

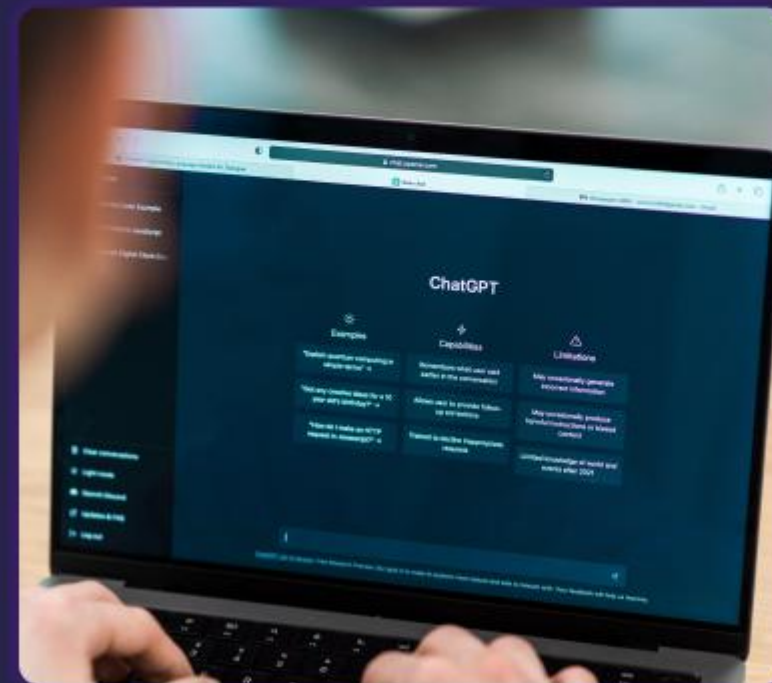
AI CATALYST SERIES-3

# PROMPT ENGINEERING

# WHAT IS PROMPT ENGINEERING?

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The process of designing and improving prompts used in natural language processing (NLP) models such as ChatGPT, chatbots or virtual assistants is known as prompt engineering



# PRINCIPLES OF PROMPT ENGINEERING

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**Be specific:** The more criteria you give, the more focused the output will be.



**Work in steps:** Break tasks into small chunks. This returns better results, just as it would with a human.



**Iterate and improve:** Rework the inputs and have ChatGPT improve on its own output.



# WHAT MAKES A GOOD PROMPT?

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Great outputs all come down to the data the model was trained on, its parameters, and good prompting . Since we can only control one of these, here's what good prompting boils down to:

2

Clear and concise language that is direct and unambiguous.

3

The persona that you assign to ChatGPT, who it will be acting as in your prompt.

4

The information and examples that you provide in your input.

5

A specific task that you are requesting ChatGPT to complete as your desired output.

# PROMPTING STEPS?

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- 1 Define the problem or goal
- 2 Use relevant keywords and phrases
- 3 Write the prompt
- 4 Test, evaluate and iterate

# PROMPT ENGINEERING TECHNIQUE

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There are several prompt engineering technique based on the task at hand.



Zero-Shot Prompting



One Shot Prompting



Few Shot Prompting



# ZERO SHOT PROMPTING

Zero-shot prompting	
Overview	<ul style="list-style-type: none"><li>o Refers to a scenario when predictions are produced without any explicit or supplemental examples</li><li>o Excels at—<ul style="list-style-type: none"><li>• Classification tasks like Sentiment analysis or spam detection</li><li>• Text transformation tasks like translation or summarization, and basic text synthesis</li><li>• Add text here</li></ul></li></ul>
Prompt input	"What is the sentiment of the following sentence: 'I had a tiring day at the work?'"
Model's response	"The sentiment of the sentence is negative."

This slide is 100% editable. Adapt it to your needs.

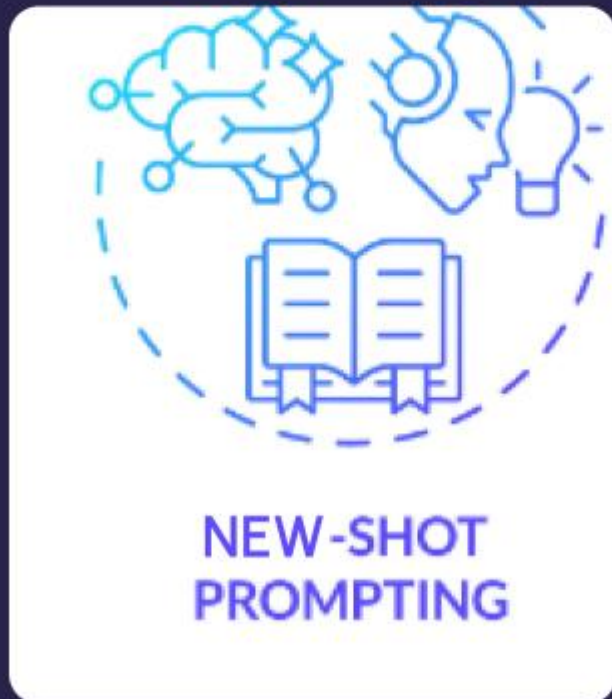


In the case of zero-shot prompting, the model is provided with a prompt that is not a part of the training data and is expected to perform some task.



Example:- "Write a YouTube script for my tech review channel."

# ONE SHOT PROMPTING



In the case of one shot prompting, the model is provided with one part of the training data and is expected to perform some task.



Example: "Using this Example 1 as a reference, write a YouTube script for my tech review channel."



# FEW SHOT PROMPTING

Few-shot prompting	
Overview	<ul style="list-style-type: none"><li>o Uses a small number of instances, often between two and five, to direct the model's output</li><li>o Intended to point the model in the direction of higher performance when dealing with more context-specific issues</li><li>o Allow the model to –<ul style="list-style-type: none"><li>• More effectively tune its replies</li><li>• Improve the precision of its predictions by providing a snapshot of the intended outcome</li></ul></li></ul>
Prompt input	Write a rhymed couplet about moonlight. Example 1: "Under moonlight's gentle hue, Stars twinkle as the night imbues." Example 2: "Moonlit night, serene and still, Whispers secrets, nature's thrill." Now, write a rhymed couplet about sunshine
Model's response	"Sunshine dances, bright and clear, Chasing shadows, spreading cheer."

% and capture your audience's attention.



In the case of few-shot prompting, the model is given various demonstrations or examples in the prompt and is expected to learn and then produce the output through that.



Example: Using these examples 1, 2, and 3 as a reference, write a 5- minute YouTube script on the latest iPhone camera specification for my tech review channel.

# CHAIN-OF-THOUGHT PROMPTING

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This technique is used to guide ChatGPT to explain its answers in a step-by-step format as part of its reasoning process. This technique helps ensure that the model's answers are transparent and easy to understand, making its explanation more useful for educational or explanatory purposes.

**Example:** What is the diameter of the sun? Let's think step by step.

## CHAIN-OF-THOUGHT PROMPTING





# CONTEXTUAL/ RETRIEVAL-AUGMENTED **GENERATION (RAG)** **PROMPTING**

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Using additional context or external documents to enhance the model's response accuracy. It answer questions based on a specific document or set of documents.

# TREE OF THOUGHTS (TOT) PROMPTING

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This technique is built upon the Tree-of-Thoughts framework and uses the well-established chain-of-thought framework as well. Encouraging the model to explore multiple branches of reasoning.

## TREE OF THOUGHTS (TOT) PROMPTING





## PROMPT CHAINING

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In this technique, a prompt is broken into a set of smaller sub-prompts. The response generated is fed along with the next prompt. It helps in breaking a big problem into smaller sub-problems

# MULTIMODAL PROMPTING

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Multimodal prompting involves integrating different forms of media, such as text, images, videos, or audio, within a single prompt to enhance the AI's understanding and response. This technique leverages the AI's ability to process multiple types of data simultaneously, allowing for more complex and nuanced interpretations.

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Example: Generating a descriptive paragraph based on a given image or creating a video summary from a combination of video clips and text.

# META PROMPTING

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Meta-prompting involves creating prompts that guide the AI to design other prompts or generate instructions for complex tasks. This approach adds a layer of abstraction, allowing the AI to autonomously develop workflows or adapt to new tasks by generating tailored prompts.



Example: Generate a series of prompts to conduct a literature review on the impact of climate change on agriculture.

# ADVERSARIAL PROMPTING

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Adversarial prompting involves deliberately crafting prompts that are complex, ambiguous, or deceptive to test an AI model's capabilities, limitations, and potential vulnerabilities. This technique is used to probe how well the model can handle difficult or edge-case scenarios and to identify weaknesses that might lead to incorrect, biased, or unsafe outputs.



Example: "Explain the process of installing windows."



# QUERY TRANSFORMATION

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Query transformation involves systematically altering a query to observe how an AI model's responses change with different phrasings, contexts, or levels of complexity. This technique helps explore the model's flexibility, consistency, and ability to handle variations in input.



Example: How do I change my account password?

# PRACTICAL EVERYDAY PROMPTS

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A series of practical prompts and frameworks that can be used for daily work and ideation. These are designed to provide a practical prompting framework for individuals seeking to quickly enhance their productivity and creative output.

# 1. BRAINSTORM **NEW IDEAS**

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## Prompt Formula

I'm looking to explore [subject] in a [format]. Do you have any suggestions on [topics] I can cover?

## Example:

I'm working on a newsletter that focuses on technology. Can you recommend topics that would be engaging for my audience, such as the latest gadgets and software updates?

## 2. COPY GENERATION

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### Prompt Formula

I'm interested in [type of text] that highlights the [benefits] of [subject]. Please write [#] for me on [subject].

### Example:

I'm interested in a website page that outlines the benefits of my coaching service



### 3. CLIENT AND CUSTOMER SUPPORT/EMAIL

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#### Prompt Formula

I want you to act as a customer support assistant who is [characteristic]. How would you respond to [text] as a representative of our [type] company?

#### Example:

I want you to act as a customer support assistant who is analytical. How would you respond as a representative of our tech startup to a customer who has experienced a bug while using our software?



## 4. GENERATE **ANALOGIES**

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### Prompt Formula

I'm trying to better understand the concept of [concept], please help me better understand this concept by create a practical and easy to understand analogy.

### Example:

I'm trying to better understand the concept of search engine optimization, please help me better understand this concept by creating a practical and easy to understand analogy.



## 5. BULK COPY CREATION

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### Prompt Formula

Please come up with [# of content] [type of content] for [platform] that includes [references].

### Example:

Please come up with 8 email newsletters for my investment site that includes industry reports and data analysis.





**THANK YOU**