Hands-on-Lab: Image Generation in Action

Estimated time: 30 minutes

Welcome to the hands-on lab image generation in action.

What is image generation in generative AI?

Images are vital to visual details because they comprehensively represent concepts, data, and information that users can easily grasp. For effective communication, images are powerful elements that add depth, context, and visual appeal to the information.

Generative AI models have advanced significantly in recent years, enabling the creation of new and realistic images using artificial intelligence techniques. Using generative AI-powered models and tools, you can generate and modify high-quality images that are difficult to distinguish from real photographs.

This lab focuses on generative AI's image-generation capabilities. In this lab, you will look at how images are generated in Generative AI Classroom using the Dall-E 2 and Dall-E 3 models. You will explore the platform and use it to create images from textual descriptions.

Learning Objectives

After completing this lab, you will be able to:

- Explore the image-generation capabilities of generative AI
- Prompt generative AI models to generate the desired images
- Create realistic images from text in the Generative AI Classroom using the Dall-E 2 and Dall-E 3 models
- Use different scenarios to generate images using the Generative AI Classroom

About generative AI classroom lab

The generative AI classroom allows you to write and compare prompts to generate the desired text with real-time chat responses. Moreover, you can choose from multiple generative AI models and learn about their strengths and weaknesses.

You will have the generative AI classroom environment and instructions on one page in a browser. The instructions will be on the left half of the screen, and the generative AI classroom will be on the right half of the screen. You can interact with the language model using the message and chat fields.

Hands-on-Lab: Image Generation in Action

Skills Network

Estimated time: 30 minutes

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# Exercise 1: Create realistic images from text in the Generative AI Classroom

In this exercise, you will create realistic images using the Dall-E 2 model based on the textual prompts you provide to the generative AI tool. Dall-E 2 is a foundation model where you can input a short prompt, and the system generates a complex image based on your parameters. It takes English text as an input, called the "text prompt" and generates images based on the text description.

Step 1: Set up the AI classroom

As a first step, you must set up your AI classroom for a better learning experience.

Before beginning the exercise, you must:

1. Name the chat: Use the pencil icon available on the top-left corner of the right pane to name the chat.
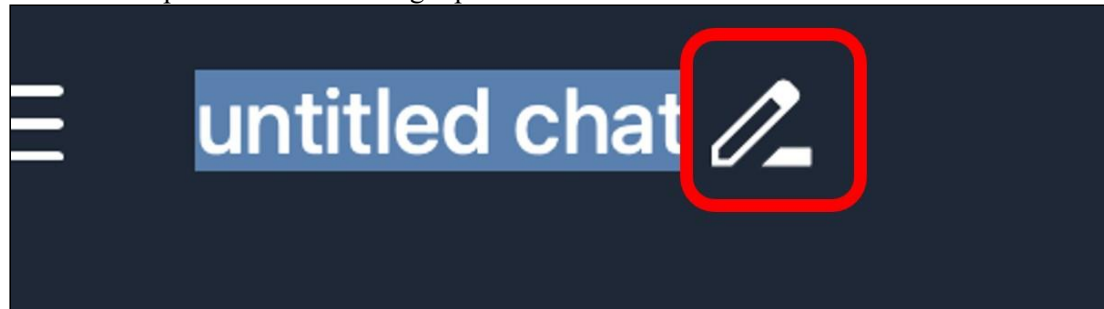
2. Choose the model: Use the dropdown option from the top-left corner of the right pane and select dall-e-2 for the image generation exercise.
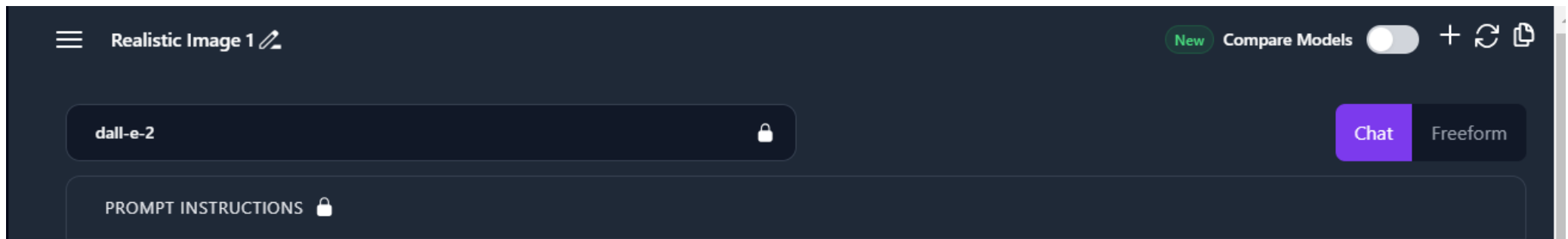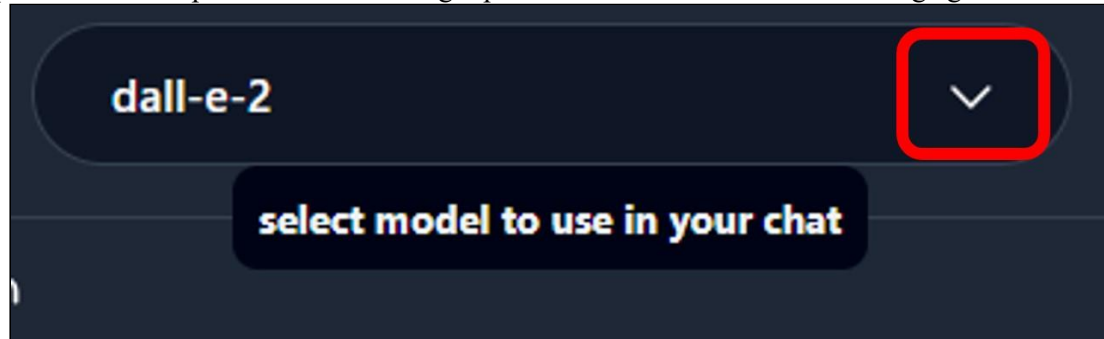
3. Give prompt instructions: Use the **Prompt Instructions** field on the upper right pane of the chat system to provide instructions or any specific details about the context of the required output. These instructions will be locked when you start the chat and cannot be modified later.

PROMPT INSTRUCTIONS 🔓

Write your prompt here. Instructions cannot be modified after sending your first message.

4. Type your message: Use the text box available at the bottom of the page to write the prompts and converse with the chat system.

Type your message

Start chat

Step 2: Generate the desired image

Think of a context and draft a statement or prompt for the desired image you want from the chatbot. For better results, include specifics and details about the context of the required output.

1. Write your prompt or statement in the **Type your message** field at the bottom of the screen.
   For example,

   ```
   Create a captivating and scientifically accurate image of the solar system. Include depictions of the sun and the planets.
   ```
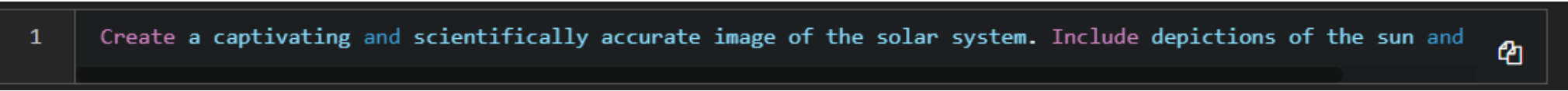

   You can copy the example using the copy icon on the right side of the box.

   Note: For better results, you can include additional information or instructions about the context of the required output in the `Prompt Instructions` field.
   For example,

   ```
   Include cinematic style.
   Do not include inaccurate proportions, unrealistic colors, or fantasy elements.
   ```

2. Now, click **Start chat** to send the message to the chatbot.
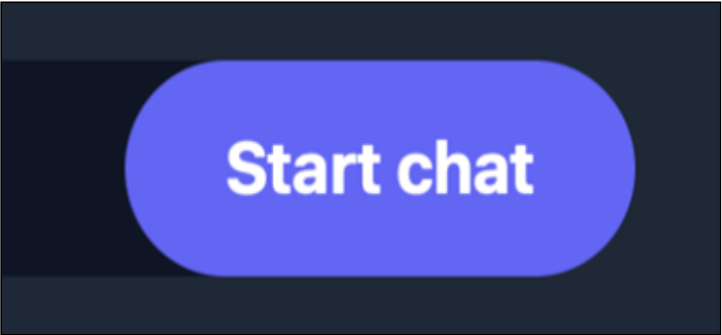
3. The response with the desired image will appear in the middle pane on the right side of the screen.


PROMPT INSTRUCTIONS 🔒

Include cinematic style.

Create a captivating and scientifically accurate image of the solar system. Include depictions of the sun and the planets.

This image will expire in two hours.

4. If you are unsatisfied with the response, click **Regenerate response**, and the chat system will show a revised response for your original prompt.

and w
ng re   ↻ Regenerate response
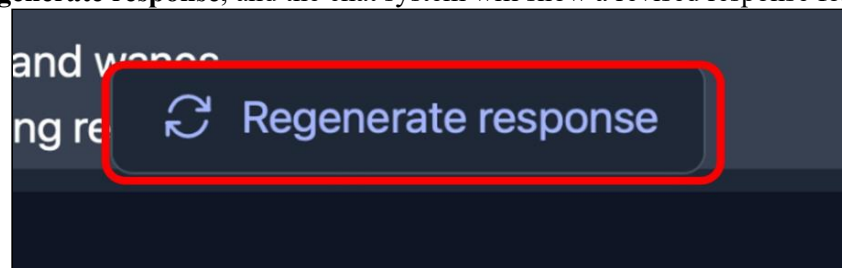
5. You can save the generated image by right-clicking on it and then selecting **Save image as**.

Exercise 2: Generate images in Generative AI Classroom for different scenarios

With enhanced image generation capabilities, many companies have started generating AI images for different purposes, such as ideas for package design, logo design, brand kit creation, etc.

In this exercise, you will generate images for the following scenarios:

1. An idea for the package design of organic soaps
2. Marketing image for a beverage brand showing people enjoying their drink

Step 1: Generate the desired image for the first scenario

Think of a context and draft a statement or prompt for the desired image you want from the chatbot. For better results, include specifics and details about the context of the required output. Let's generate an image for the scenario: An idea for the package design of organic soaps.

Note: Both Dall-E 2 and Dall-E 3 models are used for generating images. For this exercise, let's use the `Dall-E 3` model. Use the dropdown option from the top-right corner of the right pane and select `dall-e-3` for the image generation exercise.
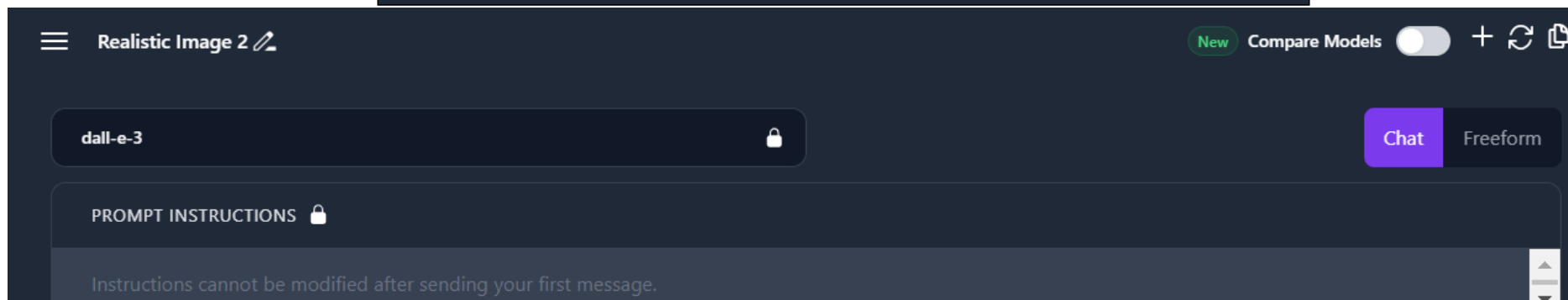
1. Write your prompt or statement in the **Type your message** field at the bottom of the screen.
   For example,

Generate an image showing packaging ideas for skin-friendly, colorful organic soaps.

```
1    Generate an image showing packaging ideas for skin-friendly, colorful organic soaps.
```

You can copy the example using the copy icon on the right side of the box.

Generate an image showing packaging ideas for skin-friendly colorful organic soaps.｜ **Start chat**

This image will expire in two hours.

Note: For better results, you can include additional information or specific instructions about the context of the required output in the Prompt Instructions field.

For example,

```
Include only oval-shaped soaps.
```

```
1        Include only oval-shaped soaps.
```

2. Now, click **Start chat** to send the message to the chatbot.

3. You will see the response with the desired image in the middle pane on the right side of the screen.

4. If you are unsatisfied with the response, click **Regenerate response**, and the chat system will show a revised response for your original prompt.
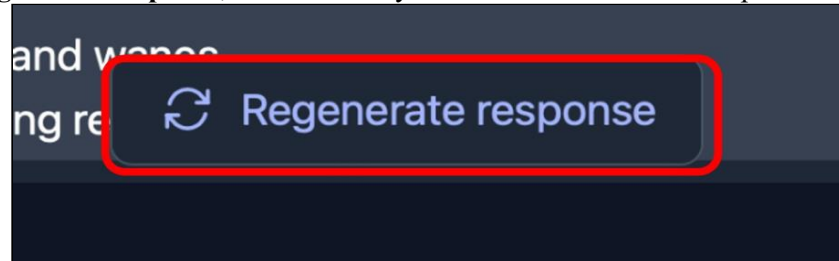
5. You can save the generated image by right-clicking on it and then selecting **Save image as**.

Step 2: Generate the desired image for the second scenario

Let's generate an image for the scenario: A marketing image for a beverage brand showing people enjoying their drink.

1. Select New Chat by clicking on the plus sign at the upper right corner of your classroom.

2. Name the chat and select the dall-e-3 model.
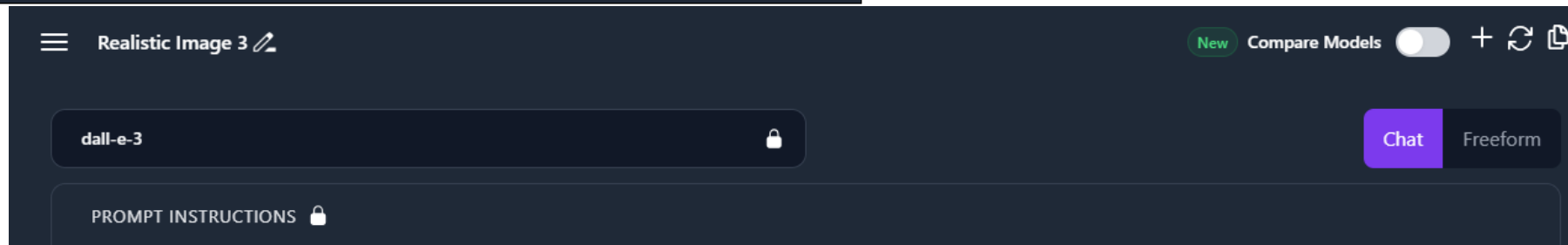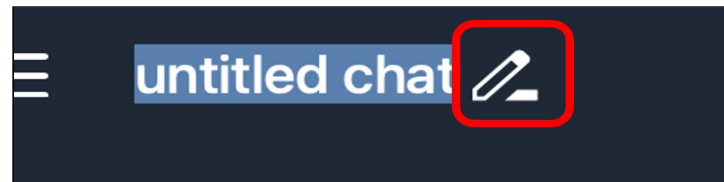
3. Write your prompt or statement in the **Type your message** field at the bottom of the screen.
   For example,

```
Generate a realistic image of people enjoying a cold beverage in a garden. There should be colorful flowers visible in the background with blue sky and white clouds.
```

```
1    Generate a realistic image of people enjoying a cold beverage in a garden. There should be colorful flowers visible in the background with blue sky and white clouds.
```

You can copy the example using the copy icon on the right side of the box.

This image will expire in two hours.

Note: For better results, you can include additional information or specific instructions about the context of the required output in the `Prompt Instructions` field. For example,

```
Include realistic people
The drink color should be green
Do not include fantasy elements
```

```
1    Include realistic people

2    The drink color should be green

3    Do not include fantasy elements
```
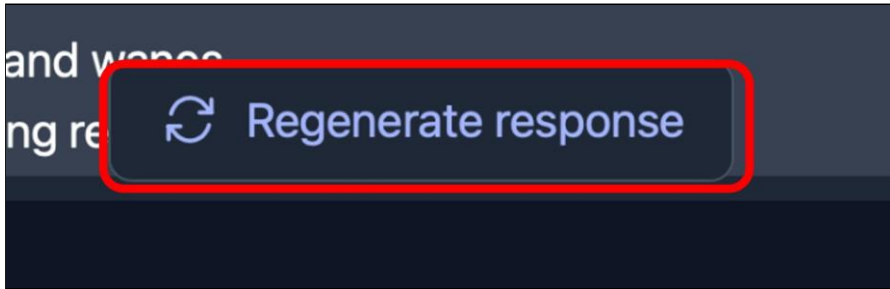
4. Now, click **Start chat** to send the message to the chatbot.
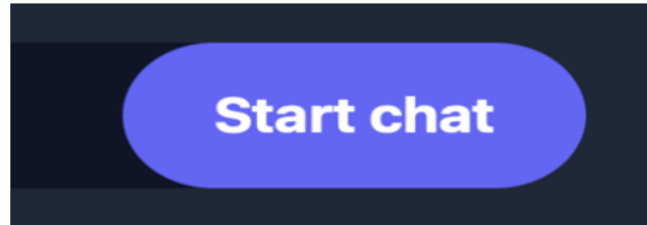
5. The response with the desired image will appear in the middle pane on the right side of the screen.

6. If you are unsatisfied with the response, click **Regenerate response**, and the chat system will show a revised response for your original prompt.

7. You can save the generated image by right-clicking on it and then selecting **Save image as**.

This image will expire in two hours.

Step 3: Try yourself

Now, you can try to describe and generate realistic images of your choice using the Generative AI Classroom. Some of the scenarios have been listed below:

- Poster related to saving the environment by saving water
- Scenery of a boat in a river with natural environmental elements
- Banner for an F1 car racing competition

Poster related to saving the environment by saving water

Scenery of a boat in a river with natural environmental elements

Banner for an F1 car racing competition

Summary

Congratulations! You just completed the hands-on lab Image Generation in Action.

In this lab, you explored the image-generation capabilities of generative AI. You also learned how to create realistic images for different scenarios from the text in the Generative AI Classroom using the Dall-E 2 and Dall-E 3 models.

Author(s)

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