

He has also been involved in various community initiatives and volunteer work, including serving as a mentor for the Toronto Region Immigrant Employment Council and volunteering for the Canadian Cancer Society. Overall, Chapman's LinkedIn profile showcases his extensive experience in marketing and his commitment to giving back to the community.

¹ [https://en.wikipedia.org/wiki/Hallucination_\(artificial_intelligence\)](https://en.wikipedia.org/wiki/Hallucination_(artificial_intelligence))

Limitation 5 - Legal and ethical considerations

- **Example:** Creating a song in the style of an existing artist
 - Who owns the new song?



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Limitation 5 - Legal and ethical considerations

- **Example:** Creating a song in the style of an existing artist
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Limitation 5 - Legal and ethical considerations

- **Example:** Creating a song in the style of an existing artist
 - Who owns the new song?



- Easy to fall into a legal gray area
- Ownership and privacy → **Chapter 2**



Let's practice!

INTRODUCTION TO CHATGPT

Writing effective prompts

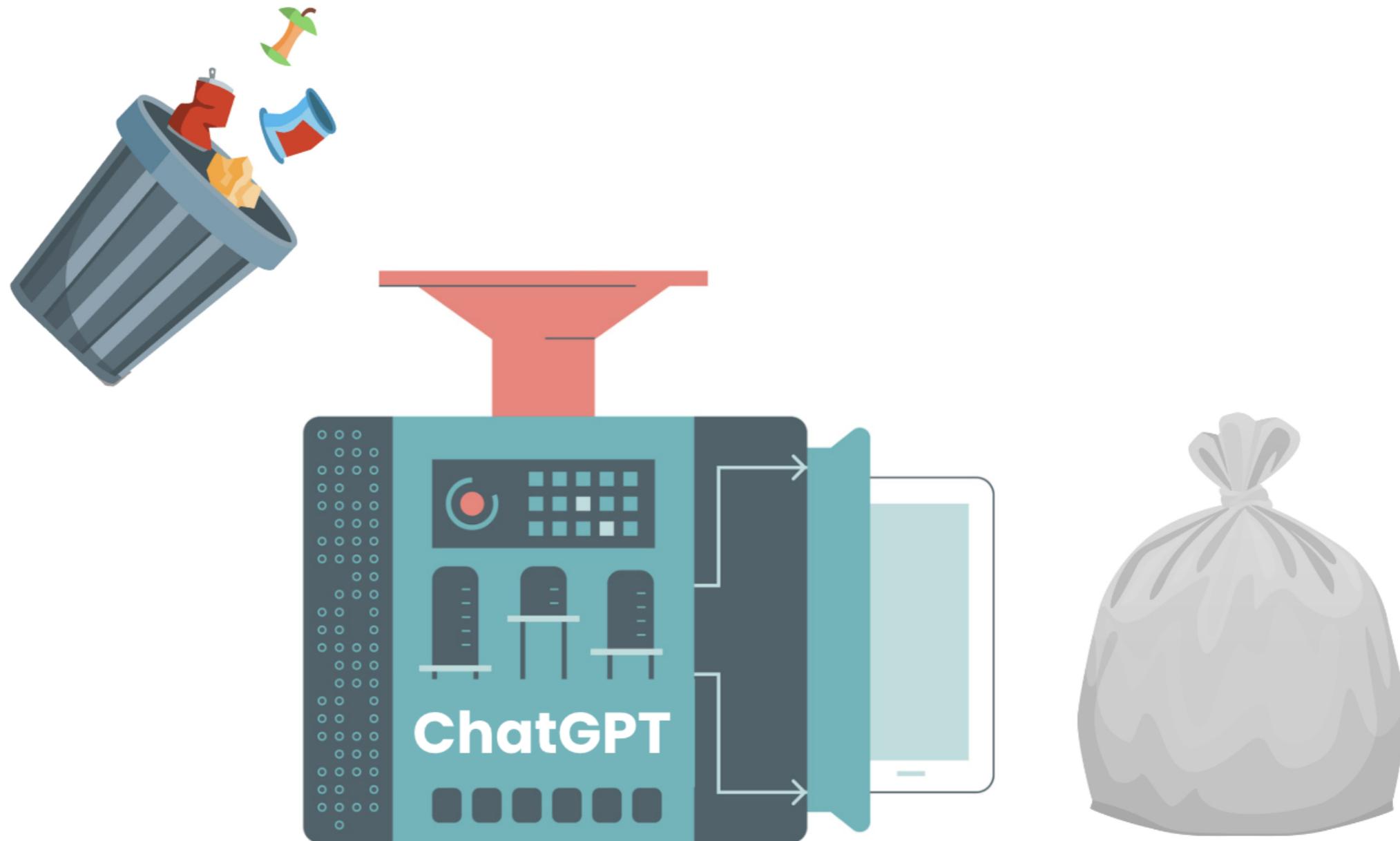
INTRODUCTION TO CHATGPT



James Chapman

Curriculum Manager, DataCamp

Garbage in, garbage out



How does ChatGPT interpret a prompt?



Please write a job description for a data scientist based in New York.

How does ChatGPT interpret a prompt?



Please write a job description for a data scientist based in New York.

1. Identify the topic

Please write a **job description** for a **data scientist** based in **New York**.

How does ChatGPT interpret a prompt?



Please write a job description for a data scientist based in New York.

2. Understand the prompt

Please **write** a **job description** for a **data scientist** based in **New York**.

How does ChatGPT interpret a prompt?

3. Generate response



Please write a job description for a data scientist based in New York.



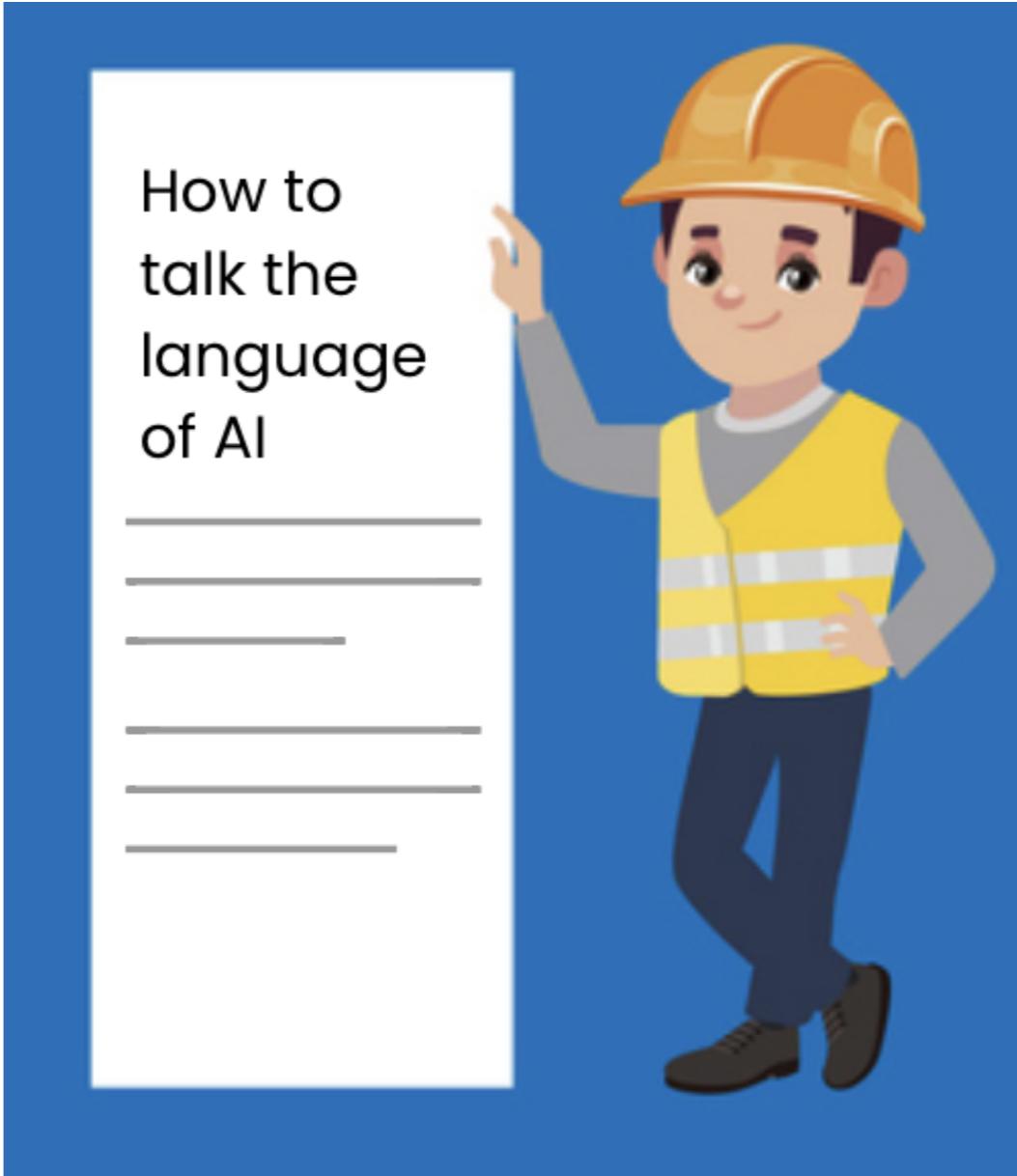
Job Title: Data Scientist

Location: New York, NY

Overview: Our company is seeking a highly motivated and experienced data scientist to join our team in New York City. The ideal candidate will have a strong background in statistics, machine learning, and data analysis, as well as experience working with large data sets. The data scientist will be responsible for designing and implementing statistical models, analyzing data, and presenting insights to stakeholders across the organization.

Prompt engineering

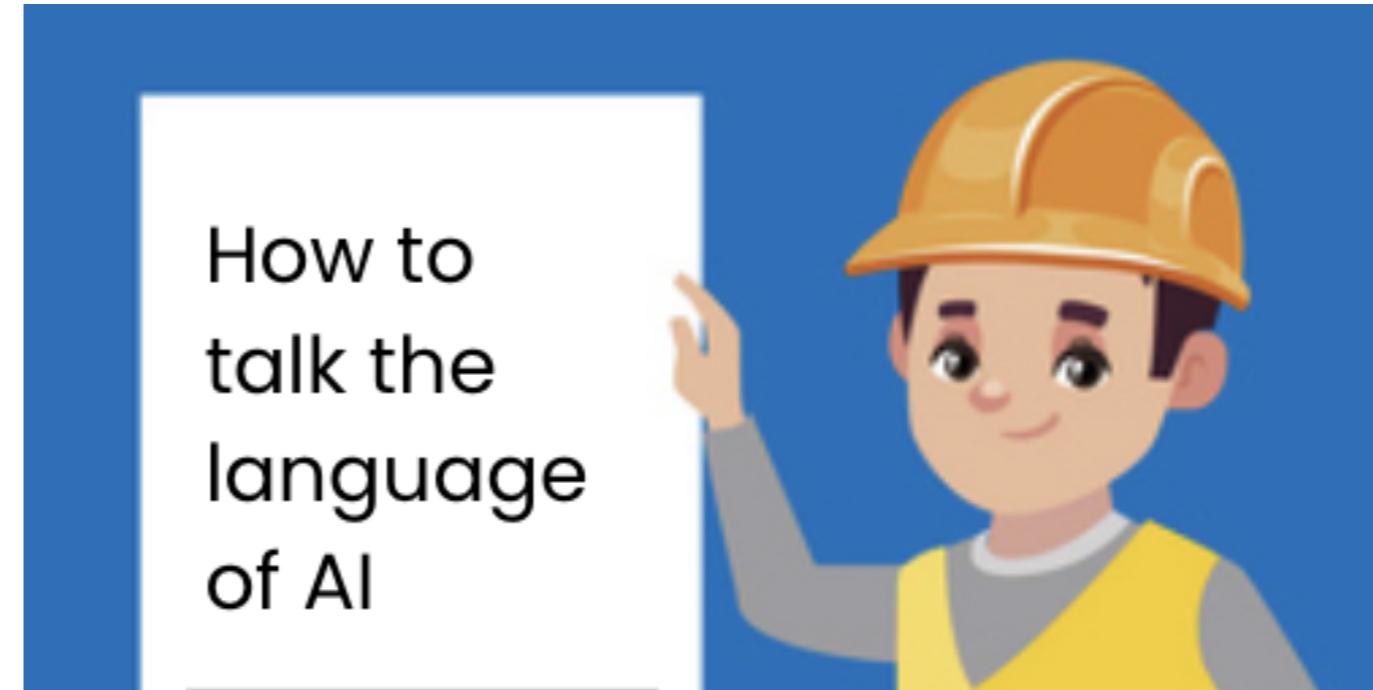
- **Prompt engineering** is the process of writing prompts to maximize the *quality* and *relevance* of the response



Writing tips for prompt engineering

Be clear and specific

- Include any necessary information
- Example: in a summarizing task, specify the desired length



Keep it concise

- Remove any information that doesn't provide useful context

Use correct grammar and spelling

- ChatGPT uses grammar when interpreting the task

Provide examples if necessary...

- Can be a much *quicker* way of providing context



Please write a list of example names, ages, and occupations.
For example, John Smith, 34 (Builder).

Example: Generating example customers

- Want the form: Full Name, Age (Occupation)

Provide examples if necessary...

- Can be a much *quicker* way of providing context



Please write a list of example names, ages, and occupations.
For example, John Smith, 34 (Builder).



Sure, here's a list of example names, ages, and occupations in the format you provided:

Example: Generating example customers

- Want the form: Full Name, Age (Occupation)

1. Sarah Johnson, 28 (Software Engineer)
2. Michael Lee, 42 (Sales Manager)
3. Maria Hernandez, 31 (Graphic Designer)
4. William Chen, 24 (Student)
5. Emily Davis, 39 (Marketing Director)
6. David Kim, 50 (Lawyer)
7. Jessica Wong, 27 (Product Manager)
8. Robert Garcia, 33 (Financial Analyst)
9. Samantha Patel, 46 (Doctor)
10. Anthony Nguyen, 20 (Barista)

https://chat.openai.com/

Let's practice!

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