Creative Image Generation Platform using OpenAI and Gradio

**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 = "8OxaXMhBGwcrCGgsMLFvliEsYqDOiEODk2gI1m2imLPpxF5qCnXeJQQJ99BGACfhMk5XJ3w3AAAAACOGT9fC"

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:**

 

