Crystal Ball / Machine Learning Application

Setup instructions:

1. Clone repository at https://github.com/kylesaunders20/EmergingTrendsProject
2. Install Flask and Joblib packages
3. Go to project directory

Run the main application file - app.py

The app should begin to run on <http://127.0.0.1:5000/>

The user is brought to a Crystal Ball page where they can predict vehicle fuel efficiency or blood glucose levels using machine learning models.

How to predict vehicle MPG:

1. Open a web browser and go to localhost <http://127.0.0.1:5000/>
2. Click on the "Predict MPG" link underneath the crystal ball to go to the prediction form page.
3. Fill form with vehicle data (cylinders, horsepower, weight, age, country of origin).
4. Submit the form to see the predicted miles per gallon fuel efficiency of the vehicle.

How to Use Diabetes Prediction

1. Open a web browser and go to localhost <http://127.0.0.1:5000/>
2. Click on the "Predict Diabetes" link beneath the crystal ball to go to the diabetes prediction form page.
3. Fill form with medical data (number of pregnancies, blood pressure, skin thickness, insulin levels, BMI, diabetes pedigree function, and age).
4. Submit the form to see the predicted blood glucose level.

Features for MPG:

1. MPG Prediction: Predict the MPG for vehicles using trained machine learning model.
2. Easy to use: Simple, easy to navigate and use webpage.
3. Input Validation: Validates inputs from user to ensure accuracy.

Features for Diabetes:

1. Diabetes Prediction: Predict glucose levels based on medical data attributes using a trained machine learning model.
2. Easy to use: Simple and user-friendly form to take in medical data, and a results page to display the predicted glucose level upon successful form submission.
3. Input Validation: Validates inputs from user to ensure accuracy.

List of Technologies used in this application:

Python

Flask

Joblib (used to load trained machine learning model files into application)

HTML/CSS used for webpage structure and styling.