

Recipe Generation using OpenAI's GPT-3 and DALL·E

OPENAI API Project



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This Python script showcases the integration of OpenAI's GPT-3 and DALL·E models to generate recipes and accompanying images based on provided ingredients.

**Overview**

This project aims to automate the generation of detailed recipes by leveraging the capabilities of OpenAI's language and image models. The code utilizes the GPT-3 model for recipe generation and the DALL·E model for creating an image corresponding to the recipe's title.

**Code Structure**

**1. Initialization and API Configuration**

The code starts by importing necessary libraries and configuring the OpenAI API using the provided API key stored in the environment variable.

**2. Recipe Prompt Creation**

A function create\_dish\_prompt constructs a prompt for the recipe generation. It takes a list of ingredients as input and creates a formatted prompt that includes the ingredients and a placeholder for the recipe title.

**3. Generating the Recipe**

The list of ingredients for a specific dish (in this case, a strawberry delight sundae) is used to create a recipe prompt. The prompt is then passed to the GPT-3 model for recipe generation.

**4. Extracting Recipe Details**

The generated content is split into the recipe title and the detailed recipe by parsing the output from the GPT-3 completion.

**5. Displaying the Recipe**

The extracted recipe title and detailed recipe are printed as output.

**6. Image Generation**

A function generate\_dalle\_image utilizes the DALL·E model to generate an image corresponding to the recipe title.

**7. Displaying the Image**

**The generated image is displayed if the URL exists; otherwise, a message indicating the absence of an image URL is shown.**

**Running the Code**

To use this code:

* *Set up an environment variable OPENAI\_API\_KEY with your OpenAI API key.*
* *Ensure the required libraries (openai, os, IPython.display) are installed.*

Run the Python script and provide a list of ingredients to generate a detailed recipe and an associated image.

**File Structure**

* **recipe\_generation.py:** Contains the code for generating recipes and images.
* **README.md:** Documentation explaining the code and its functionality.

**Usage**

To generate a recipe and its corresponding image:

* *Call the create\_dish\_prompt function with a list of ingredients.*
* *Extract the generated recipe and display it.*
* *Use the generate\_dalle\_image function to create an image corresponding to the recipe title.*
* *Display the generated image if available.*

**Contributing**

Contributions to improve the code's functionality, add new features, or enhance the documentation are welcome! Please fork the repository, make your changes, and submit a pull request.