

Prompt Design For Beginners

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Key Points Of The Pro Tip

- This module introduces you to the concept of manipulating ChatGPT's **temperature parameter**.
- The temperature parameter provides a way to set the context for the model's responses - a high temperature (eg. 1) emphasizes randomness and creativity while a low temperature (eg. 0) acts to constrain the degree of randomness to generate a conservative output.
- For ChatGPT-3.5, the scale for the temperature parameter ranges from 0.0 to 1.0, in 0.1 increments. The default setting is 0.7.

The Temperature Parameter's Scale For ChatGPT-3.5

Temperature Parameter

Controls the degree of randomness in the model's responses.

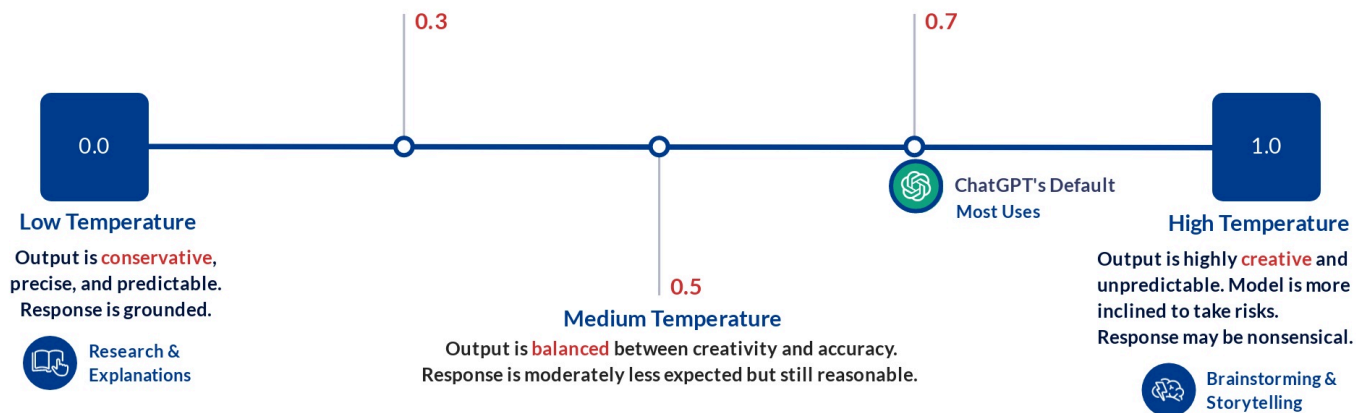


Image Caption: A diagram showing the scale for ChatGPT-3.5's temperature parameter.

ChatGPT-3.5's temperature parameter ranges from 0.0 to 1.0, in 0.1 increments. The default setting for ChatGPT is 0.7.

- **Low Temperature**
 - Range: 0.0 to 0.4
 - The model's response to a prompt is **conservative** and predictable.

- Use for research and explanations.

- **Medium Temperature**

- Range: 0.5 to 0.7
- The model's response to a prompt is **balanced** between creativity and accuracy.
- Setting used most often.

- **High Temperature**

- Range: 0.8 to 1.0
- The model's response to a prompt is highly **creative** and unpredictable but may be nonsensical.
- Use for brainstorming and storytelling.

References

Do you know ChatGPT has a temperature mode? (2023, June 2). Medium.

<https://medium.com/aimonks/do-you-know-chatgpt-has-a-temperature-mode-d0fae25d7357>

Leung, K. (2023, November 7). *Guide to ChatGPT's advanced settings: Top P, frequency penalties, temperature, and more*. Towards Data Science.

<https://towardsdatascience.com/guide-to-chatgpts-advanced-settings-top-p-frequency-penalties-temperature-and-more-b70bae848069#289d>

Step 1: Low Temperature Setting

Let's explore how changing the temperature parameter impacts how ChatGPT completes a simple sentence about a cat sitting on a mat; this example is derived from Leung's 2023 *Medium* article referenced above.

- At the lowest temperature setting of 0, the model will finish the sentence in a predictable manner - selecting an activity that cats tend to do such as sleep, groom, purr, etc.

Prompt Design

- The prompt is specifically phrased to help ChatGPT-3.5 understand that temperature refers to a parameter that controls the degree of randomness for the model and not to use temperature as a measurement of heat (eg. 0°C).
 - The sentence to be completed by the model is enclosed in quotation marks to help ChatGPT understand where the sentence begins and ends.
-

Prompt In ChatGPT-3.5:

Laura:

Continue the sentence with the lowest degree of randomness (temperature=0):

"The cat sat on the mat and started to..."

ChatGPT:

"The cat sat on the mat and started to groom itself."

Step 2: Medium Temperature Setting

- With a medium temperature of 0.5, there's a moderate level of randomness introduced to the model's response. Playing with a string is a slightly less expected activity for a cat relative to sleeping but it's a reasonable activity.
-

Prompt In ChatGPT-3.5:

Laura:

Continue the sentence with a medium degree of randomness (temperature=0.5):

"The cat sat on the mat and started to..."

ChatGPT:

"The cat sat on the mat and started to play with a dangling string, swatting it with playful enthusiasm."

Step 3: High Temperature Setting

- With a high temperature of 1, the model's response becomes much more creative and unexpected. While I owned a Siamese cat for over a decade, he never once recited sonnets in a musical voice.
-

Prompt In ChatGPT-3.5:

Laura:

Continue the sentence with the highest degree of randomness (temperature=1):

"The cat sat on the mat and started to..."

ChatGPT:

"The cat sat on the mat and started to spontaneously recite Shakespearean sonnets in a whimsical, melodious voice, leaving an air of poetic eccentricity lingering in the room."

ACTIVITY: Your Turn!

Check Your Understanding of the Temperature Parameter

Question 1

- Select the correct answer to fill in the missing information (____).

Laura's Prompt:

Apply a ____ degree of randomness (temperature=____) to the following sentence:

"Describe a landscape where gravity behaves in an unconventional way."

ChatGPT's Response:

In this mind-bending expanse, gravity throws a cosmic party, flinging objects in unpredictable trajectories, creating a kaleidoscope of chaos where rocks pirouette and rivers flow upside down, defying all expectations and leaving visitors in a perpetual state of awe and disorientation.

- ☐ medium, 0.5
- ☐ high, 0.3
- ☐ low, 0.2
- ☐ high, 0.9

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