

Flight Delay Prediction System

A machine learning-powered web application that predicts whether a flight will be delayed or on time based on airline data. This project uses real-world data from January 2019 and 2020 to train a classification model and visualize trends that impact flight delays.

Features

 Predict if a flight will be delayed based on:

Airline carrier

Origin airport


Destination airport


Scheduled departure hour

 Visualization charts:

Delay distribution (On-time vs Delayed)

Top 10 origin airports with highest delay counts

 Web interface built with Flask

 Custom-designed UI with airplane-themed background and animated banner

🧠 Machine learning model using RandomForestClassifier

🔧 Technologies Used

Python (Flask, Pandas, scikit-learn, Seaborn, Matplotlib)

HTML5, CSS3 (with custom styling)

Jupyter/Notebook for model testing

Real flight data from the U.S. Department of Transportation