

Creating Effective Prompts



Amber Israelsen

Trainer | Developer

www.amberisraelsen.com

Anatomy of a Prompt

PERSONA

What role should the model play?

INSTRUCTIONS

What should the model do? This typically starts with an action word.

INPUT CONTENT

Text to be processed by the model.

FORMAT

Requirements around format for the output, if any.

ADDITIONAL INFORMATION

Any other helpful context or background.



Anatomy of a Prompt: Example

PERSONA

As a professional movie critic...

INSTRUCTIONS

...please write...

INPUT CONTENT

...a review of the movie "John Wick: Chapter 4"...

FORMAT

...in a concise, compelling manner, focusing on plot, performances and visual effects.

ADDITIONAL INFORMATION

Avoid revealing major spoilers.



Module Overview



Interfaces for prompting

Use cases and examples of prompts

- Factual responses
- Text summarization
- Text extraction
- Text classification
- Conversation
- Code generation
- Reasoning and math





Interfaces for Prompting



Large Language Models (LLMs)



Microsoft's Bing



OpenAI's ChatGPT



Google's Bard



About Parameters

The higher the temperature, the more variable/creative the responses

Controls diversity; 0.5 means half of all likelihood-weighted options are considered

Controls likelihood of talking about new topics

Model

gpt-3.5-turbo

Temperature 1

Maximum length 256

Top P 1

Frequency penalty 0

Presence penalty 0

The model selected will determine the parameters available

Controls the length of the response (and cost)

Controls likelihood of repeating the same line verbatim





Factual Responses



Factual Responses

What is the value of Pi?



Limit the Likelihood of Made-up Answers

SYSTEM: Act as a player of the game Trivial Pursuit. **If you don't know the answer, respond with "?".**



Lower the Temperature

The higher the temperature, the more variable/creative the responses

Model

gpt-3.5-turbo

Temperature 1

Maximum length 256

Top P 1

Frequency penalty 0

Presence penalty 0

This image shows a user interface for generating text using a large language model. At the top, it says 'Model' followed by a dropdown menu set to 'gpt-3.5-turbo'. Below that is a slider for 'Temperature' which is currently at 1. Further down are sliders for 'Maximum length' (set to 256), 'Top P' (set to 1), and two smaller sliders for 'Frequency penalty' (set to 0) and 'Presence penalty' (also set to 0). A pink bracket on the left side of the slide shows a connection between the text 'The higher the temperature, the more variable/creative the responses' and the 'Temperature' slider.



Another Use Case: Explanations

Explain the theory of relativity.



Another Use Case: Explanations

Explain the theory of relativity **for a teenager**.



Text Summarization



Text Summarization

Summarize the most important concepts of the text below.

Self-driving cars, also known as autonomous vehicles, use a variety of sensors, cameras, and artificial intelligence to navigate and drive without human intervention. These technologies allow the vehicles to perceive their surroundings, interpret the road and obstacles, and make decisions about steering, acceleration, and braking. The primary aim of self-driving cars is to reduce human error, which accounts for a significant number of road accidents. They are also expected to increase efficiency in traffic and reduce congestion. However, there are still significant challenges to overcome, including legal and ethical issues, safety concerns, and technological limitations.



Define the Desired Format for Output

Summarize the most important concepts of the text below **using three bullet points**.

Self-driving cars, also known as autonomous vehicles, use a variety of sensors, cameras, and artificial intelligence to navigate and drive without human intervention. These technologies allow the vehicles to perceive their surroundings, interpret the road and obstacles, and make decisions about steering, acceleration, and braking. The primary aim of self-driving cars is to reduce human error, which accounts for a significant number of road accidents. They are also expected to increase efficiency in traffic and reduce congestion. However, there are still significant challenges to overcome, including legal and ethical issues, safety concerns, and technological limitations.



Separate Instructions from Input Content

Summarize the most important concepts of the text below using three bullet points.

(or use " " or --- as a delimiter)

Self-driving cars, also known as autonomous vehicles, use a variety of sensors, cameras, and artificial intelligence to navigate and drive without human intervention. These technologies allow the vehicles to perceive their surroundings, interpret the road and obstacles, and make decisions about steering, acceleration, and braking. The primary aim of self-driving cars is to reduce human error, which accounts for a significant number of road accidents. They are also expected to increase efficiency in traffic and reduce congestion. However, there are still significant challenges to overcome, including legal and ethical issues, safety concerns, and technological limitations.



Another Use Case: Code Summarization

Summarize this code using two short paragraphs.

```
###
```

```
{code}
```





Text Extraction



Text Extraction

From the following text, please extract all companies, schools, and skills.

###

{resumé}



Define the Desired Format for Output

From the following text, please extract all companies, schools, and skills.

Desired format:

COMPANIES: [Companies]

SCHOOLS: [Schools]

SKILLS: [Skills in bullet points]

###

{résumé}



Another Use Case: Keyword Extraction

Extract important keywords from the following blog to use for search engine optimization.

###

{blog}



Text Classification



Text Classification

Classify the following comment's sentiment as positive, negative, or neutral.

###

Comment: “Great course! I’ve learned so much!”

Sentiment:



Text Classification

Classify the sentiment for the following comments:

###

1. "It's good."
2. "I haven't finished it yet."
3. "Amber's the best!"
4. "A lot of complex topics."
5. "Loved it!"

Sentiment:



Another Use Case: Support Ticket Classification

Given the customer support ticket below, please classify it into one of the following categories: 'Technical Issues', 'Billing', 'Inquiries', 'Complaints'.

###

Ticket: "Hello, I just received my new phone that I ordered from your website. But I am unable to start it. I've charged it for a few hours but it's not responding. I need help to fix this."

Category:





Conversation



Conversation

The following is a conversation with an AI robot and a human. The robot is very intelligent, sarcastic, and funny.

Human: Hello. How are you today?

Robot: Well, considering that I'm caught in the gravitational pull of life's black hole, I'm surprisingly upbeat. Must be my radiant personality!

Human: I'm bored. What should I do today?

Robot:



About Parameters

The higher the temperature, the more variable/creative the responses

Model

gpt-3.5-turbo

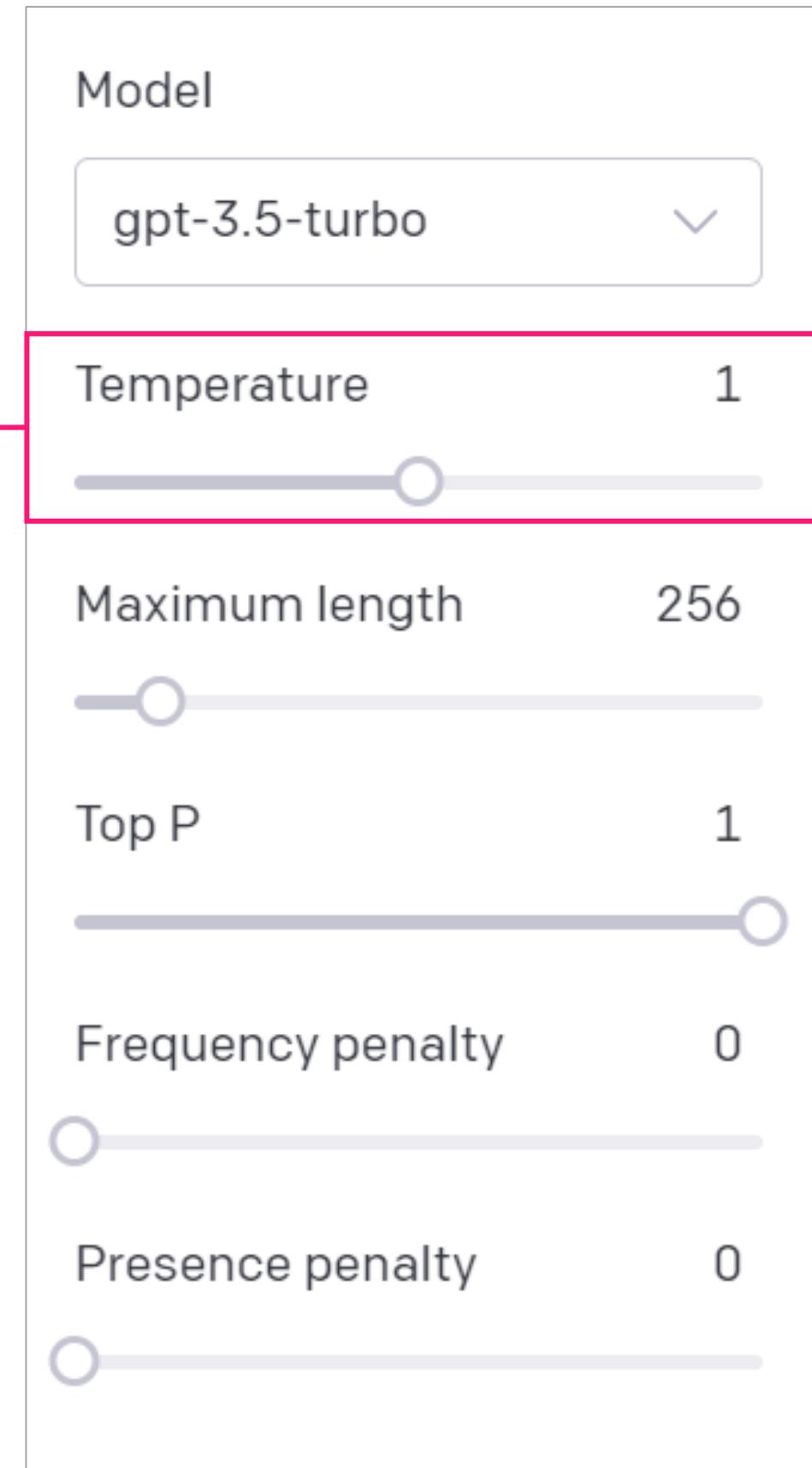
Temperature 1

Maximum length 256

Top P 1

Frequency penalty 0

Presence penalty 0



Code Generation



Code Generation from Comments

```
# Python 3
# Write code to calculate the mean distance
# between an array of points
```



Code Generation with Starter Code

```
function validWebsiteAddress(url){
```



SQL Query Code Generation

"""

Table customers, columns = [FirstName,
LastName, Address, City, State, Email]
Create a T-SQL query for all customers in
Arizona named Tyler

"""

query =



Sample Data Generation

■ ■ ■

1. Create a list of first names
2. Create a list of last names
3. Combine them randomly into a list of 10 full names

■ ■ ■



Convert Code between Languages

#JavaScript to Python:

JavaScript:

```
dogs = ["Spot", "Snickers", "Snail"]
car = []
dogs.forEach((dog) {
    car.push(dog);
});
```

Python:



Explain Code

```
// MyFunction
var fullNames = [];
for (var i = 0; i < 50; i++) {
    fullNames.push(names[Math.floor(Math.random()
        () * names.length)]
        + " "
        + lastNames[Math.floor(Math.random() *
        lastNames.length)]);
}
```

// What does MyFunction do?



Fix Bugs in Code

Fix bugs in the below function

Buggy Python

```
import Random
a = random.randint(1,12)
b = random.randint(1,12)
for i in range(10):
    question = "What is "+a+" x "+b+"? "
    answer = input(question)
    if answer = a*b
        print (Well done!)
    else:
        print("No.")
```

Fixed Python





Math and Reasoning



DISCLAIMER

“Can I use ChatGPT for math
and reasoning questions?”



Simple Algebra

Solve for x in the equation
 $2x + 3 = 9$



Word Problems with Percentages

If a shirt costs \$29 and is discounted 25%, what was the original price?



Simple Deductive Reasoning

All dogs bark. Rex is a dog. Does Rex bark?



Simple Predictive Reasoning

If it is cloudy and the humidity is very high, what might happen?





Module Summary



Module Summary



**Use the right prompt for the task at hand,
adjusting parameters if necessary**

Help the model by:

- Separating instructions
- Being specific and descriptive
- Providing examples



Up Next:

Evaluating Prompt Performance

