**HealthAI - Intelligent Healthcare Assistant**

A cell phone with a body diagram

AI-generated content may be incorrect.

**Introduction**

The HealthAI program is an intelligent healthcare assistant built using Python, Gradio, Hugging Face Transformers, and data visualization libraries. It provides multiple healthcare-related functionalities such as patient chat, disease prediction, treatment suggestions, and health analytics dashboards. This system is designed for educational and informational purposes only, and it emphasizes the importance of consulting real doctors for medical advice.

**Key Libraries Used**

**1. Gradio**: For building the interactive web interface.

**2. Torch** (PyTorch): For running the AI model.

**3. Transformers**: Provides pre-trained AI models for natural language processing.

**4. Matplotlib & NumPy**: For data visualization and creating health-related charts.

**Main Features of the Program**

1. **Health Analytics Dashboard**

Displays health-related trends over a 90-day period, including heart rate, blood pressure, and blood glucose levels. It also visualizes symptom frequency using a pie chart.

1. **Patient Chat**

Allows patients to enter their symptoms or queries and get AI-generated responses. The AI provides polite, supportive answers and suggests consulting a doctor if needed.

1. **Disease Prediction**

Based on input symptoms, the system predicts possible medical conditions and suggests general medications. It emphasizes consulting a qualified doctor for confirmation.

1. **Treatment Plan Generator**

Generates simple treatment suggestions based on the patient’s condition, age, gender, and medical history. It does not replace professional medical advice.

**Technical Workflow**

1. The user interacts with the system via Gradio’s web interface.

2. Input data (symptoms, queries, or medical details) is passed to the AI model.

3. The AI model (Granite-3.2) generates natural language responses.

4. For the dashboard, health data is simulated using mathematical functions and displayed in charts.

5. The output is returned to the user in a user-friendly format.

**Conclusion**

The HealthAI Assistant demonstrates how artificial intelligence can be applied in the healthcare domain to assist patients with preliminary insights, symptom analysis, and treatment guidance. However, it is not a replacement for professional healthcare services. The project is best suited for academic, research, and demonstration purposes.