HOTEL-BOOKING-CANCELATION-PREDICTION

using MACHINE LEARNING

github.com/yours-atulsingh/

ABOUT THE PROJECT

This project aims to leverage machine learning techniques to predict the likelihood of future hotel booking cancellations. By analyzing relevant trends and features, our developed models will efficiently identify high-risk bookings for potential cancellation. Utilizing tools such as Jupyter Notebook and Python, coupled with Excel for data analysis, we will empower hotels to proactively manage and mitigate revenue losses. This predictive approach enhances demand forecasting, refines overbooking and cancellation policies, and informs strategic pricing and inventory allocation decisions. Moreover, the analysis enables the identification of loyal customers, enabling tailored loyalty benefits for those who consistently uphold their reservations.

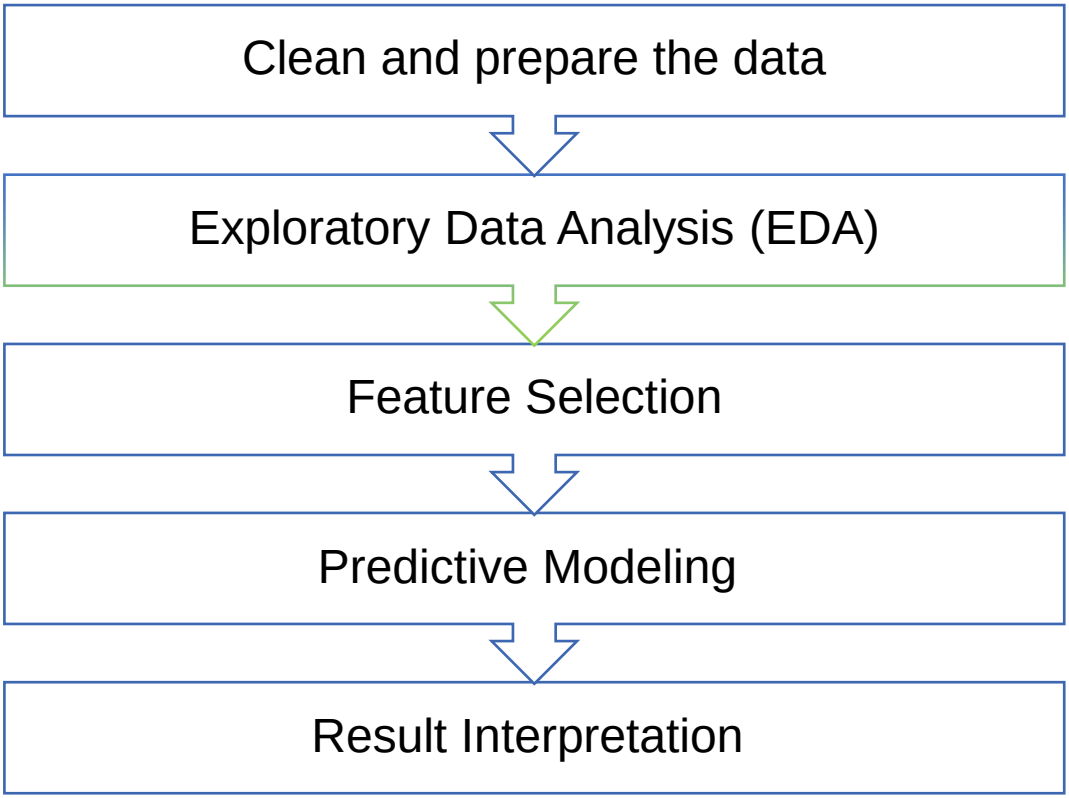
Utilizing Kaggle's Hotel Booking Demand dataset, comprising city and resort hotel info, we analyze booking patterns and features for cancellations.

Source : kaggle.com
Dataset : Hotel Booking Demand

PROBLEM STATEMENT

In the fiercely competitive landscape of the hospitality industry, the prevalence of high cancellation rates, particularly in the context of no-deposit bookings, presents a significant challenge, causing both operational inconvenience and substantial financial losses for hotels. To tackle this pressing issue, this project takes a proactive stance by harnessing the power of machine learning. By developing predictive models, the project endeavors to accurately anticipate booking cancellations and subsequently propose effective strategies to mitigate the potential revenue repercussions. This predictive approach not only contributes to refining the industry's operational efficiency but also enhances its overall value proposition, enabling hotels to pre-emptively manage cancellations and optimize revenue streams.

STRATEGY


Clean and prepare the data
Exploratory Data Analysis (EDA)
Feature Selection
Predictive Modeling
Result Interpretation

RECOMMENDATIONS

Upgrade amenities: Modernize for guest satisfaction

Enhance UI/UX: User-friendly booking interface

Optimize pricing: Dynamic rates for demand.

Manage reviews: Respond effectively to feedback.

Prevent double booking: Real-time synchronization needed

Optimize loyalty programs: Encourage repeat business.