

Project WriteUp:

This project demonstrates how AI can enhance the design process for digital marketing. Using OpenAI's DALL-E model and Gradio's intuitive web UI, we created a platform that transforms text prompts into high-quality promotional images. The solution aims to support creative agencies—such as those working with Netflix—in generating visually appealing content swiftly and creatively.

Situation:

As a designer at a futuristic creative agency, your goal is to revolutionize visual content creation. You're tasked with designing a platform that automatically creates banners/posters using just a text prompt. This allows marketing teams (like Netflix's) to convert ideas into visuals instantly.

Task:

Develop a web-based platform using:

- OpenAI API to generate images from text.
- Gradio UI for user interaction.

Result:

The result is an IPython Notebook-based Gradio app that allows any user—designer or marketer—to type a creative prompt (e.g., "a baby cheetah in the jungle") and get a unique AI-generated image. This project showcases how OpenAI and Gradio can power the next generation of creative design tools.

Source Code:

```
import os  
import openai  
import requests  
from PIL import Image, ImageDraw, ImageFont  
from io import BytesIO  
import gradio as gr
```

```
# AZURE_OPENAI_KEY = os.getenv("AZURE_OPENAI_KEY") # Commented out as we will use  
the key directly  
  
AZURE_OPENAI_ENDPOINT = "https://yagni-mdcv0tgn-  
swedencentral.cognitiveservices.azure.com/"  
  
AZURE_OPENAI_API_VERSION = "2024-02-01"  
  
AZURE_DALLE_DEPLOYMENT = "dall-e-3" # <-- Change this to your actual deployment name  
  
  
# Use the API key directly from cell hud6zgg9JyZt  
  
AZURE_OPENAI_KEY =  
"8OxaXMhBGwcrCGgsMLFvliEsYqDOiEODk2gl1m2imLPpxF5qCnXeJQQJ99BGACfhMk5XJ3w3  
AAAAACOGT9fC"  
  
  
client = openai.AzureOpenAI(  
    api_key=AZURE_OPENAI_KEY,  
    api_version=AZURE_OPENAI_API_VERSION,  
    azure_endpoint=AZURE_OPENAI_ENDPOINT,  
)  
  
  
def generate_image(prompt):  
    try:  
        response = client.images.generate(  
            prompt=prompt,  
            n=1,  
            size="1024x1024",  
            model=AZURE_DALLE_DEPLOYMENT # Use the deployment name here  
        )  
        image_url = response.data[0].url  
        image_data = requests.get(image_url).content
```

```
image = Image.open(BytesIO(image_data))

return image

except Exception as e:

    error_img = Image.new("RGB", (512, 512), color=(255,255,255))

    draw = ImageDraw.Draw(error_img)

    err_msg = f"Error:\n{str(e)}"

    try:

        font = ImageFont.truetype("arial.ttf", 18)

    except:

        font = ImageFont.load_default()

    draw.text((10, 10), err_msg, fill=(255,0,0), font=font)

    return error_img


interface = gr.Interface(

    fn=generate_image,

    inputs=gr.Textbox(lines=2, label="Enter your creative prompt"),

    outputs=gr.Image(type="pil", label="Generated Image"),

    title="🎨 Azure DALL-E 3 Image Generator",

    description="Enter a text prompt and generate a high-quality image using Azure OpenAI DALL-E 3."

)


if __name__ == "__main__":
    interface.launch(share=True)
```

Screenshot:



