

Predicting Star Ratings of Edinburgh Airbnbs through Review Texts Analysis

Challenge

The ratings provided by guests directly impact Airbnb hosts revenue.

Question

How to improve star rating for listings?

Solution

Identify key features that affect star ratings.

Methods

Review text analysis using Natural Language Processing

Data Description

Host

- Host_since
- Host_about
- Host_response
- Host_is_superhost
- Host_verified

Neighborhood

- Description
- Latitude
- Longitude

Property

- Room_type
- Num_beds
- Num_accomodates
- Num_bathrooms
- Price
- Min_Max_nights

Ratings

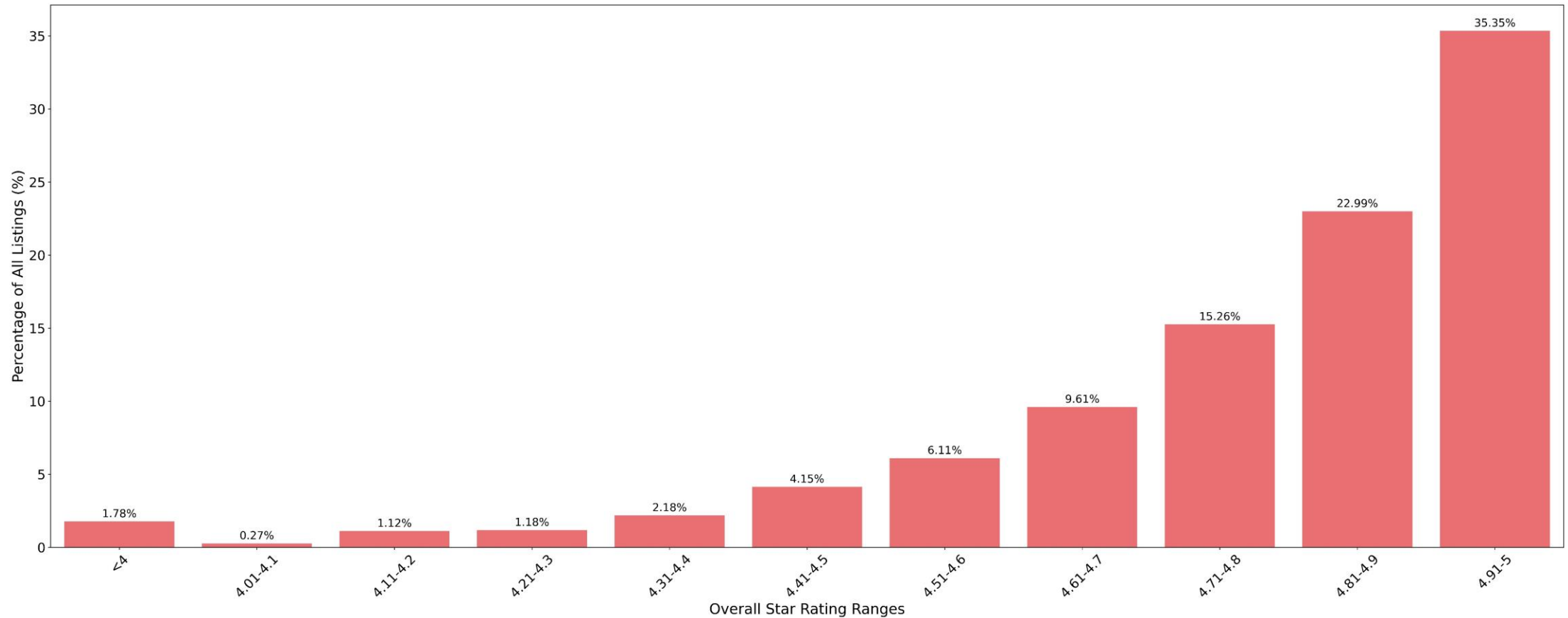
- Overall
- Accuracy
- Cleanliness
- Communication
- Location
- Value

Reviews

- Customer Reviews

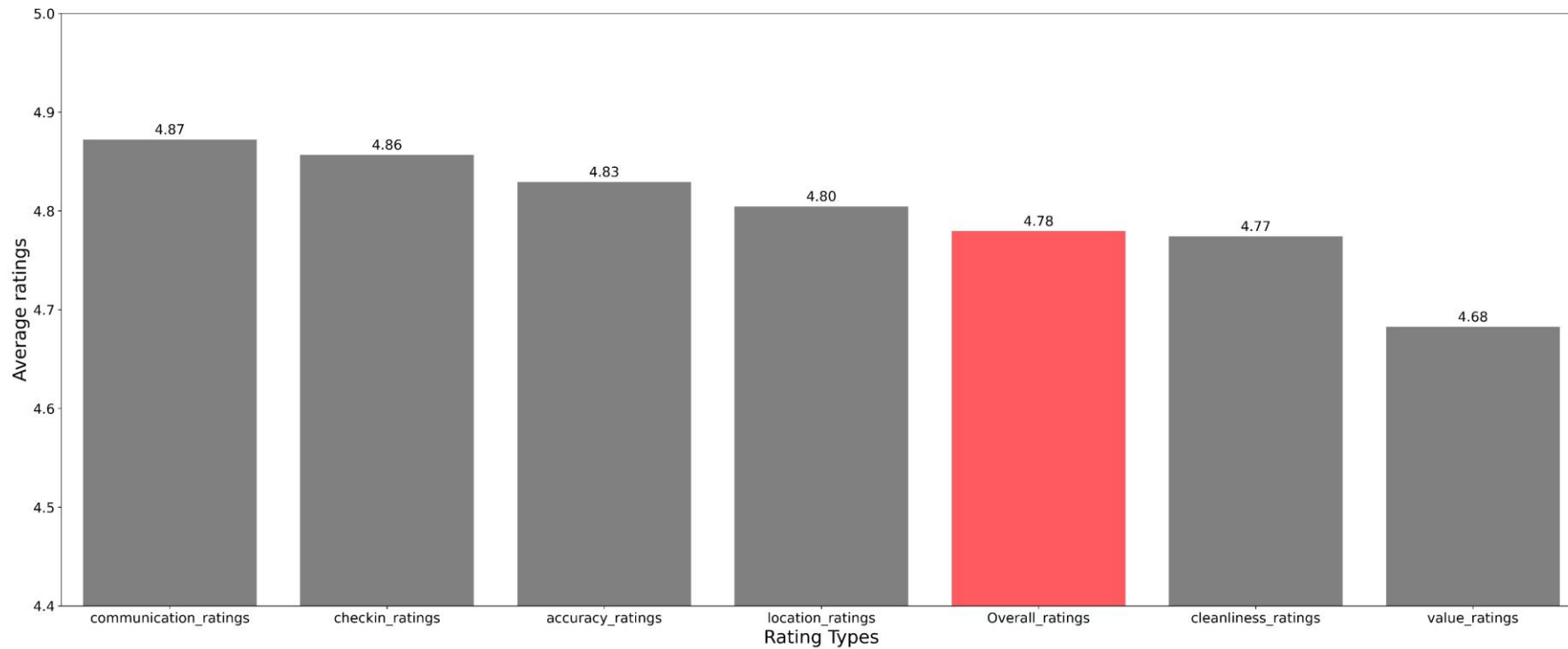
Distribution of Airbnb Listings by Star Rating

- 74% of the listings have above 4.7 overall rating.
- Only less than 2% of the listings have overall rating less than 4.



Average ratings by rating categories

- Average overall rating for all listings is lower than most of the individual rating category.
- All average ratings are above 4.6.
- People tend to rate harsh on values of the listing.



Distribution of Overall Ratings by Price Range

- Cheaper listings do not generally have low overall ratings.
- Hard to see rating behavior for listings with price between 50-500.
- Listings with prices above 2000 have wider overall ratings distribution.

