Project 1: Basic Chatbot using OpenAI GPT

Description:

A simple command-line or web-based chatbot powered by OpenAI's GPT model (e.g., GPT-3.5 or GPT-4). It takes user input, sends it to the model via the API, and returns a natural-sounding response. Perfect for beginners who want to see how an LLM works behind the scenes.

Implementation

Here's a minimal version using the **OpenAI API** and **Python's built-in input/output**:

basic_chatbot.py

```python
import openai
import os

# Set your OpenAI API key
openai.api_key = os.getenv("OPENAI_API_KEY")  # or replace with your actual ke

def chat_with_gpt(prompt):
    response = openai.ChatCompletion.create(
        model="gpt-3.5-turbo",  # You can change to "gpt-4" if needed
        messages=[
            {"role": "system", "content": "You are a helpful assistant."},
            {"role": "user", "content": prompt}
        ]
    )
    return response['choices'][0]['message']['content']

print("Welcome to the GPT Chatbot! Type 'exit' to quit.")

while True:
    user_input = input("You: ")
    if user_input.lower() in ["exit", "quit"]:
```

```python
        print("Goodbye!")
        break
    reply = chat_with_gpt(user_input)
    print("AI:", reply)
```

How to Run:

1. Save this as `basic_chatbot.py`.

2. Install the OpenAI package:

```
pip install openai
```

3. Set your API key:

```
export OPENAI_API_KEY=your_key_here
```

4. Run the script:

```
python basic_chatbot.py
```