

Prompting Principals

Principle 1: Write clear and specific instructions

- Tactic 1:** Use delimiters to clearly indicate distinct parts of the input
 - Delimiters can be anything like: "", "", "<tag> </tag>", ``
- Tactic 2:** Ask for a structured output
 - JSON, HTML
- Tactic 3:** Ask the model to check whether conditions are satisfied
- Tactic 4:** Provide examples: Few-shot prompting

Principle 2: Guide the model

- Tactic 1:** Specify the steps required to complete a task
- Tactic 2:** Instruct the model to work out its own solution before rushing to a conclusion

Prompt Elements

A prompt may contain any of the following elements:

INSTRUCTION



A specific task you want the model to perform

OUTPUT FORMAT



Type or format of the output.

CONTEXT



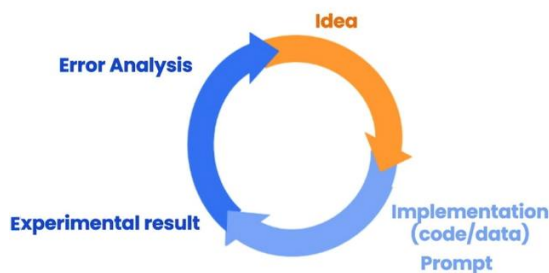
External information that can steer the model to a better responses

INPUT DATA



Input or question that we are interested to find a response for

Iterative Prompt Development



1. Start Simple
2. Be clear and specific
3. Analyze result:
 - Why is LLM not yielding the desired output?
4. Refine idea
5. Repeat

Prompt Techniques

- Zero-Shot Prompting:** Instruct model without demonstration
- Few-shot prompting:** in-context learning where we provide demonstrations in the prompt to steer the model to better performance
- Chain-of-Thought:** Make model reason through intermediate steps
- Directional Stimulus Prompting:** Provide hints to better guide LLMs

Example

★ Goal: Translate to logical Form

First attempt

Instruction: Translate sentence (enclosed by triple quotation marks) into logical form.

Follow the following format.
Output: a logical form

Sentence : ""A rose was helped by a dog .""

Output: helped(dog, rose) ❌

Why is LLM not yielding expected output?
I did not specify how a logical form looks like

Insight: I can add examples through (few-shot prompting)

Second attempt

Instruction: Translate sentence (enclosed by triple quotation marks) into logical form.

Follow the following format.
Output: a logical form
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Examples:
Input: A cake was painted by Mason .
Output: cake (x) ; Mason (y) ; paint (z) AND theme (z , x) AND agent (z , y)

Input: The boy painted a rose .
Output: * boy (x) ; rose (y) ; paint (z) AND agent (z , x) AND theme (z , y)
###

Sentence : ""A rose was helped by a dog .""

Output: rose (x); dog (y) ; help (z) AND theme (z , x) AND agent (z , y) ✅

Answer is correct, but I would like model to provide an explanation
Insight:
I can ask model to output an explanation with an extra output value

References

- [1] Ng, Andrew and Fulford, Isa. (2023) *CHATGPT prompt engineering for developers*. DeepLearning.AI. <https://www.deeplearning.ai/short-courses/chatgpt-prompt-engineering-for-developers>
- [2] Saravia, Elvis. (2022). *Prompt Engineering Guide*. <https://github.com/dair-ai/Prompt-Engineering-Guide>
- [3] Bhatti, B. M. (2023). *The art and science of crafting effective prompts for LLMs*. Medium. <https://thebabar.medium.com/the-art-and-science-of-crafting-effective-prompts-for-llms-e04447e8f96a>