

What the Tech? Prompt Engineering Activity

How to Prompt Engineer Like a Pro

Our goal in this activity is to better understand how Generative AI works—and, in turn, enhance our own ability to get it to generate products that we are looking for. We will be using ChatGPT’s Dall-E program, which generates images based on text inputs. They were developed by OpenAI.

You will need to create a free account to complete the activity: <https://chatgpt.com>.

This worksheet is designed to walk you through the activity and to collect notes that might be helpful as you go. It can be completed individually or in small groups.

About Dall-E

Dall-E is a generative artificial intelligence (AI) technology that allows users to turn text-based prompts into images. This is done through “deep learning.” While Dall-E was once a standalone AI program, image- and text-based prompts were folded into ChatGPT in March of 2025.

About ChatGPT

ChatGPT is a generative artificial intelligence program created by OpenAI that is designed to generate human-like text responses based on submitted prompts.

Learning Objectives

The primary goal of this activity is to develop our ability to write prompts that will elicit a desired product from ChatGPT. This skill is also known as *prompt engineering*. To get there, we want to understand:

- What does ChatGPT “know”, that is, what information was it trained on? How do I use prompts to capitalize on that knowledge?
- How does ChatGPT connect prompts to outputs, that is, what is its algorithm? How do I design prompts that engage that algorithm effectively?
- What are the shortcomings of what ChatGPT knows and how it makes connections? How do we use prompts to overcome those shortcomings?

Prompt Engineering Tips

A prompt is similar to a question. When we ask another human a question, we don't always get the answer we're looking for. As a result, we have to refine our question with more details, clarifications, etc., in order to align with what that human knows and expects. The same strategy applies to our interactions with AI programs. We are trying to draw on the things it “knows” in order to produce an output that suits our needs.

What the Tech? Prompt Engineering Activity

Tips for doing this can include...

1. Be specific about what you want.
2. Fact check!
3. Refine through multiple steps.
4. Ask for multiple versions.
5. Understand what it knows

Activity

Step 1: Select a noun and ask ChatGPT/Dall-E to generate an image of it (e.g., a baseball player, a dog). Repeat two or more times, requesting new versions.

- What is consistent across the images that were produced? List 2-5 adjectives or elements.

- What seems to vary across the images?

- Paste two examples that capture this below.

What the Tech? Prompt Engineering Activity

Step 2: Let's try to make it more specific by adding one of the following: an adjective, action, place, a characteristic of the environment (e.g., bright, rainy), or more detail about the noun (e.g., a baseball player hitting a home run, a golden retriever).

- What did ChatGPT/Dall-E add to the images in response to the more specific instructions? What aspects were most effective at capturing your idea?
- Are there errors in the images or things that seem awkward? What were they?
- Paste at least one example that you think captures both the strengths and weaknesses of ChatGPT/Dall-E that you just listed.

What the Tech? Prompt Engineering Activity

Step 3: Repeat Step 2 by adding more specificity to your request.

- What did ChatGPT/Dall-E add to the images in response to the more specific instructions?
- What aspects were most effective at capturing your idea?
- Are there errors in the images or things that seem awkward? What were they?
- Paste at least one example that you think captures both the strengths and weaknesses of Dall-E that you just listed.

What the Tech? Prompt Engineering Activity

Step 4: As a last step, adjust the prompt to ask ChatGPT/Dall-E to do one of the following:

- Add text to the image.
 - Create the image in a certain style (e.g., anime, a realistic photo, a child's drawing).
 - Intensify the prompt (e.g., "make it very bright").
 - Represent something that's not visual (e.g., "it's noisy", "there's a sweet smell in the air").
- How did it handle this addition?
- Paste your favorite example of this here.
- What did this tell you about how Dall-E understands the world?