Play Golf Prediction Web App

# 1. Project Overview

This project is a web-based machine learning application that predicts whether a person should play golf based on weather-related conditions. It is built using Python, Flask, and a Decision Tree Classifier. The user selects weather inputs like Outlook, Temperature, Humidity, and Wind from a web form, and the trained model predicts whether the user should play golf.

# 2. Technologies Used

The following technologies were used in the project:

* - Python 3.10
* - Flask (for web development)
* - HTML5 & CSS3 (for frontend design)
* - Scikit-learn (for machine learning)
* - Pandas & NumPy (for data processing)
* - Joblib (for model serialization)

# 3. Model Description

The dataset used includes columns: Outlook, Temperature, Humidity, Wind, and PlayGolf. Categorical data was label encoded using LabelEncoder. A Decision Tree Classifier was trained using entropy as the splitting criterion.

# 4. Data Flow & Workflow

1. 1. User enters weather conditions in the web form.
2. 2. Flask receives and processes the form data.
3. 3. Input features are encoded and passed to the trained model.
4. 4. Model predicts the outcome ('Yes' or 'No').
5. 5. Result is decoded and displayed back to the user.

# 5. Project Files

* - app.py (Flask backend)
* - templates/index.html (Frontend HTML)
* - static/golf.jpg (Background Image)
* - playgolf.pkl (Trained model)
* - le\_\*.pkl (Label encoders for each feature)

# 6. Sample Output

If the input is: Outlook=Rainy, Temperature=Cool, Humidity=High, Wind=Weak

Then the model might predict: 'No' (You shouldn’t play golf today)

# 7. Author & Notes

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This project was developed as part of a hands-on internship learning experience.