Undercharging For Your Property?



A Data Analysis on Berlin Airbnb Rent

Project Overview

Question

- What property's features impact airbnb rent price?
- How much should hosts charge for their property according to property's features?

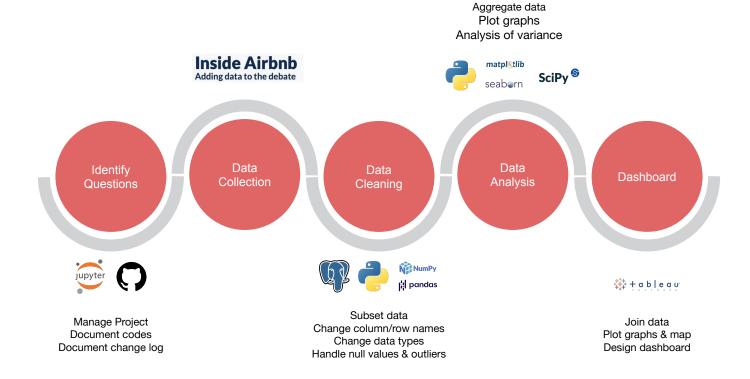
Goal

- To find out what factors impact airbnb rent price
- To build a rent price recommendation model for hosts to optimize their pricing strategy

Data Source

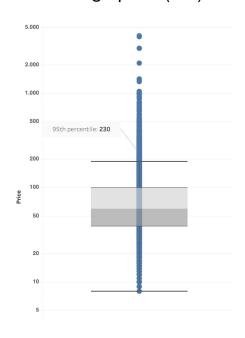
- Inside Airbnb (web content scrapped from Airbnb in June 2022)
- Berlin Bezirke (spatial file) from ODIS berlin

Solution Process



Dataset Overview

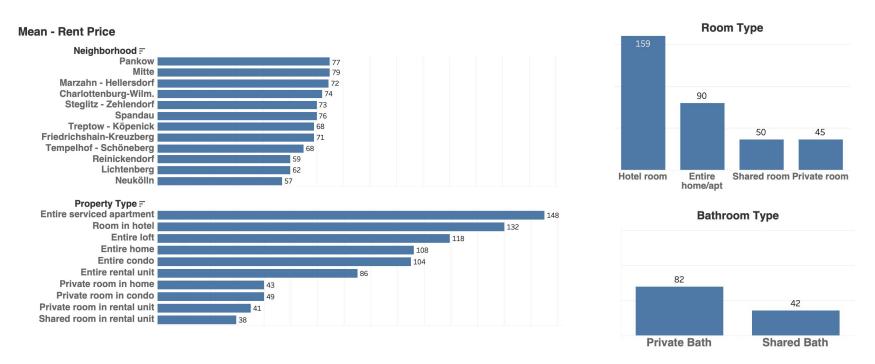
• Extreme high price (5%) excluded



- Property features that could influence the price to examine:
 - Neighborhood
 - Property type
 - Room type
 - Bathroom type
 - Number of accommodates
 - Number of bathrooms
 - Number of beds

Results

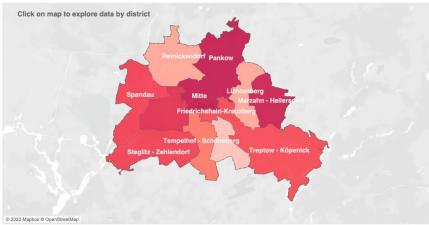
Rent price is influenced by neighborhood, property type, room type and bathroom type



The difference of rent price between groups is statistically significant (ANOVA test) in these factors

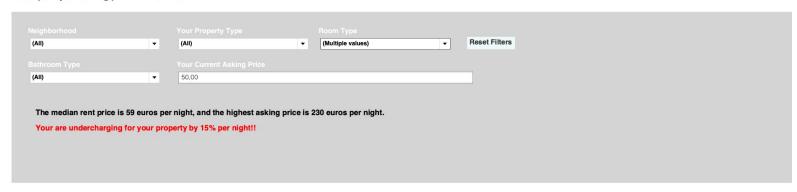
Berlin Airbnb Rent Price Overview





Are you undercharging for your property?

Compare your asking price with others!





Thank you for your attention!

If you have any questions, let's have a chat!

Contact Info

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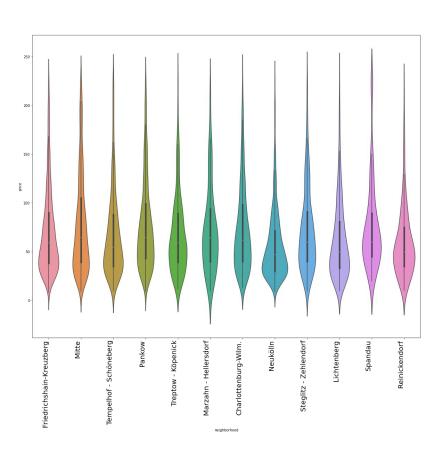
Reference

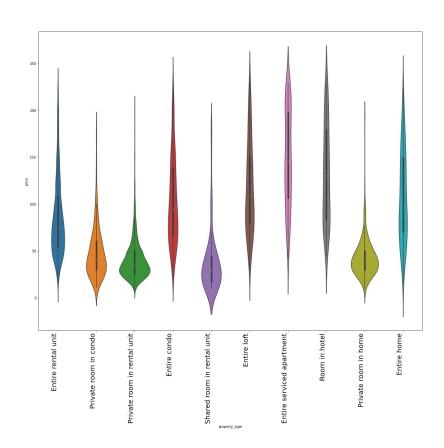
Final Dataset

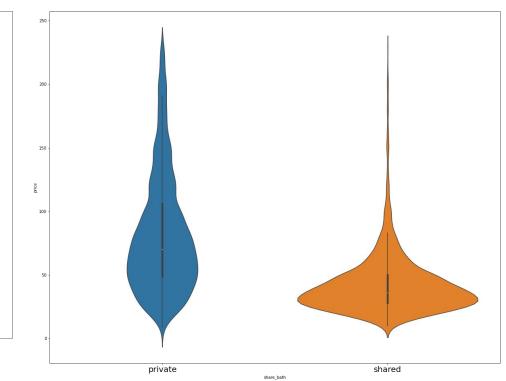
Int64Index: 14741 entries, 0 to 16413
Data columns (total 21 columns):

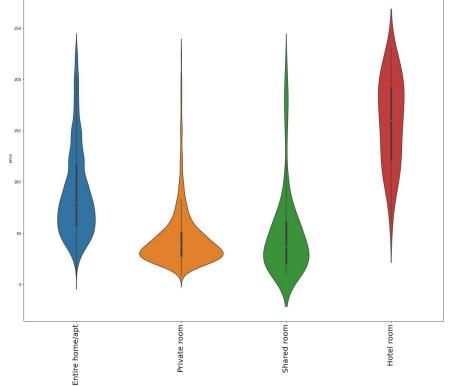
| # | Column | Non-Null Count | Dtype | | | |
|--|------------------------|----------------|---------|--|--|--|
| | | | | | | |
| 0 | id | 14741 non-null | object | | | |
| 1 | name | 14719 non-null | object | | | |
| 2 | description | 14487 non-null | object | | | |
| 3 | neighborhood_overview | 7915 non-null | object | | | |
| 4 | neighborhood | 14741 non-null | object | | | |
| 5 | latitude | 14741 non-null | float64 | | | |
| 6 | longitude | 14741 non-null | float64 | | | |
| 7 | property_type | 14741 non-null | object | | | |
| 8 | room_type | 14741 non-null | object | | | |
| 9 | accommodates | 14741 non-null | int64 | | | |
| 10 | bathrooms_text | 14741 non-null | object | | | |
| 11 | share_bath | 14741 non-null | object | | | |
| 12 | bedrooms | 14741 non-null | float64 | | | |
| 13 | beds | 14741 non-null | float64 | | | |
| 14 | amenities | 14741 non-null | object | | | |
| 15 | price | 14741 non-null | float64 | | | |
| 16 | minimum_minimum_nights | 14741 non-null | int64 | | | |
| 17 | minimum_maximum_nights | 14741 non-null | int64 | | | |
| 18 | availability_365 | 14741 non-null | int64 | | | |
| 19 | host_id | 14741 non-null | object | | | |
| 20 | review_scores_rating | 12228 non-null | float64 | | | |
| dtypes: float64(6), int64(4), object(11) | | | | | | |
| memory usage: 2.5+ MB | | | | | | |
| | | | | | | |

Price Distribution



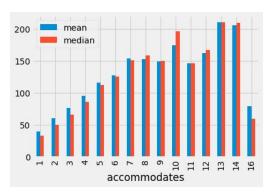


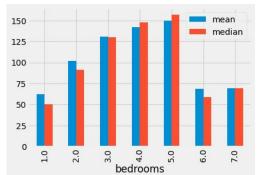


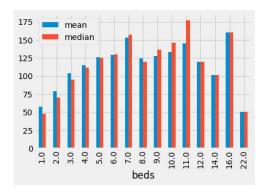


room_type

A weak correlation found between price & number of accommodates, number of bedrooms, and number of beds respectively (r < 0.6).







| | accommodates | bedrooms | price | beds |
|--------------|--------------|----------|----------|----------|
| accommodates | 1.000000 | 0.674567 | 0.527939 | 0.764675 |
| bedrooms | 0.674567 | 1.000000 | 0.410229 | 0.627055 |
| price | 0.527939 | 0.410229 | 1.000000 | 0.412421 |
| beds | 0.764675 | 0.627055 | 0.412421 | 1.000000 |

Conclusion

- Rent price varies depending on neighborhood, property type, room type and bathroom type
- Hosts can use these features to compare rent price with other properties
- Number of accommodates, bedrooms and bed should be investigated further before we use them as a factor