

Budgeted Travel

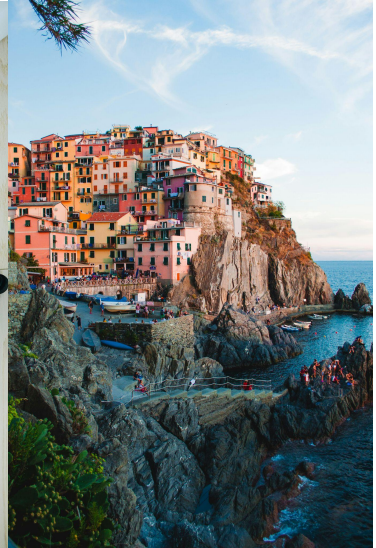
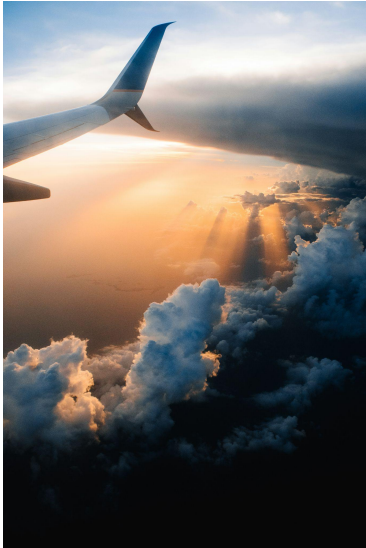
A Presentation on Recommender Systems to support travelers who have a budget.

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Did you know?

The average vacation cost today for a one-week vacation

- \$1,984 for a solo traveler
- \$7,936 for a family of 4



Problem Statement

The challenge is to provide travelers with options for flights and accommodations that fit within a specified budget. This project aims to develop a solution using data from Airbnb and past flight fares to identify the top five cities a traveler can visit within their budget.

Will implement a recommender system that offers personalized travel recommendations. Additionally, a Streamlit App will be created, allowing users to input their starting city and budget range. The app will then return the top five destinations that meet the user's financial budget for both airfare and lodging.

Datasets

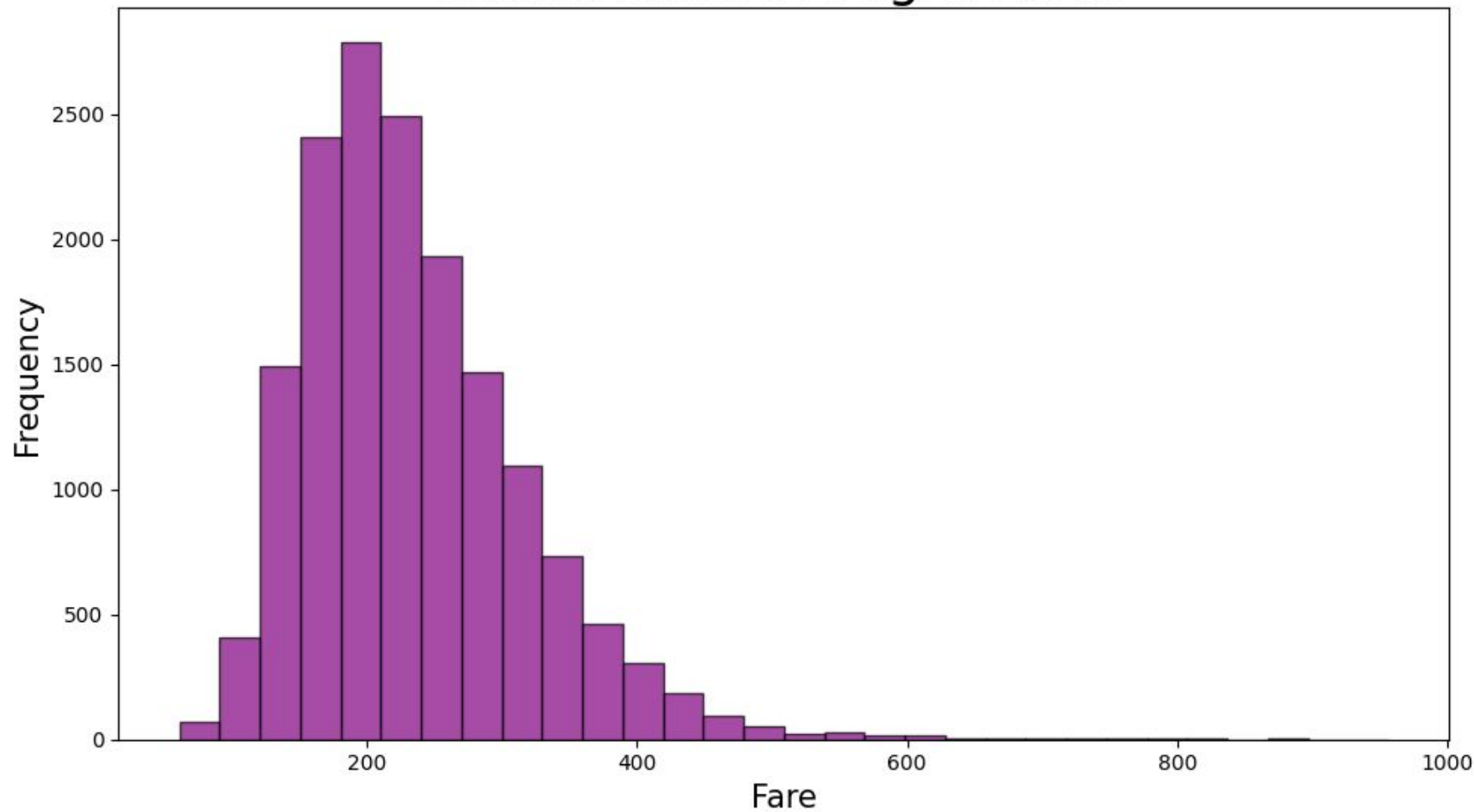
data.gov

- consumer_airfare_report_US.csv
 - 244,000 entries
- Cleaned dataset
 - 30,875 entries

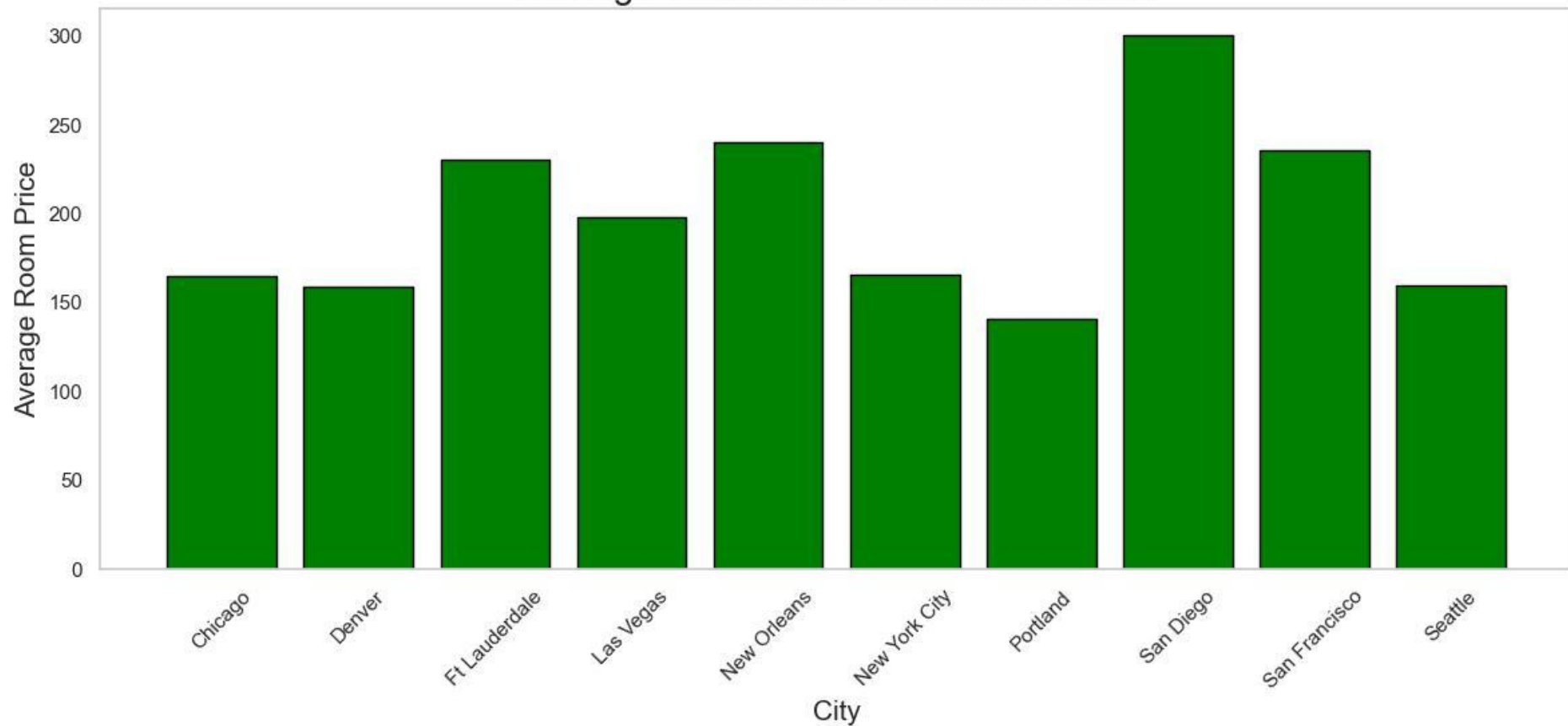
kaggle.com

- airbnb.csv
 - 240,662 entries
- Cleaned dataset
 - 193,000 entries

Distribution of Flight Fares



Average Room Price in Selected Cities



- Airfare
 - CountVectorizer
 - Cosine Similarities
- Airbnb
 - Python code to filter user preferences

Recommender

Systems.

&

Streamlit

Streamlit App Demo

Travel within YOUR Budget!

Suggestions for your next vacation is just a few entries away!

Select Your Starting City

Chicago

You selected: Chicago

Enter Minimum Budget for Flight

100.00

Enter Maximum Budget for Flight

200.00

Submit

Airbnb Recommendations

Airbnb

San Diego

You selected; San Diego

Min Budget for Airbnb

100.00

Max Budget for Airbnb

500.00

Submit

```
st.title('Travel within YOUR Budget!')
st.text('Suggestions for your next vacation is just a few entries away!')
st.divider()

starting_city_list = [ 'Chicago', 'Columbus', 'Denver',
                      'Las Vegas', 'Los Angeles', 'Nashville',
                      'New Orleans', 'New York City', 'Portland',
                      'San Diego', 'San Francisco', 'Seattle', 'Washington'

city1 = st.selectbox('Select Your Starting City', starting_city_list)
st.write('You selected:', city1)

min_budget = st.number_input('Enter Minimum Budget for Flight', value=None, placeholder="$50-$500")
max_budget = st.number_input('Enter Maximum Budget for Flight', value=None, placeholder="$50-$500")

on(label='Submit', key='1'):
    recommended_cities = recommend_destinations(city1, min_budget, max_budget)

    if recommended_cities is not None:
        st.write(f'Recommended cities and their fares from {city1}:')
        st.dataframe(recommended_cities)
    else:
        st.write('No recommendations found.')

st.button('Airbnb Recommendations')

def read_csv(.../data/air_bnb_data_clean.csv')

def recommend_rooms(city, min_budget, max_budget, data):
    # Filter the dataset based on the user input
```


Conclusions.

Recommender systems can be useful to help travelers consider budget worthy travel. Finding similarities between historical data we are able to recommend cities within budget perimeters, and also .

Beyond Today.

- Continuous user feedback
- Further research and data to be collected
 - Activities associated with specific cities
 - Keep adding additional cities