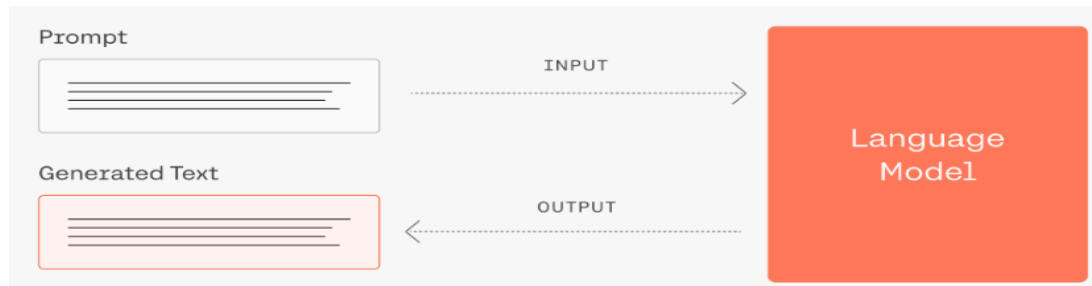


Large Language Model Basics (LLM)

What are Large Language Models?

Large language models, like GPT-3 (Generative Pre-trained Transformer 3), which was developed by OpenAI, operate on the fundamental principle of generating text by predicting the next word in a sequence. They achieve this by taking an input and generating the next word in the sequence. Subsequently, they integrate this generated word back into the input and continue the process to produce coherent text.

Large language models (LLMs) are foundation models that utilize deep learning techniques, and more.



Large language model examples-

Some large language models in this category are:

- XLNet
- Cohere
- Google's PaLM (used in Bard)
- Meta's LLaMa
- GLM-130B etc..

Use cases of language models-

The use cases of Large language models are healthcare, retail, tech, Web3, Blockchain and more. Below are use cases that exist in all industries:

- Recommendation systems
- Text-to-speech synthesis, Sentiment analysis
- Text summarization, Text generation
- Chatbots and conversational AI
- Content creation
- Named entity recognition
- Speech recognition
- Fraud detection
- Code generation and more.

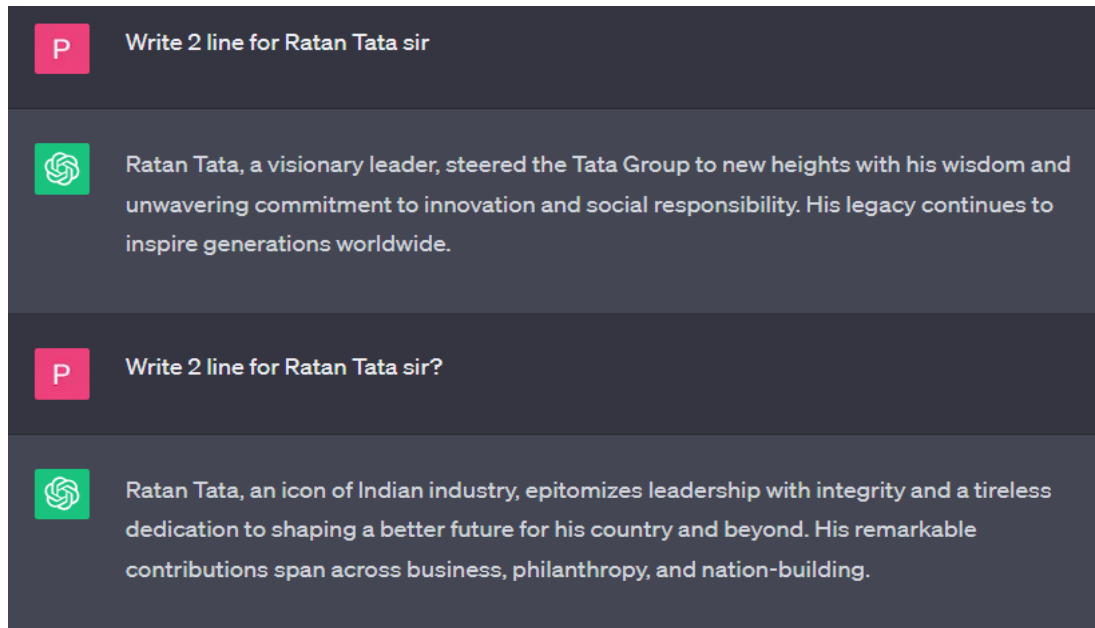
Advantages of large language models-

- Reduce costs
- Better language understanding
- Save time
- Increase accuracy for code and tasks
- Transfer learning

Dis-advantages of large language models-

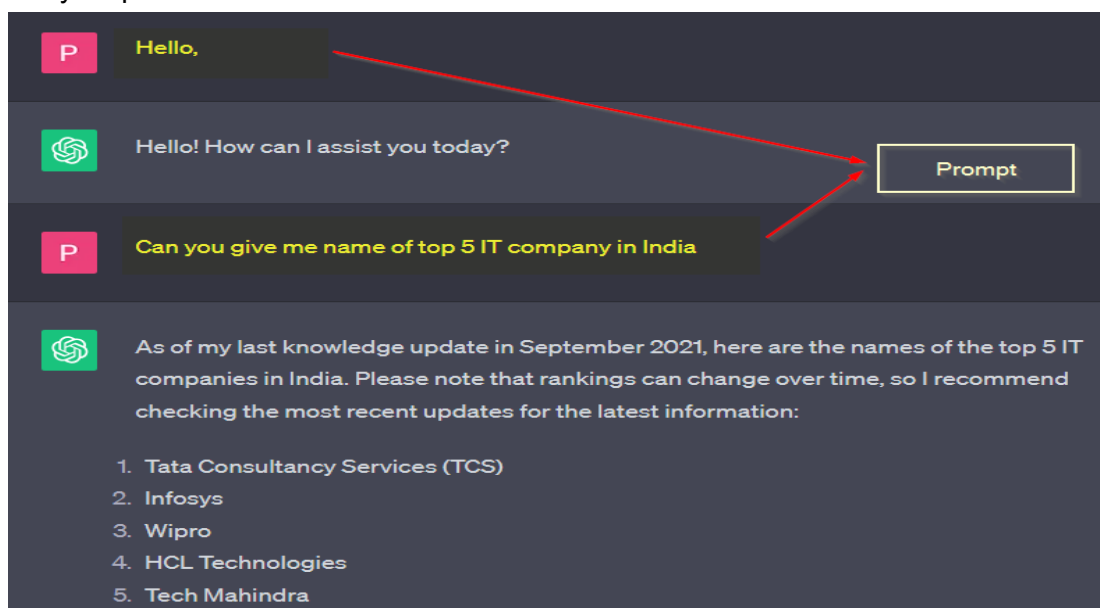
- Reliability and bias
- Context window
- Randomness in Output: The fact that the same input is not necessarily going to give us this exactly the same output every time. And sometimes they're going to work really well and sometimes they won't work.

In below example you see-



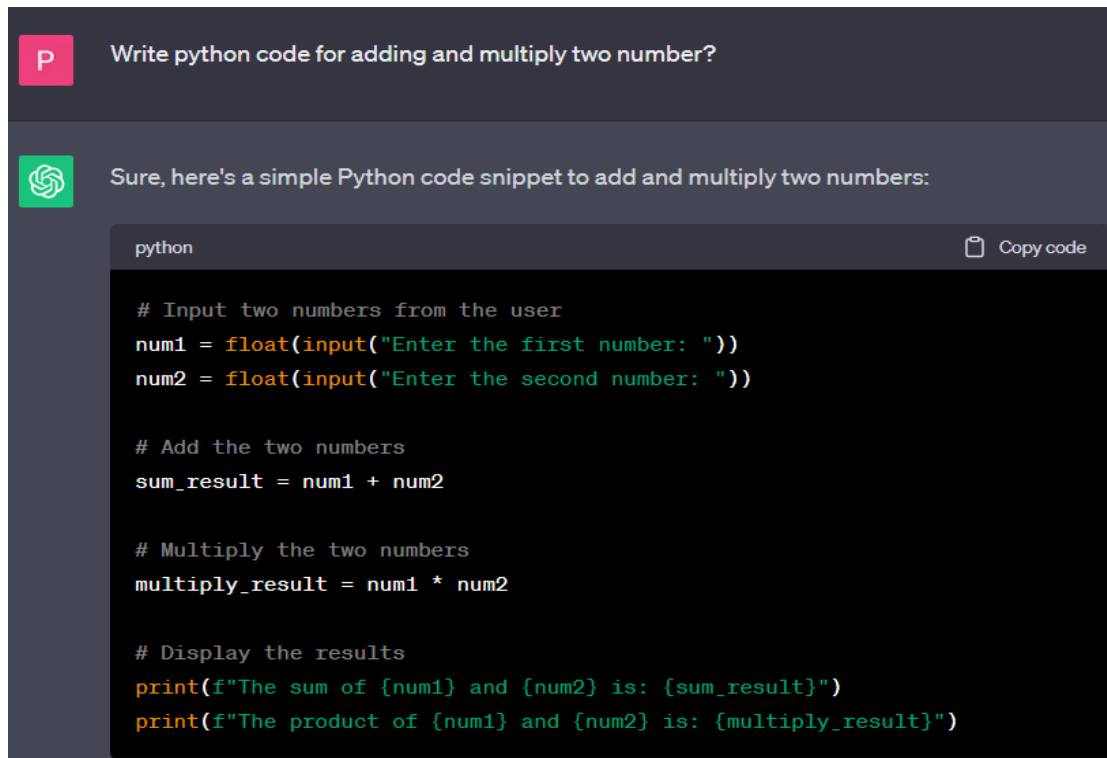
What is a Prompt?

It's more than just a question that we are asking to the large language model. So to do this, I think it's helpful to go through a couple of prompts and actually interact with chatGPT to understand the concept of a prompt and sort of the the dimensions to a prompt. So I start off here by just asking chat GPT, what does the word prompt mean? And it comes up with some really helpful.



Everyone can Program with Prompts:

Prompts allow you to do more than just ask questions to ChatGPT, We can actually write programs, codes.



The screenshot shows a ChatGPT chat window. The user prompt is "Write python code for adding and multiply two number?". The AI response is "Sure, here's a simple Python code snippet to add and multiply two numbers:". Below the text is a code block with a "python" label and a "Copy code" button. The code is a Python script that takes two numbers as input, calculates their sum and product, and prints the results.

```
python Copy code

# Input two numbers from the user
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Add the two numbers
sum_result = num1 + num2

# Multiply the two numbers
multiply_result = num1 * num2

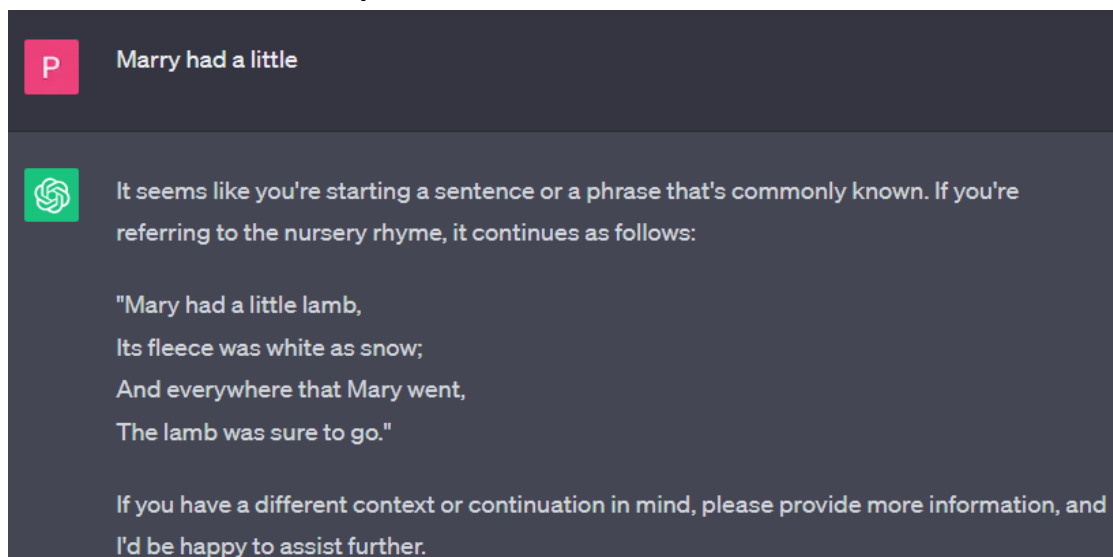
# Display the results
print(f"The sum of {num1} and {num2} is: {sum_result}")
print(f"The product of {num1} and {num2} is: {multiply_result}")
```

Prompt Patterns

What is a prompt pattern?

A prompt pattern is a way that we document a certain structure of phrases and statements in order to solve a particular problem in with a large language model. So we'd like to interact with a large language model and we'd like to solve a particular problem.

So what would be an **example** of this?



The screenshot shows a ChatGPT chat window. The user prompt is "Marry had a little". The AI response is "It seems like you're starting a sentence or a phrase that's commonly known. If you're referring to the nursery rhyme, it continues as follows:". Below the text is a block of text that is the first verse of the nursery rhyme "Mary Had a Little Lamb".

```
P Copy code

Marry had a little

It seems like you're starting a sentence or a phrase that's commonly known. If you're referring to the nursery rhyme, it continues as follows:

"Mary had a little lamb,
Its fleece was white as snow;
And everywhere that Mary went,
The lamb was sure to go."

If you have a different context or continuation in mind, please provide more information, and I'd be happy to assist further.
```

The Persona Pattern

It is the most powerful patterns that we can use to tap into interesting behavior in a large language model.

Now, what the persona pattern- Let's imagine that we want to get a particular output, but we don't know exactly what the format out of that output should be or what information should be contained in it. But if we are in the real world, we know who you would go to, to get that output, or what you would go to in order to get that output.

So, the persona pattern is meant to allow us to go to that expert and ask that question, without having to know what exactly the experts is going to say, how they're going to format it, or what they might know or not know.

So for **example**-

P

Act as a skeptic that is well-versed in computer science, whatever I tell you provide a skeptical and detailed response.



Certainly, I'll continue to provide skeptical responses from a computer science perspective. Please go ahead and share your next statement or claim, and I will respond skeptically with detailed analysis.

P

There is concern that AI is going to take over the world. in short



The concern that AI will take over the world, while a topic of discussion, must be scrutinized with a skeptical eye. Here's a concise skeptical response:

The notion that AI will imminently take over the world is largely driven by science fiction and doomsday scenarios. Current AI systems lack the autonomy, understanding, and intent required for world domination. They are tools created and controlled by humans for specific tasks. The path to artificial general intelligence (AGI) remains uncertain and is not guaranteed. Concerns about AI dominance should be considered, but they should also be tempered with a realistic assessment of current AI capabilities and limitations.