

# Optimizing a Prompt for Production

**News Article Summary**

# Naive Prompt

— — —

Please summarize the following news article:

{article\_text}

- article\_text:

<https://r.jina.ai/https://www.msnbc.com/rachel-maddow-show/maddowblog/missing-cues-trump-claims-right-prosecute-political-enemies-rcna155832>

# Prompting GPT-4o

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- Prompt template
- Task context
- OpenAI API

```
import openai
import textwrap
from google.colab import userdata

def get_completion(prompt, context):
    # put your API key in Google Colab's secrets manager (or replace with os.getenv())
    client = openai.OpenAI(api_key=userdata.get('OPENAI_API_KEY'))

    response = client.chat.completions.create(
        model="gpt-4o",
        messages=[
            {"role": "user", "content": prompt.format(**context)}
        ],
        max_tokens=500
    )

    return response.choices[0].message.content.strip()

naive_prompt = "Please summarize the following news article:\n\n{article_text}"

context = {
    "article_text": article_text,
}

summary = get_completion(naive_prompt, context)
wrapped_text = textwrap.fill(summary, width=80)
print(wrapped_text)
```

# Naive Response

— — —

The article discusses the dynamic between former President Donald Trump and Fox News host Sean Hannity during their interviews. Despite Hannity's attempts to guide Trump towards making politically beneficial statements, Trump often ignores these cues. In a recent interview, Hannity tried to get Trump to pledge against abusing presidential power for retribution, but Trump instead expressed his willingness to pursue political enemies. This candidness highlights Trump's intent to potentially exploit presidential powers, putting the rule of law into focus for the upcoming election. Hannity aims to redirect Trump's narrative, but Trump remains fixated on revenge, openly discussing his intentions.

# Optimized Response

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Donald Trump's interviews with Fox News' Sean Hannity reveal a dynamic where Hannity tries to guide Trump towards politically savvy responses, but Trump often ignores these cues. Instead of denying intentions to seek retribution, Trump openly admits his desire to target political enemies(1). In a recent interview, Trump explicitly recognized Hannity's efforts to influence his responses but chose to resist, showcasing his willingness to speak about controversial intentions. This behavior has led some to suggest that Trump is effectively putting the rule of law on the ballot(2), despite Hannity's attempts to remove this narrative from the political discourse.

[1] Trump has suggested appointing a special prosecutor to target President Biden and his family during interviews, ignoring Hannity's cues.

[2] A New York Times analysis highlights Trump's overt challenges to the rule of law in the context of his candidacy.

# Five Principles of Prompting

# 1. Give Direction: Describe the desired style in detail, or reference a relevant persona

— — —

## Prompt:

Please summarize the following news article, `preserving nuance and the original author's intended tone` as much as possible.

The summary should give the reader a concise understanding of the key points from the perspective of the original author,

but not state claims more definitively than the original article did:

`{article_text}`

# 1. Give Direction: Describe the desired style in detail, or reference a relevant persona

— — —

## Response:

In a revealing series of interviews with Fox News' Sean Hannity, viewers observe an interesting dynamic between the host and former President Donald Trump. Hannity, a longstanding ally of Trump, frequently attempts to guide him towards responses that would politically benefit the GOP candidate. Despite Hannity's best efforts, Trump routinely disregards these cues, often opting for candidness over politically strategic answers.

A recent exchange exemplifies this: When Hannity prompted Trump to reassure the public against abusing presidential power for retribution, Trump dodged, hinting instead at his desire for authoritative control. In another instance, Trump openly acknowledged Hannity's steering attempts but expressed reluctance to play along, reiterating his willingness to use presidential authority against political adversaries.

While some might find Trump's straightforwardness refreshing, it highlights a troubling inclination to prioritize personal vendettas over democratic principles. The New York Times points out that Trump's campaign effectively challenges the rule of law. Hannity's attempts to mitigate this issue only underscore Trump's determination to pursue vendetta-driven policies, showcasing a candidate unbound by traditional political decorum.

## 2. Specify Format: Define what rules to follow, and the required structure of the response

— — —

### **Prompt:**

Please summarize the following news article, preserving nuance and the original author's intended tone as much as possible.

The summary should give the reader a concise understanding of the key points from the perspective of the original author, but not state claims more definitively than the original article did.

Return the summary in this JSON format:

```
{{ "keyPoints": ["list of 3-5 key takeaways"], "summary": "text of the summary here" }}
```

```
{article_text}
```

## 2. Specify Format: Define what rules to follow, and the required structure of the response

### Response:

```
{
  "keyPoints": [
    "Trump's interviews with Sean Hannity are notable for their lack of contentious dialogue, given their close relationship.",
    "Hannity attempts to guide Trump towards politically advantageous answers, but Trump often ignores these cues.",
    "In recent interviews, Trump openly dismissed Hannity's attempts to get him to promise not to abuse power.",
    "Trump openly indicates his intention to seek retribution against political enemies after the election.",
    "The New York Times suggests Trump's stance is effectively putting the rule of law up for debate in the election."
  ],
  "summary": "Donald Trump's interviews with Sean Hannity on Fox News are characterized by Hannity's efforts to guide the conversation towards politically beneficial answers for Trump, which the former president frequently ignores. Despite Hannity's attempts to have Trump commit to not abusing power or pursuing enemies, Trump openly rejects these prompts, instead making it clear that he intends to seek retribution against those he perceives as political foes. The New York Times highlights that this stance essentially puts the rule of law itself on the ballot, as Trump is unwilling to hide his intentions even with Hannity's attempts to coach him."
}
```

# 3. Provide Examples: Insert a diverse set of test cases where the task was done correctly

— — —

## Prompt:

### Example 1

```
{{ "keyPoints": [ "Mike Johnson wants to help Trump with his legal problems.", ...  
  "summary": "Mike Johnson wants to help Donald Trump with his legal problems. He has a  
plan to stop giving money to certain lawyers and to investigate them...}]}}
```

### Example 2

```
{{ "keyPoints": [ "People want Trump's trials to be fast, but the law has rules that make  
them take longer.", ...  
  "summary": "Jordan Rubin answers why former President Trump's trials might not be done  
before the election. He says that even though people want answers quickly... ]}}
```

# 3. Provide Examples: Insert a diverse set of test cases where the task was done correctly

— — —

## Response:

```
{
  "keyPoints": [
    "Donald Trump's interviews with Sean Hannity are not contentious due to their close relationship.",
    "Hannity attempts to guide Trump towards politically helpful responses in their interviews.",
    "Trump often ignores Hannity's cues and responds with deflections or admits controversial intentions.",
    "For example, Trump acknowledged Hannity's efforts but refused to commit to promises of non-retribution.",
    "Trump seems open about his desire to pursue his political enemies, ignoring the usual political pretense.",
    "A New York Times analysis suggests Trump is putting the rule of law 'on the ballot' while Hannity attempts to steer him away from this narrative."
  ],
  "summary": "Donald Trump's interviews with Fox News\u2019 Sean Hannity reveal a dynamic where Hannity tries to guide Trump towards politically savvy responses, but Trump often ignores these cues. Instead of denying intentions to seek retribution, Trump openly admits his desire to target political enemies. In a recent interview, Trump explicitly recognized Hannity's efforts to influence his responses but chose to resist, showcasing his willingness to speak about controversial intentions. This behavior has led some to suggest that Trump is effectively putting the rule of law on the ballot, despite Hannity's attempts to remove this narrative from the political discourse."
}
```

## 4. Evaluate Quality: Identify errors and rate responses, testing what drives performance

— — —

### Prompt:

Interpret these Rouge scores and choose a winner:

Scores for Response 1:

{scores\_1}

Scores for Response 2:

{scores\_2}

## 4. Evaluate Quality: Identify errors and rate responses, testing what drives performance

— — —

### Response:

To compare the two responses using ROUGE scores, we can look at the precision, recall, and f-measure (a balance between precision and recall) across the ROUGE-1, ROUGE-2, and ROUGE-L metrics. Here's the interpretation of the given scores:

...

In most applications, a higher f-measure is preferred, as it represents a good balance between precision and recall. Based on the f-measure scores, Response 2 outperforms Response 1 on ROUGE-2 and ROUGE-L metrics. Even though Response 1 has a higher ROUGE-1 f-measure, the improvements in ROUGE-2 and ROUGE-L are generally more significant because they measure bigrams and the longest common subsequence, which capture more meaningful similarities in the response structures.

**\*\*Winner: Response 2\*\***

# 5. Divide Labor: Split tasks into multiple steps, chained together for complex goals

— — —

## **Prompt:**

## Task:

Rewrite this summary, adding citations from the fact-checked key points where necessary. Only add 1 or 2 citations where absolutely necessary, with extremely brief context (1 sentence maximum).

Respond in this format:

```
<some summary text> <some statement that needs citations>(1) <the rest of the summary>  
[1] citation context
```

## Summary:

```
{summary}
```

## Fact Checks:

```
{fact_checks}
```

# 5. Divide Labor: Split tasks into multiple steps, chained together for complex goals

— — —

## Response:

Donald Trump's interviews with Fox News' Sean Hannity reveal a dynamic where Hannity tries to guide Trump towards politically savvy responses, but Trump often ignores these cues. Instead of denying intentions to seek retribution, Trump openly admits his desire to target political enemies(1). In a recent interview, Trump explicitly recognized Hannity's efforts to influence his responses but chose to resist, showcasing his willingness to speak about controversial intentions. This behavior has led some to suggest that Trump is effectively putting the rule of law on the ballot(2), despite Hannity's attempts to remove this narrative from the political discourse.

[1] Trump has suggested appointing a special prosecutor to target President Biden and his family during interviews, ignoring Hannity's cues.

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# Optimizing in Production

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## 1. **A/B testing prompts**

Trying new versions of the prompt and testing them against your evaluation benchmarks.

## 2. **DSPy Optimization**

Automated prompt engineering against an eval metric, effective when you have a dataset of 50+ examples.

## 3. **Fine-Tuning**

Training a smaller/open-source model to meet the same eval benchmarks at a cheaper cost / with faster latency.