Hotel Booking Cancelation

Michael Albers, Aubrey Kranz, Raegan Storin

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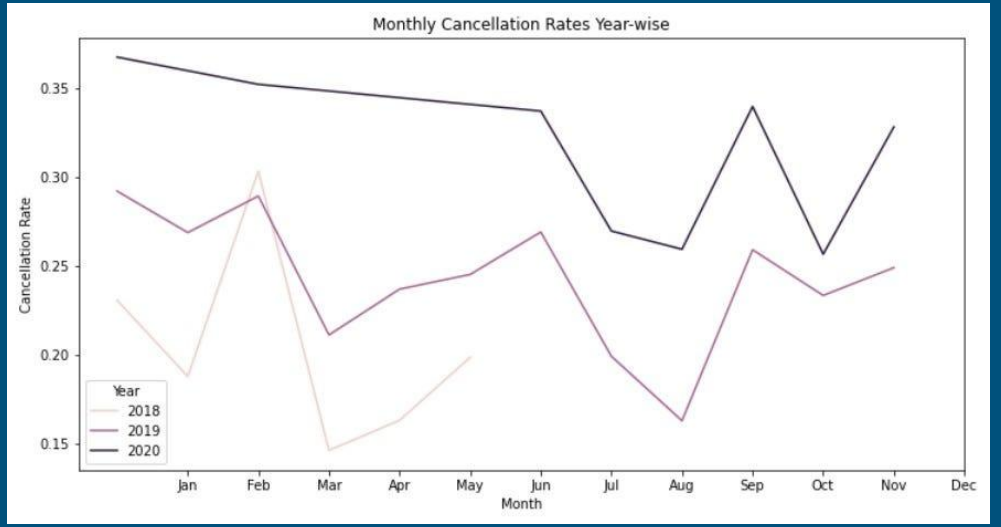
Proposal Overview

What is the problem?

Hotel overbooking can decrease customer satisfaction and negatively impact reputation while underbooking reduces potential revenue.

The goal would be to minimise hotel underbooking without overbooking and exceeding capacity.



(Mutahsim, 2023)

Research Question and Hypothesis/ Assessment

How can we improve the method of booking or cancellation policies to accurately accomodate for booking cancellations?

Or

Our hypothesis is that we will be able to accurately predict a hotel's optimal booking capacity by taking into account known factors of historical data.

Data and Methods Plan

Our aim is to build a model that can predict hotel booking demand based on a Kaggle hotel booking demand dataset.

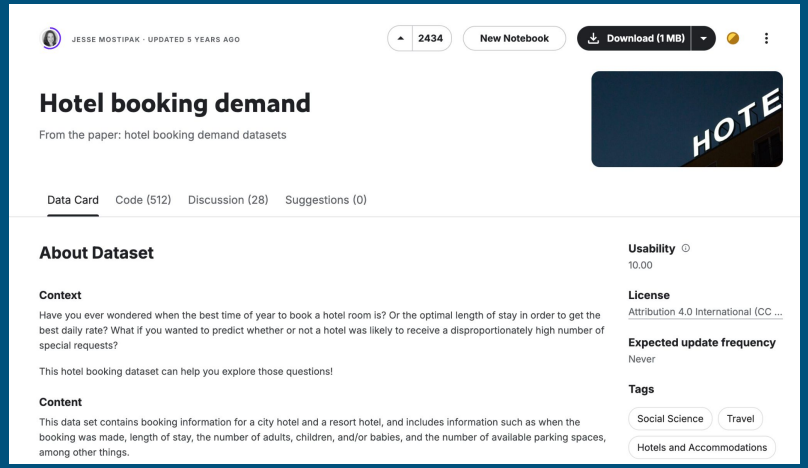
By analyzing patterns found in this data, we project seek to provide insights that can help hotels optimize their available bookings.

Variables included

is_canceled
lead_time
arrival_date_year
arrival_date_month
arrival_date_week_number
arrival_date_day_of_month
stays_in_weekend_nights
Stays_in_week_nights
adults
children
babies

meal
Country
market_segment
distribution_channel
is_repeated_guest
previous_cancellations
previous_bookings_not_canceled
Reserved_room_type
assigned_room_type
booking_changes
deposit_type

agent
company
days_in_waiting_list
customer_type
adr
required_car_parking_spaces
total_of_special_requests
reservation_status
reservation_status_date

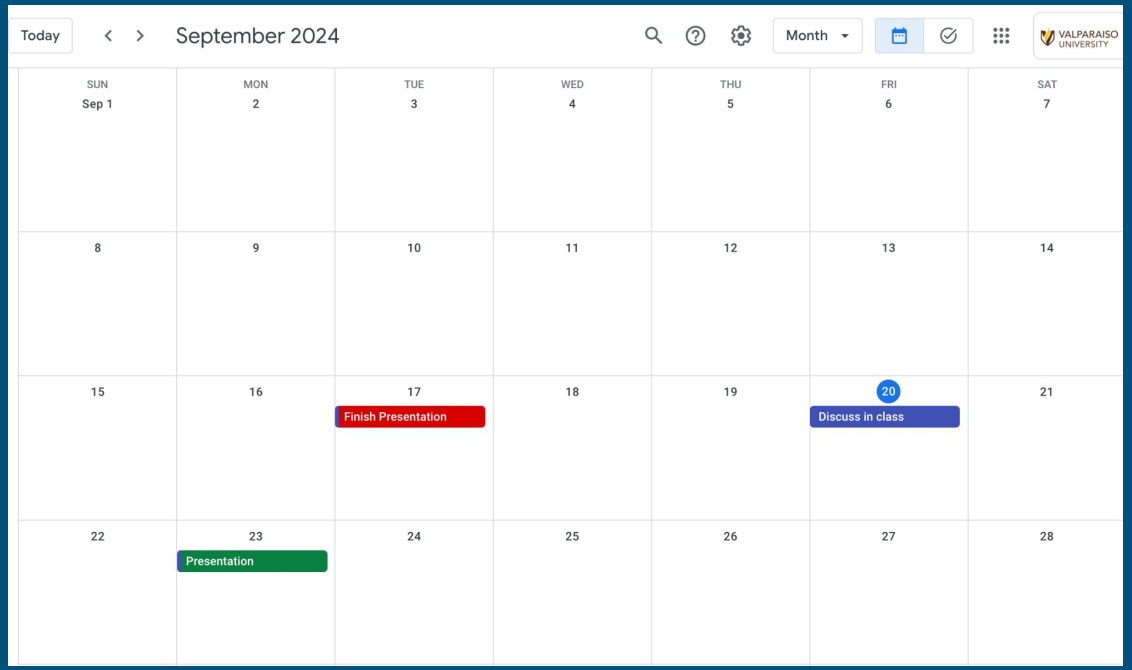


Schedule

All work is to be expected to be completed the night before the lab prior to the due date, according to our internal deadlines.

Part 1: 9/17 (Presentation 9/23)
Part 2: 10/11 (Presentation 10/18)
Part 3: 11/6 (Draft Paper)
Part 4: 12/3 (Presentation 12/10)

Part 1



Sources

https://medium.datadriveninvestor.com/a-python-data-analysis-project-to-understand-hotel-cancellations-fb3f0fee6eea

https://www.kaggle.com/datasets/jessemostipak/hotel-booking-demand/code