

KILL PROJECT



TEAM DETAILS

Team lead : CH Satyanarayana

Team number : 4

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Project details:

Problem statement :

Airfare pricing is dynamic and depends on multiple factors such as airline, departure time, number of stops, and season. Predicting flight ticket prices accurately can help travelers make cost-effective decisions. This project aims to build a machine learning model that predicts flight ticket prices based on historical data.

Domain :

Field: Machine Learning & Web Development

Use Case: Predicting flight ticket prices using historical data and relevant features

Technologies used :

Programming Languages : Python, HTML, CSS, JavaScript

Machine Learning Libraries : Scikit-Learn, Pandas, NumPy

Framework : Flask (for backend API)

Frontend : HTML, CSS, JavaScript

Tools : VS Code

Approach to Do the Project :

1. **Data Collection:** Obtain flight pricing data with attributes like airline, source, destination, stops, and price.
2. **Data Preprocessing:** Convert categorical data into numerical format using encoding techniques.
3. **Model Training:** Use a machine learning model (Random Forest Regressor) to learn price patterns from historical data.

4. **Model Saving:** Store the trained model using Pickle for future predictions.
5. **Backend Development:** Build a Flask web API to handle user input and return price predictions.
6. **Frontend Development:** Create a user-friendly web interface where users can input flight details and get the predicted price.
7. **Deployment:** Run the project locally using Flask.

Outcome:

A functional web application where users can enter flight details and get a predicted price.

A trained machine learning model that can analyze flight pricing trends.

A Flask-based API to process user requests and provide real-time predictions.

Conclusion:

This project successfully demonstrates how machine learning can be applied to predict flight ticket prices. By analyzing factors such as source, destination, airline, and number of stops, the model provides price estimates to help travelers make informed booking decisions. The integration of a web interface makes it user-friendly and accessible. In the future, the model can be improved with real-time data and additional features like seasonality and demand trends.

*** THANK YOU ***
