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!pip install transformers torch gradio -q
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import gradio as gr
import torch
from transformers import AutoTokenizer, AutoModelForCausalLM

# Load model and tokenizer
model_name = "ibm-granite/granite-3.2-2b-instruct"
tokenizer = AutoTokenizer.from_pretrained(model_name)
model = AutoModelForCausalLM.from_pretrained(
    model_name,
    torch_dtype=torch.float16 if torch.cuda.is_available() else torch.float32,
    device_map="auto" if torch.cuda.is_available() else None
)

if tokenizer.pad_token is None:
    tokenizer.pad_token = tokenizer.eos_token

def generate_response(prompt, max_length=1024):
    inputs = tokenizer(prompt, return_tensors="pt", truncation=True, max_length=512)

    if torch.cuda.is_available():
        inputs = {k: v.to(model.device) for k, v in inputs.items()}

    with torch.no_grad():
        outputs = model.generate(
            **inputs,
            max_length=max_length,
            temperature=0.7,
            do_sample=True,
            pad_token_id=tokenizer.eos_token_id
        )

    response = tokenizer.decode(outputs[0], skip_special_tokens=True)
    response = response.replace(prompt, "").strip()
    return response

def disease_prediction(symptoms):
    prompt = f"Based on the following symptoms, provide possible medical conditions and general medical advice: {symptoms}"
    return generate_response(prompt, max_length=1200)

def treatment_plan(condition, age, gender, medical_history):
    prompt = f"Generate personalized treatment suggestions for the following patient information. Include the condition, age, gender, and medical history: {condition}, {age}, {gender}, {medical_history}"
    return generate_response(prompt, max_length=1200)

# Create Gradio interface
with gr.Blocks() as app:
    gr.Markdown("# Medical AI Assistant")
    gr.Markdown("***Disclaimer: This is for informational purposes only. Always consult healthcare professionals for medical advice.")

    with gr.Tabs():
        with gr.TabItem("Disease Prediction"):
            with gr.Row():
                with gr.Column():
                    symptoms_input = gr.Textbox(
                        label="Enter Symptoms",
                        placeholder="e.g., fever, headache, cough, fatigue...",
                        lines=4
                    )
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    )
    predict_btn = gr.Button("Analyze Symptoms")

    with gr.Column():
        prediction_output = gr.Textbox(label="Possible Conditions & Recommendations", lines=10)

    predict_btn.click(disease_prediction, inputs=symptoms_input, outputs=prediction_output)

with gr.TabItem("Treatment Plans"):
    with gr.Row():
        with gr.Column():
            condition_input = gr.Textbox(
                label="Medical Condition",
                placeholder="e.g., diabetes, hypertension, migraine...",
                lines=2
            )
            age_input = gr.Number(label="Age", value=30)
            gender_input = gr.Dropdown(
                choices=["Male", "Female", "Other"],
                label="Gender",
                value="Male"
            )
            history_input = gr.Textbox(
                label="Medical History",
                placeholder="Previous conditions, allergies, medications or None",
                lines=3
            )
            plan_btn = gr.Button("Generate Treatment Plan")

        with gr.Column():
            plan_output = gr.Textbox(label="Personalized Treatment Plan", lines=20)

    plan_btn.click(treatment_plan, inputs=[condition_input, age_input, gender_input, history_input], outputs=plan_output)

app.launch(share=True)

```



Loading checkpoint shards: 100%

2/2 [00:05<00:00, 5.63s/it]

Colab notebook detected. To show errors in colab notebook, set debug=True in launch()

\* Running on public URL: <https://c9219cefd1ce3fab03.gradio.live>

This share link expires in 1 week. For free permanent hosting and GPU upgrades, run `gradio de

## Medical AI Assistant

**Disclaimer:** This is for informational purposes only. Always consult healthcare professionals for medical advice.

Disease Prediction

Treatment Plans

Enter Symptoms

e.g., fever, headache, cough, fatigue...

Possible Conditions & Recommendations

Analyze Symptoms