Project 51: Math Problem Solver

Description:

This smart assistant solves math problems and explains the steps clearly. Whether it's arithmetic, algebra, geometry, or calculus—you enter a problem, and it returns the answer along with a step-by-step explanation in plain language.

`math_problem_solver.py`

```
import openai
import os
import gradio as gr

# Load the OpenAI API Key
openai.api_key = os.getenv("OPENAI_API_KEY")

# Function to solve math problems and explain them
def solve_math(problem):
    # Prompt to guide AI to act like a math tutor
    messages = [
        {
            "role": "system",
            "content": (
                "You are a helpful and friendly math tutor. Solve the math prc
                "Use bullet points or numbered steps for clarity. Keep the tor
            )
        },
        {
            "role": "user",
            "content": f"Solve this: {problem}"
        }
    ]

    try:
        # Call the OpenAI API
        response = openai.ChatCompletion.create(
            model="gpt-3.5-turbo",  # GPT-4 recommended for deeper math
            messages=messages
```

```
        )

        # Return the solution and explanation
        return response["choices"][0]["message"]["content"].strip()

    except Exception as e:
        return f"Error: {str(e)}"

# Gradio UI
iface = gr.Interface(
    fn=solve_math,
    inputs=gr.Textbox(label="Enter a Math Problem (e.g. solve 3x + 5 = 20)"),
    outputs="text",
    title="🧱 Math Problem Solver",
    description="Enter a math question and get a step-by-step solution with ar
)

# Launch the solver
iface.launch()
```