Applying Prompt Engineering Techniques and Best Practices!

Estimated time needed: 30 minutes

Welcome to applying best practices for writing prompts

In this course, you learned that the relevance, coherence, and accuracy of response generated by the generative AI models largely depend on the prompts. You learned about various techniques, approaches, and best practices of prompt engineering to write effective prompts to leverage the capability of a model to its fullest and generate the desired response.

In this project, you will recapitulate your learning about the prompt engineering approaches and best practices for writing impactful prompts.

Learning Objectives:

1. Apply prompt engineering approaches to create effective prompts based on specific requirements.
2. Apply best practices for writing effective prompts across the dimensions of clarity, context, and precision.

Exercise 1: Apply best practices to draft clear and precise prompts

In this exercise, let's experiment with prompts to understand how considering the best practices to draft clear and precise prompts can modify the output.

Consider the following prompt designed by a student pursuing graduation in computer science. The student wants to explore the career options in the field of computer science.

```
1. 1
```

```
1. Please guide me on potential career paths in the field of computer science, considering my interests, skills, the evolving technology landscape, and the impact of AI, while also factoring in work
```

Copied!

This prompt is ambiguous and complex because it includes a wide range of career-related aspects without specifying the student's specific interests, skills, or personal goals. It also combines considerations related to technology trends, AI's impact, work-life balance, and personal growth opportunities, making it challenging to provide precise career guidance.

Task

Consider yourself in the role of this student. Your task is to design clear and precise prompt(s), considering required assumptions regarding your interests, skills, or personal goals. For example, you may assume that you have a strong interest in machine learning and natural language processing and have good programming skills.

Activities

1. Create a new chat. Name the chat per the context.
2. Write the following instructions in the **Prompt Instructions** field.

```
1. 1
```

```
1. I am pursuing graduation in computer science and exploring career opportunities for me after completing the graduation.
```

Copied!

3. Design the prompt(s), considering the best practices for clarity and precision.

▶ Click here for hint

Prompt 1

▶ Click here for an example of a prompt
▶ Click here for an example output produced by the model. The output produced at your end may be different.

Prompt 2

▶ Click here for an example of a prompt
▶ Click here for an example output produced by the model. The output produced at your end may be different.

Prompt 3

▶ Click here for an example of a prompt
▶ Click here for an example output produced by the model. The output produced at your end may be different.

Prompt 4

▶ Click here for an example of a prompt
▶ Click here for an example output produced by the model. The output produced at your end may be different.

Exercise 2: Experimenting with Tree-of-Thought Approach

Let's recapitulate the tree-of-thought approach. Tree-of-thought prompting invites the AI to consider a step-by-step process and to think logically but also makes it consider intermediate thoughts, building upon them and exploring branches that may or may not lead somewhere. This exploration maximizes the use of large language models (LLM) and their capabilities, leading to drastically more useful results.

In addition, you learned that Dave Hulbert suggested a few convincing prompts that leverage the tree-of-thought approach and yield great results.

Task

In this exercise, let's apply the ideas of Dave Hulbert to devise a marketing strategy for the launch of a new product, that is, a high-end smartphone, using the tree-of-thought approach.

Activities

1. Create a new chat. Name the chat per the context.

2. Firstly, provide the model Tree-of-Thought instructions as given. Let’s provide the following instructions in the **Prompt instructions** field.

```
1. 1
2. 2
3. 3
4. 4
```

```
1. Imagine three different experts answering this question.
2. All experts will write down one step of their thinking and then share it with the group.
3. Then, all experts will go on to the next step, etc.
4. If any expert realizes they're wrong at any point, then they leave.
```

Copied!

3. Provide a naïve prompt asking the model to provide a marketing strategy for the launch of a new product, that is, a high-end smartphone.

▶ Click here for an example of a prompt
▶ Click here for an example output produced by the model. The output produced at your end may be different.

4. You have learned the best practices for writing effective prompts across clarity, context, and precision. Let's consider them and try to ask a follow-up question that is precise and provides clarity about the specific output, such as specific tactics for your marketing strategy.

▶ Click here for a hint
▶ Click here for an example of a prompt
▶ Click here for an example output produced by the model. The output produced at your end may be different.

5. You have learned that you can provide input data in a prompt that can used to guide the generative model to attain responses with a specific set of details or ideas. Let's provide some specific data to the model to generate specific tactics.

▶ Click here for a hint
▶ Click here for an example of a prompt
▶ Click here for an example output produced by the model. The output produced at your end may be different.

6. Once you have a broad strategy laid out, you can further refine the response to dive deeper into individual steps, asking the experts or a particular expert to further expand on their suggestions.

- ▶ Click here for a hint
- ▶ Click here for an example of a prompt
- ▶ Click here for an example output produced by the model. The output produced at your end may be different.

Exercise 3: Experimenting with the Interview Pattern Approach

You have learned that the interview pattern approach to prompt engineering involves designing prompts by simulating a conversation or interacting with the model in the style of an interview. In this exercise, you will experiment with prompts using this approach.

Task

Suppose you are an AI consultant who wants to write a blog regarding the “impact of generative AI on various industries.” By using the nested prompts using the interview pattern approach, you need to gather specific insights and content from the model for the blog.

Activities

1. Create a new chat. Name the chat per the context.

2. Provide the initial prompt to start the conversation with the model and ask about the impact of generative AI on various industries.

- ▶ Click here for an example of a prompt
- ▶ Click here for output produced by the model

3. Let's further refine the output to generate more details and examples about the application of generative AI in a specific industry, say healthcare. Remember, we need to design the prompt considering the interview pattern.

- ▶ Click here for an example of a prompt
- ▶ Click here for an example output produced by the model. The output produced at your end may be different.

4. Think about what else you may want to include in a blog about the application of generative AI in the healthcare industry. Ethical consideration is an important aspect of the responsible use of AI in any industry. So, let's ask the model to provide guidance about the challenges and ethical considerations.

- ▶ Click here for an example of a prompt
- ▶ Click here for an example output produced by the model. The output produced at your end may be different.

Summary

Congratulations! You just completed the project on applying prompt engineering techniques and approaches. In this project, you experimented with prompts using the tree-of-thought and interview pattern approaches. You also experimented with writing precise and clear prompts to generate the desired output.


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