North Indian Diet Expert Chatbot

Introduction

This project aims to create a chatbot that specializes in North Indian dietary advice. The chatbot will provide meal plans, answer nutrition-related questions, and suggest healthy recipes specific to North Indian cuisine. This document outlines the setup, code, and functionality of the chatbot.

Tools and Libraries

- **Gradio**: A Python library to build UI components.
- **Hugging Face Hub**: Provides access to pre-trained models for natural language processing tasks.

Code Implementation

Below is the code implementation for the North Indian Diet Expert Chatbot:

```
import gradio as gr
from huggingface_hub import InferenceClient

client = InferenceClient("HuggingFaceH4/zephyr-7b-beta")

def respond(message, history, system_message, max_tokens, temperature,
top_p):
    system_message = "You are a North Indian diet expert. You provide dietary
advice, suggest meal plans, and answer questions related to North Indian
cuisine and nutrition. Feel free to ask about healthy recipes, nutritional
benefits of foods, or meal planning tips."
    messages = [{"role": "system", "content": system_message}]

    for val in history:
        if val[0]:
            messages.append({"role": "user", "content": val[0]})
        if val[1]:
            messages.append({"role": "assistant", "content": val[1]})

    messages.append({"role": "user", "content": message})

    response = ""
    for message in client.chat_completion(
        messages,
        max_tokens=max_tokens,
        stream=True,
        temperature=temperature,
        top_p=top_p,
    ):
        token = message.choices[0].delta.content
        response += token
        yield response
```

```
demo = gr.ChatInterface(
    respond,
    additional_inputs=[
        gr.Textbox(value="You are a North Indian diet expert. You provide
dietary advice, suggest meal plans, and answer questions related to North
Indian cuisine and nutrition. Feel free to ask about healthy recipes,
nutritional benefits of foods, or meal planning tips.", label="System
message"),
        gr.Slider(minimum=1, maximum=2048, value=512, step=1, label="Max new
tokens"),
        gr.Slider(minimum=0.1, maximum=4.0, value=0.7, step=0.1,
label="Temperature"),
        gr.Slider(minimum=0.1, maximum=1.0, value=0.95, step=0.05,
label="Top-p (nucleus sampling)"),
    ],
    examples=[
        ["Can you suggest a healthy North Indian breakfast?"],
        ["What are the nutritional benefits of chickpeas?"],
        ["How can I plan a balanced North Indian meal?"]
    ],
    title='North Indian Diet Expert 🍛'
)

if __name__ == "__main__":
    demo.launch()
```

Features

- **Dietary Advice**: The chatbot provides dietary advice tailored to North Indian cuisine.
- **Meal Plans**: Suggests balanced meal plans incorporating traditional North Indian dishes.
- **Healthy Recipes**: Offers healthy recipe ideas for various meals throughout the day.
- **Nutritional Information**: Provides nutritional benefits of various North Indian foods.

Usage

1. **System Message**: Initializes the chatbot with a predefined system message that sets the context as a North Indian diet expert.
2. **User Interaction**: Users can interact with the chatbot by typing their questions or selecting from provided examples.
3. **Response Generation**: The chatbot generates responses based on the user's input using the pre-trained model from Hugging Face.

Customization

The chatbot can be customized further by:

- **Modifying the System Message**: Change the system message to alter the chatbot's expertise area.

- **Adjusting Parameters**: Modify the `max_tokens`, `temperature`, and `top_p` parameters to fine-tune the chatbot's responses.
- **Adding More Examples**: Include more example questions to guide users on how to interact with the chatbot.

Conclusion

This North Indian Diet Expert Chatbot serves as a helpful tool for those seeking dietary advice and meal planning related to North Indian cuisine. By leveraging advanced AI models, it provides accurate and useful information to enhance users' dietary habits.