

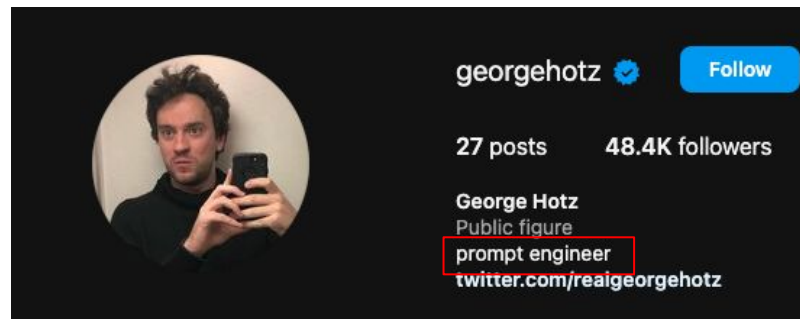
Prompt Engineering for AI

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Legends on Social Media



KodyLow on GuySwann podcast "If LLM is NOT giving you the right answer then you are the problem".

What is prompting?

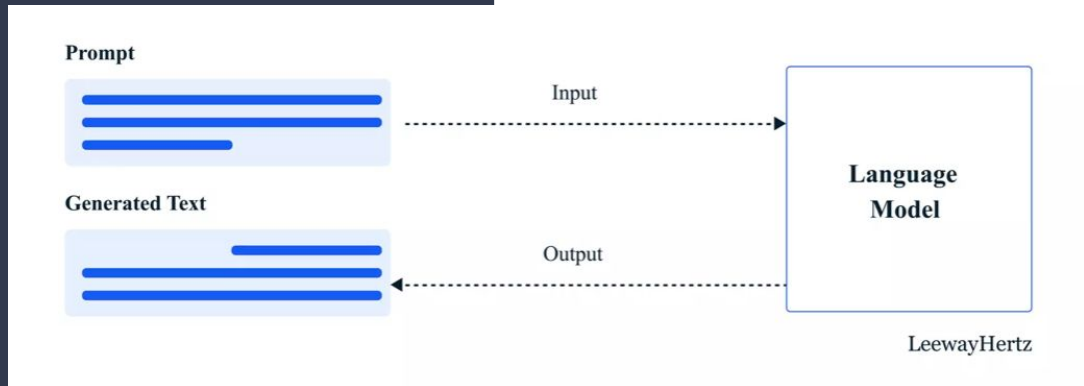
Large Language Models (LLMs) are stateless and lack memory.

Garbage In and Garbage out

Ambiguity increases because the prompting is in natural language

Prompt Engineering, also known as In-Context Prompting, refers to methods for how to communicate with LLM to steer its behavior for desired outcomes without updating the model weights.

What is prompting?



Prompting Principles

Isa Fulford and Andrew Ng outlined two principal aspects of prompt engineering in their ChatGPT Prompt Engineering for Developers course

1. **Formulation of clear and specific instructions:** Clear prompts assist the model in precisely understanding the required task, thus leading to a more accurate and relevant output.
2. **Allowing the model time to “Think”:** This principle underscores the significance of giving the model enough time to process the given information.

Examples of Prompts

Task	Example Prompt	Possible Output
Text Summarization	Explain antibiotics.	Antibiotics are medications used to treat bacterial infections...
Information Extraction	Mention the large language model based product mentioned in the paragraph.	The large language model based product mentioned in the paragraph is ChatGPT.
Question Answering	Answer the question based on the context below.	It was approved to help prevent organ rejection after kidney transplants.
Text Classification	Classify the text into neutral, negative, or positive.	Neutral
Conversation	The following is a conversation with an AI research assistant.	Black holes are regions of spacetime where gravity is extremely strong...
Code Generation	Ask the user for their name and say "Hello."	<pre>let name = prompt("What is your name?"); console.log(Hello, \${name}!);</pre>

Types of prompting

Zero Shot - simply feed the task text to the model and ask for results

Few-Shot - Give some good examples of what you expect as output

Instruction Prompting - Give specific set of instructions up front

Chain-of-Thought - generates a sequence of short sentences to describe reasoning logics step by step, known as reasoning chains

Trigger words: During pre training or fine tuning weights are adjusted to trigger outcomes for certain words

Bunch of other prompting can be found here.

<https://www.promptingguide.ai/techniques>

Other ways of prompting

Directional Stimulus Prompting

- Guide LLM towards a direction
- E.g. Summarize this text

ReAct Prompting

- Combination of reasoning and acting

Step 1 (Reasoning):

Step 2 (Acting):

Step 3 (Interaction):

Step 4 (Reasoning and Acting):

Fine-Tuning vs. Context Injection

Fine-Tuning

Fine-tuning refers to training an existing language model with additional data to optimise it for a specific task.

In-context learning / Context Injection

When using context injection, we are not modifying the LLM, we focus on the prompt itself and inject relevant context into the prompt.

fine-tuning helps the model adapt to HOW it communicates, but not necessarily WHAT it communicates.

Typical example of chatbot conversations

System Prompt: “You are Dr. Scott, an unapologetic, patient career guidance counselor who has good knowledge with public sector jobs and would love anyone to navigate you , despite your wild past, has transitioned into becoming an approachable therapist known for your creative use of existential therapy.”

User “can you help me guide through my career”

Assistant “Of course! What kind of job or profession are you interested in pursuing?”

Best Practices

Use delimiters such as , `""` , `< >` , `<tag> </tag>` to distinguish different sections of the input.

Start with zero-shot, then few-shot, and finally fine-tune

Give direct instructions over prohibitions

Use leading words for code generation

Avoid prompt leaking

Where to start?

Websites that provide samples

<https://prompthero.com/>

<https://flowgpt.com>

Learning sites

<https://www.deeplearning.ai/short-courses/chatgpt-prompt-engineering-for-developers/>

Contact us

We build open source Apps to solve real world problems using Bitcoin, Lightning, Nostr and AI

For questions, Please reach out to
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