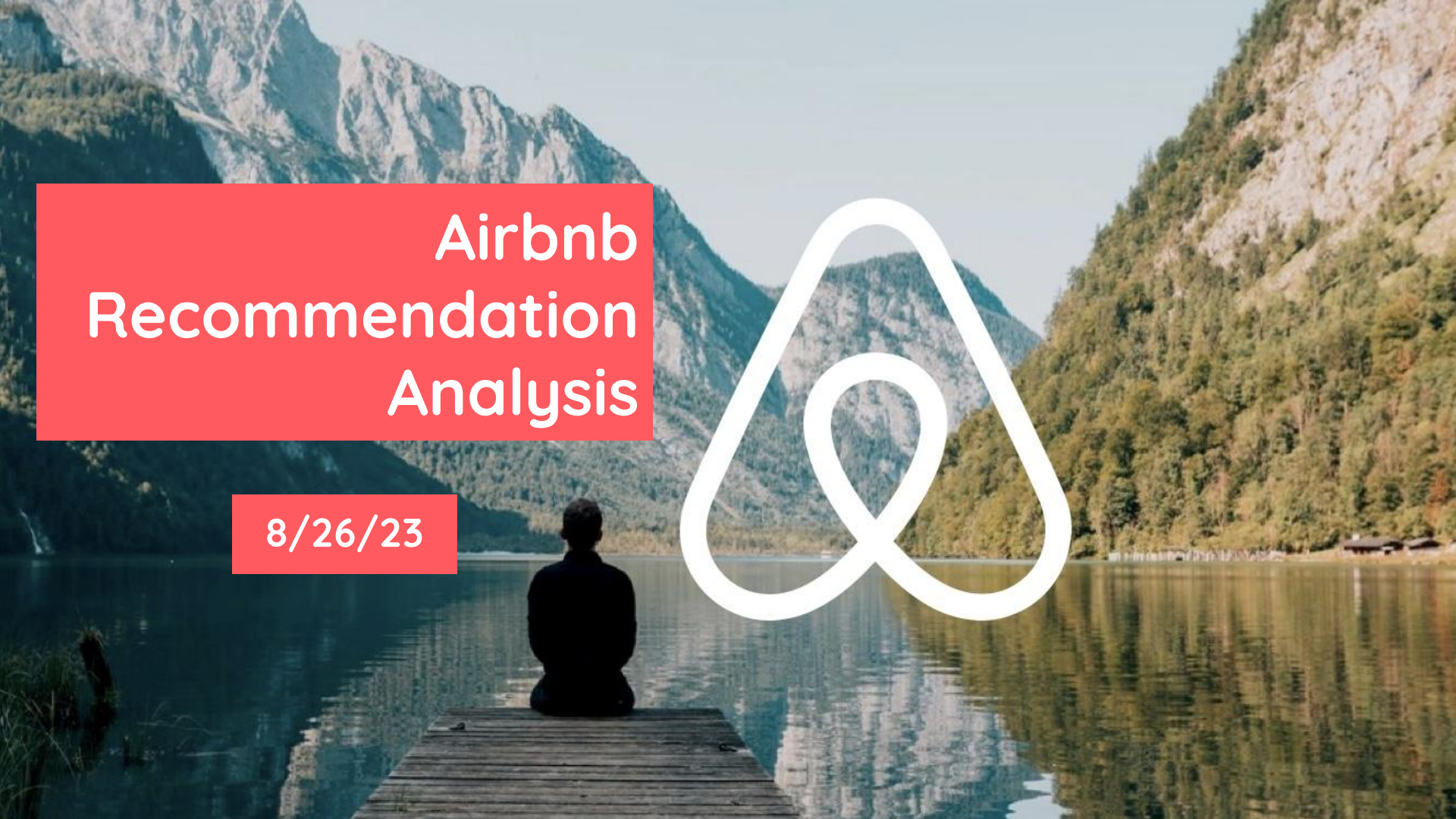
Airbnb Recommendation Analysis

8/26/23



Jordan Johnson

Tech Lead
Github Lead
Presentation Lead

LinkedIn / **GitHub**

Agenda

01 Business Problem

02 Data Overview

03 Analysis

04 Recommendations

05 Future Steps

Business Problem

Business Problem

- Direct flights to Athens, Greece are now extremely affordable from the U.S.

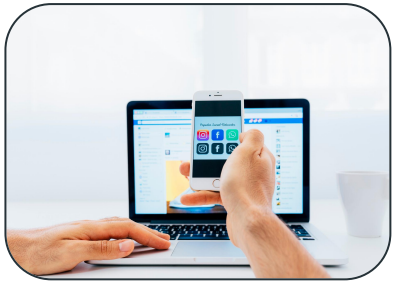
- Airbnb is looking to capitalize on this segment of travelers by:

Tasked With:

1. Optimize customer satisfaction for short-term rentals
2. Cost & Positive Rating analysis
3. Identify the best Property-Types to offer
4. Improve our Recommender System

Data Overview

Data Overview



- Analyzed nearly **19,000** unique Airbnb property listings located in Athens, Greece
- Data contained **descriptions, prices, host tenure, latitudes, longitudes, property types**, etc

Limitations

- No customer reviews (only datetimes of **first** and **last**)
- Incomplete **transit** proximity data
- Only Months are **February, March & April**
- **No customer sentiment** to explain host ratings

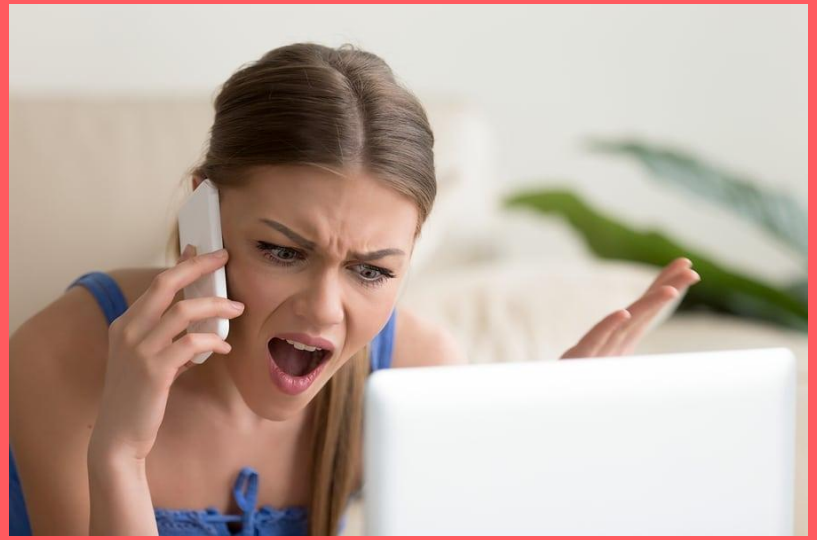
Solutions

- Created **7 new features** based on available data
- Strict cancellation policy, host tenure before 2016, good overall rating, average yearly ratings, is expensive, description word counts

BOTTOM LINE

Airbnb can reduce customer dissatisfaction by nearly

90%



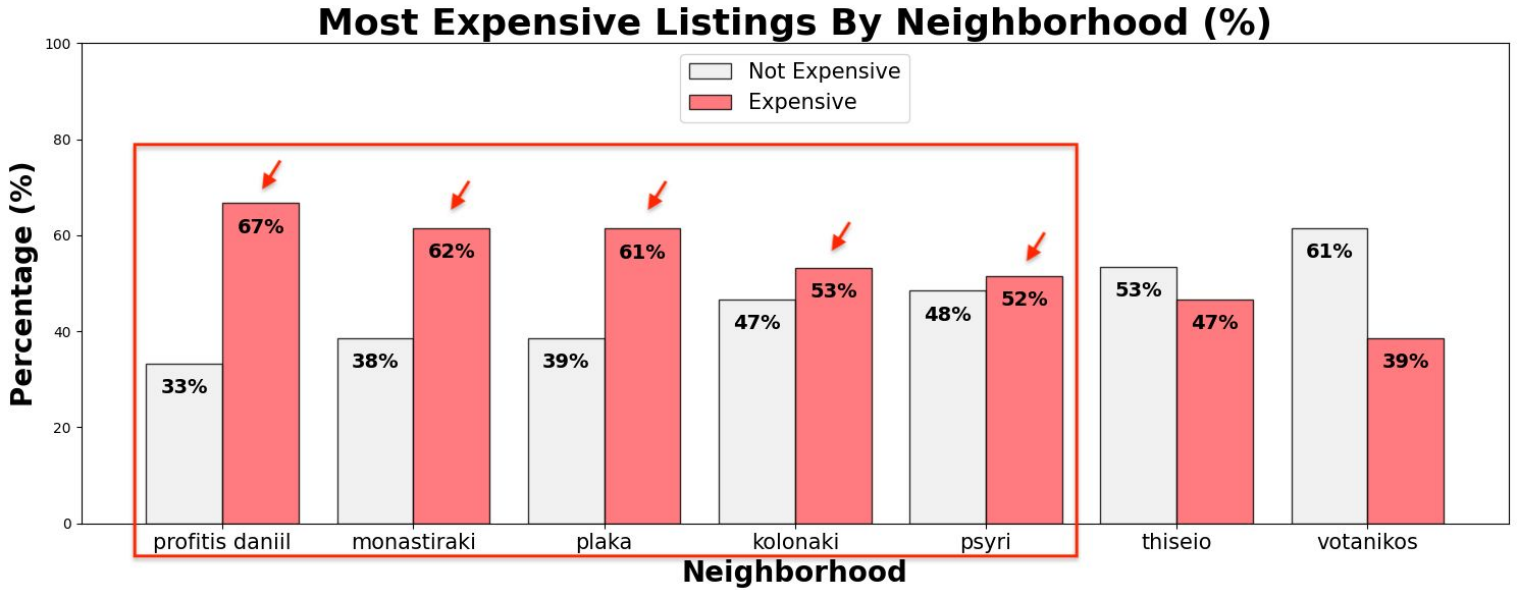
Analysis

Predict a positive customer experience?

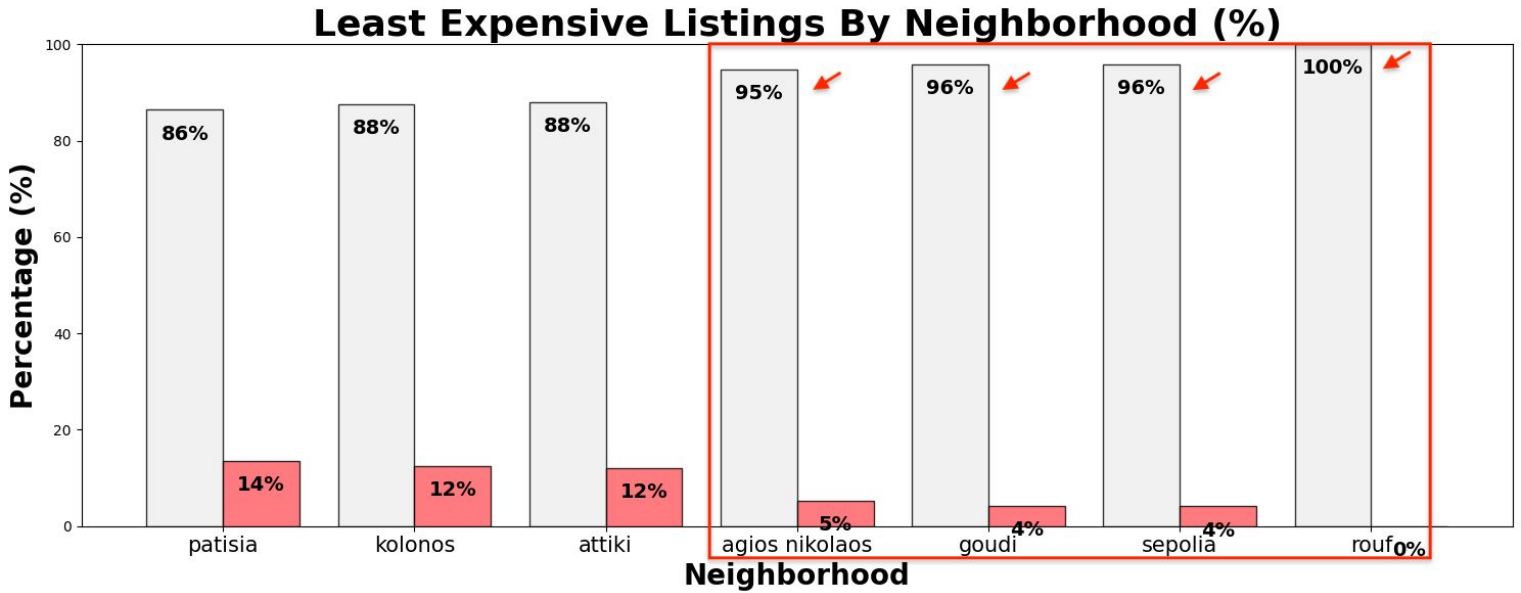
Predict a positive customer experience?

Predict a positive customer experience?

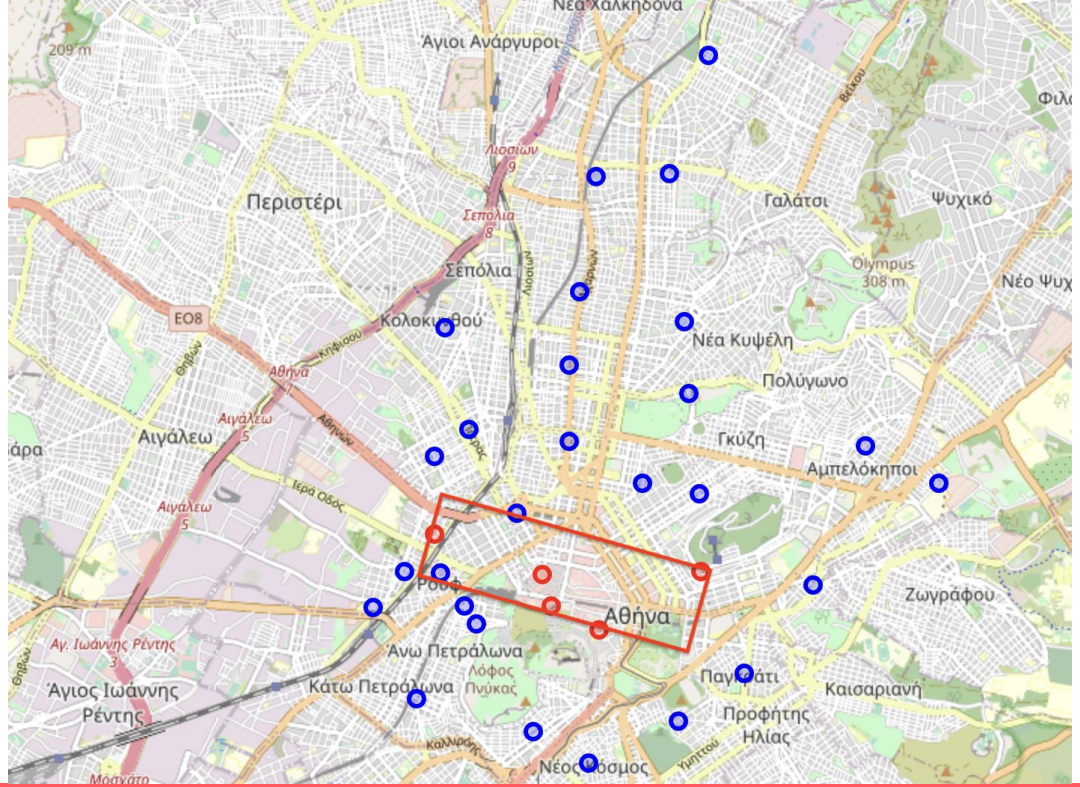
Predict a positive customer experience?



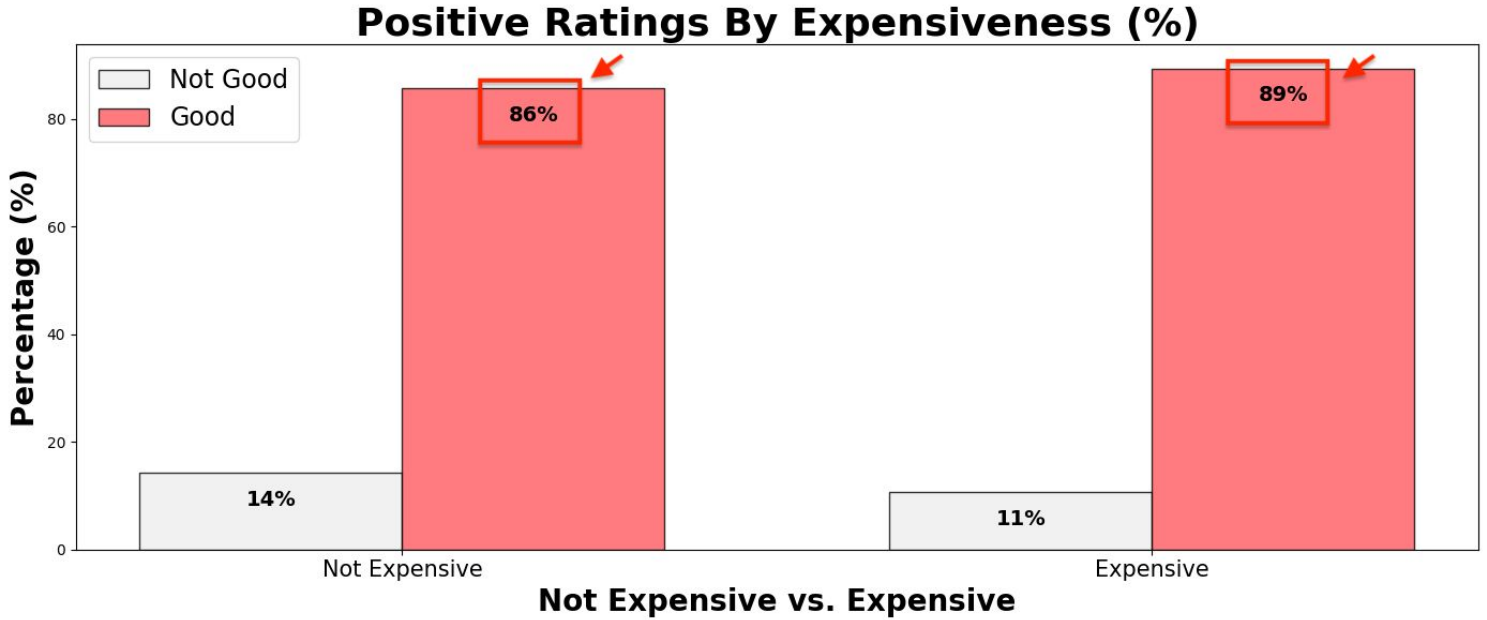
Neighborhoods with above 50% of their listings being categorized as "Expensive"



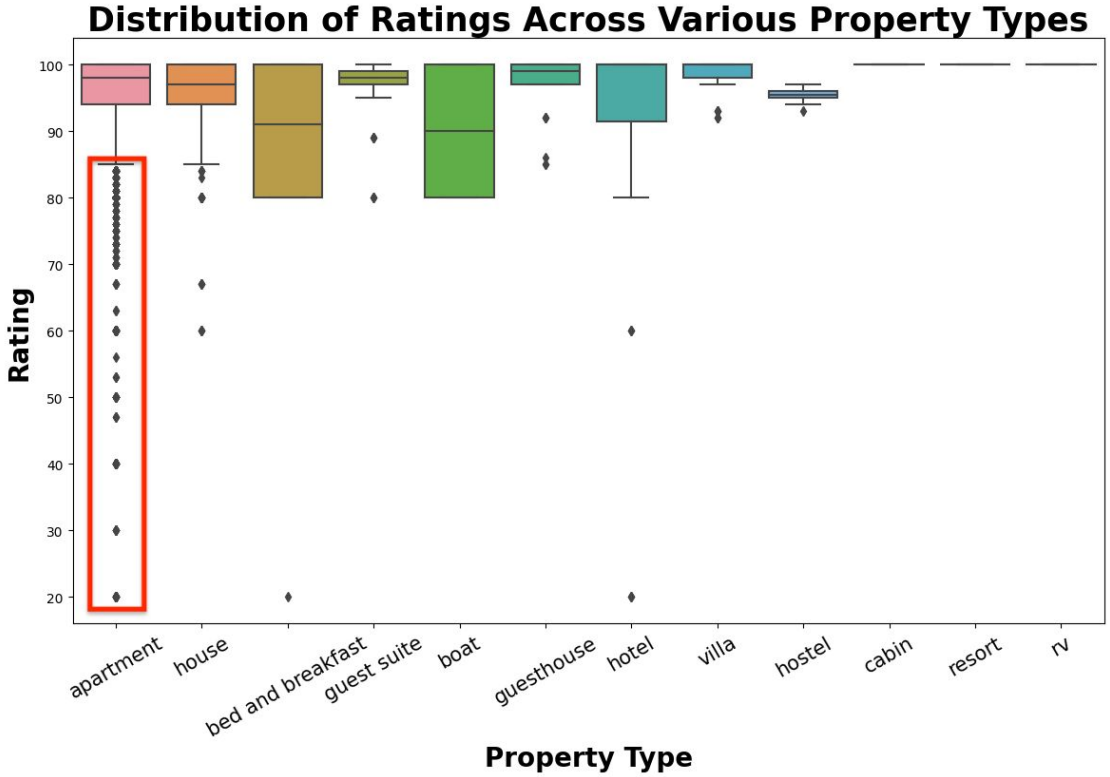
Neighborhoods with over 90% of their listings being categorized as "Not Expensive"



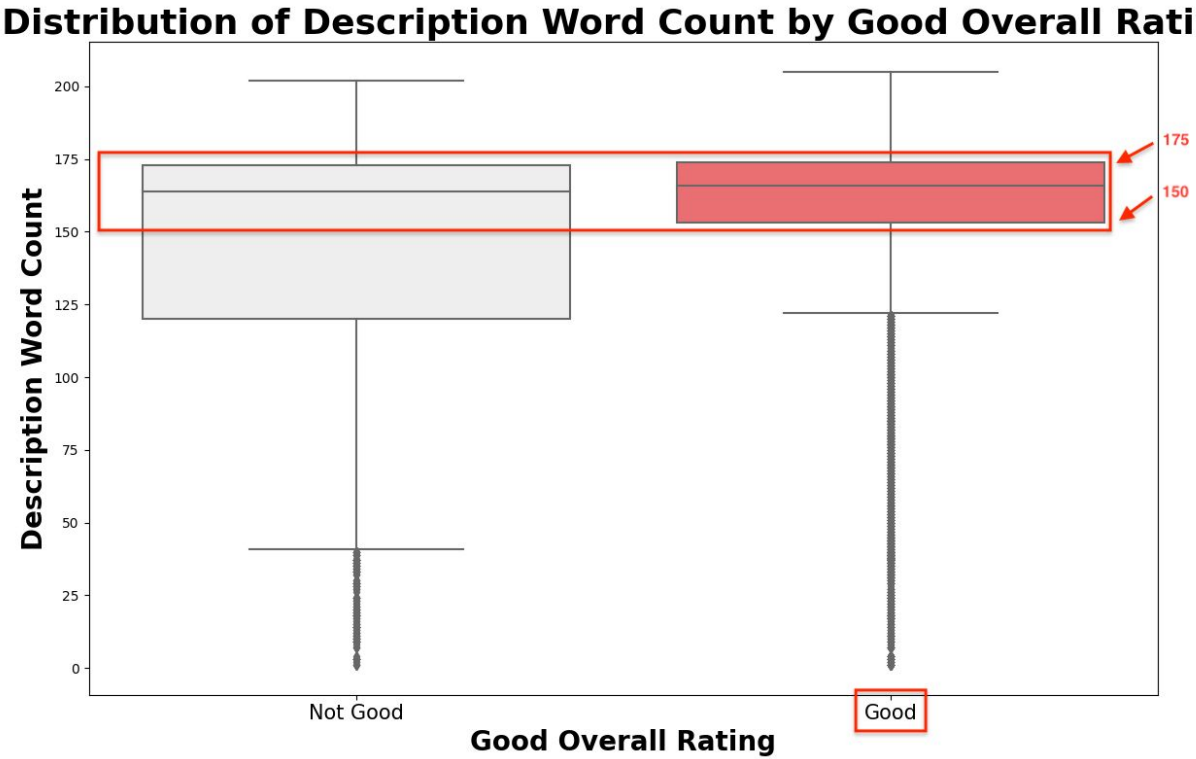
The further out from Downtown Athens, the less expensive the listing will be!



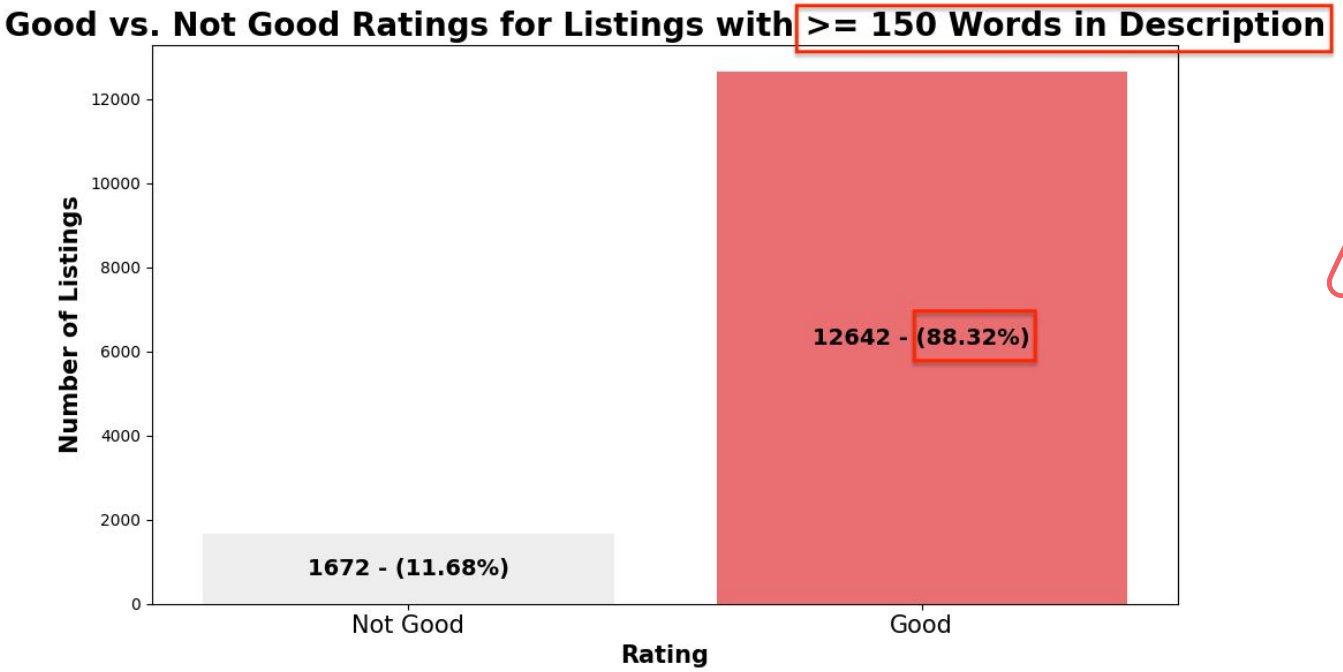
Expensive listings have 3% more ‘good’ ratings as compared to listings that are not expensive



Apartments represent the vast majority of low-rated property listings

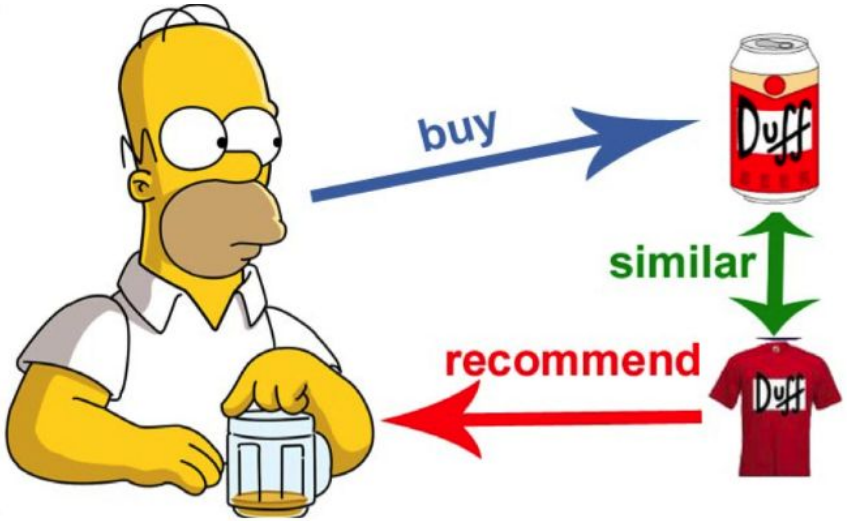


‘Good’ overall property ratings seem to have at least 150 words



Over 88% of listings with a description equal/above 150 words were rated ‘Good’

Recommender System



Model will recommend the best properties to stay based on previously identified preferences

Recommendations

Recommendations

airbnb

1. Expensive / Not Expensive

2. Avoid Boosting Apartments

3. Promote listings with at least 155+ words

Future Steps

Future Steps

airbnb

Analyze customer reviews (text)

Access a full years worth of data

Questions?

Jordan Johnson

LinkedIn / GitHub

Thank you!

Appendix

Links

https://www.behance.net/gallery/143232865/AirBnB-Pitch-Deck-Design

https://www.google.com/search?q=airbnb+presentation+slide+theme&tbm=isch&chips=q:airbnb+presentation+slide+theme,online_chips:deck:Qj09xGD_hew%3D&rlz=1C5CHFA_enUS1045US1053&hl=en&sa=X&ved=2ahUKEwiNgeWq-cuAAxU_IWIAHbXlD3cQ4lYoAXoECAEQNw&biw=1367&bih=748#imgrc=VSLUUsyje1c3hM&imgdii=AslOAI43KzzowM

Non-Technical Presentation

Tell a Story:

Beginning

- Overview
- Business Understanding
- Stakeholder
- Key Business Questions

Middle

- Data Understanding
- Final Model Results (nontechnically!)
- Discuss considerations for metric choice (nontechnically!)

End

- Recommendations
- Next Steps
- Thank You Slide