



Generative AI with JavaScript

Essential prompt engineering techniques

Prompt engineering

Prompt engineering

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Process of **designing** and **optimizing** prompts
to better utilize AI models

Zero-shot

Generate output with no specific training or examples

Prompt

Translate the following text in French: "Hello, world!"

Output

Zero-shot

Generate output with no specific training or examples

Prompt

Translate the following text in French: "Hello, world!"

Output

"Bonjour, le monde !"

Few-shot

Use in-context examples to condition the output

Prompt

Bonjour le monde: french

Brian is in the kitchen: english

Dankeschön: german

Den här koden är hemsk:

Output

Few-shot

Use in-context examples to condition the output

Prompt

Bonjour le monde: french
Brian is in the kitchen: english
Dankeschön: german
Den här koden är hemsk:

Output

Few-shot

Use in-context examples to condition the output

Prompt

Bonjour le monde: french
Brian is in the kitchen: english
Dankeschön: german
Den här koden är hemsk:

Output

swedish

Chain of Thought

Simulate human-like reasoning and decision-making

Prompt

Q: When I was 6 years old, my sister was twice my age. Now I'm 30. How old is my sister?

A: The answer is

Output

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Prompt

Q: When I was 6 years old, my sister was twice my age. Now I'm 30. How old is my sister?

A: Let's think step by step

Output



Sure, let's go through it step by step:

1. When you were 6 years old, your sister was twice your age. This means your sister was $6 \times 2 = 12$ years old at that time.
 2. The age difference between you and your sister is $12 - 6 = 6$ years.
 3. Now that you are 30 years old, your sister would be $30 + 6 = 36$ years old.
- So, your sister is 36 years old now.

Tip #1

Provide clear instructions

Tip #1

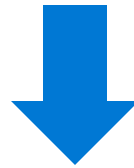
Provide clear instructions

Write a two-lines product description for a new water bottle

Tip #1

Provide clear instructions

Write a two-lines product description for a new water bottle



Write a two-lines product description for a new water bottle that is 100% recycled. Be sure to include that it comes in natural colors with no dyes, and each purchase removes 10 pounds of plastic from our oceans

Tip #2

Provide additional context

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```
<insert email here>
```

```
---
```

```
Extract the key points from the above email, and put them in a bulleted list:
```

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```
<insert email here>
```

```
---
```

```
Extract the key points from the above email, and put them in a bulleted list:
```



```
<insert email here>
```

```
---
```

```
Topics I'm very interested in: AI, webinar dates, submission deadlines
```

```
Extract the key points from the above email, and put them in a bulleted list:
```

Tip #2

Provide additional context

```
<insert email here>
```

```
---
```

```
Extract the key points from the above email, and put them in a bulleted list:
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```
<insert email here>
```

```
---
```

```
Topics I'm very interested in: AI, webinar dates, submission deadlines
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```
Extract the key points from the above email, and put them in a bulleted list:
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Tip #3

Provide cues

Tip #3

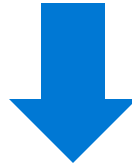
Provide cues

Write a join query to get customer names with purchases in the past 30 days between tables named orders and customer on customer ID.

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Provide cues

Write a join query to get customer names with purchases in the past 30 days between tables named orders and customer on customer ID.



Write a join query to get customer names with purchases in the past 30 days between tables named orders and customer on customer ID.

SELECT

Tip #4

Define output format

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Define output format

```
<insert text here>
```

```
---
```

```
Extract the sentiment of text
```

Tip #4

Define output format

```
<insert text here>  
---  
Extract the sentiment of text
```



```
<insert text here>  
---  
Extract the sentiment of text using this JSON format:  
{  
  "sentiment": "positive" | "neutral" | "negative",  
  "aggressiveness": 1-10  
}
```

Tip #5

Provide examples

Tip #5

Provide examples

```
<insert question here>
```

```
---
```

```
Generate 3 very brief follow-up questions that the user would likely ask next.
```

```
Example:
```

```
<Can I invite friends for a party?>
```

```
<How can I ask for a refund?>
```

```
<Who should I contact if I break something?>
```

Tip #5

Provide examples

```
<insert question here>
```

```
---
```

```
Generate 3 very brief follow-up questions that the user would likely ask next.
```

Example:

```
<Can I invite friends for a party?>
```

```
<How can I ask for a refund?>
```

```
<Who should I contact if I break something?>
```

Tip #6

Break down complex tasks

Tip #6

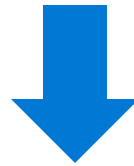
Break down complex tasks

What sport is easiest to learn but hardest to master?

Tip #6

Break down complex tasks

What sport is easiest to learn but hardest to master?



What sport is easiest to learn but hardest to master?

Give a step by step approach of your thoughts, ending in your answer

Make a prompt more effective

Demo

More effective prompts

- Clear instructions
- Additional context
- Cues
- Output format
- Examples
- Break down tasks

Resources

- Prompt engineering training aka.ms/genai/prompts
- Generative AI course aka.ms/genai/beginners
- Awesome GPTs prompts github.com/ai-boost/awesome-prompts

