



# Airbnb price predication

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# Introduction

Airbnb is an online housing platform that provides users to list, discover, and book accommodations for their users all across the world. Hosts can offer their property spaces to guests for short or long periods of time. These accommodations differ from the typical hotel room because of the ability to live and witness the culture of living in the area of choosing. Airbnb's listings offer a huge range of options ranging from community bedrooms to luxury housing, all in one platform. There is a peer-review system where guests can leave reviews after reservations are made. These reviews can often dictate how much owners can book/earn.



# Dataset



**Rows**

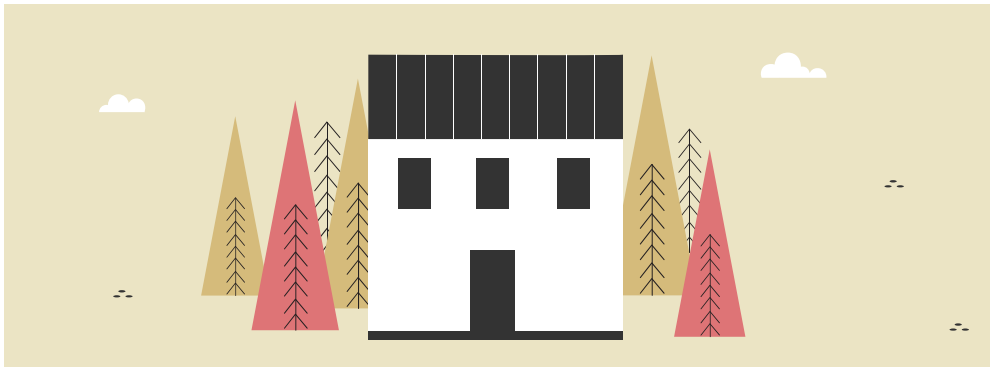
70K



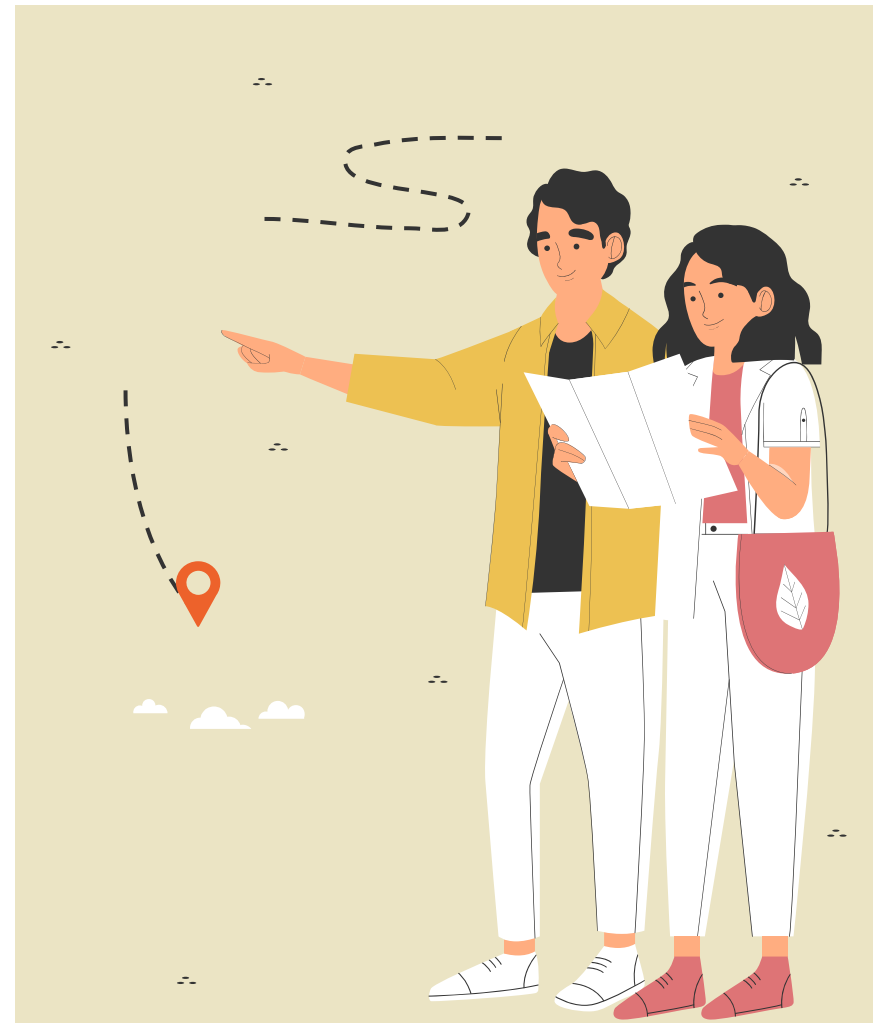
**Features**

29

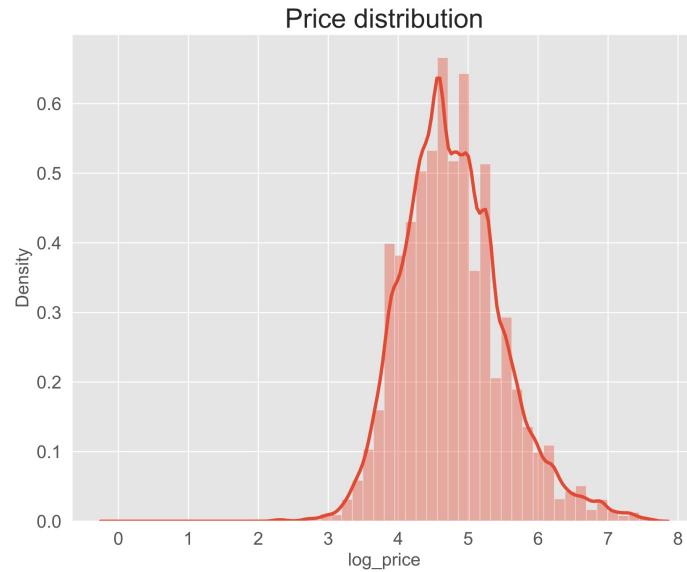




**EDA**

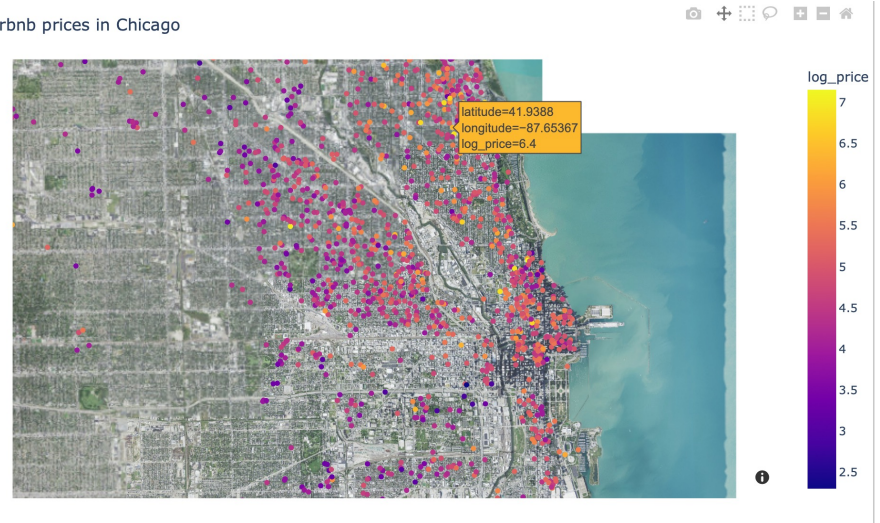


# Price distribution

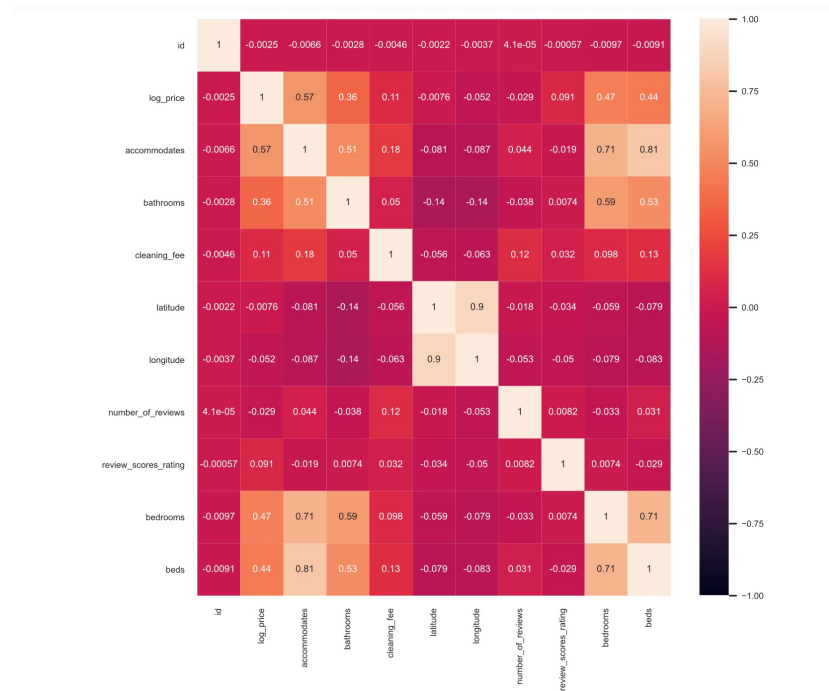


# Prices map

Airbnb prices in Chicago



# Heatmap



# Data Cleaning

**Checking  
The nulls**

**Checking The  
Outliers**

**fill missing  
values**

**Dropping  
unimportant  
columns**

**dealing with  
Boolean  
column**

**Convert  
string to  
date**





# Baseline Model

**ORDINAL**

**01**



**NOMINAL**

**02**



**NUMERIC**

**03**



**CATEGORICAL**

**04**



# Feature engineering





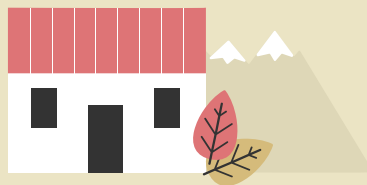
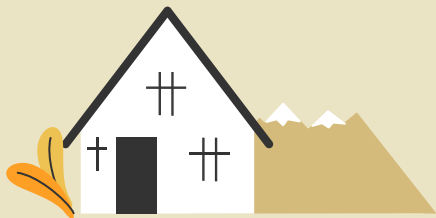
# Modeling

# Regression model

**Linear**

$R^2$

Validation 0.607



**XGB**

$R^2$

Train 0.81

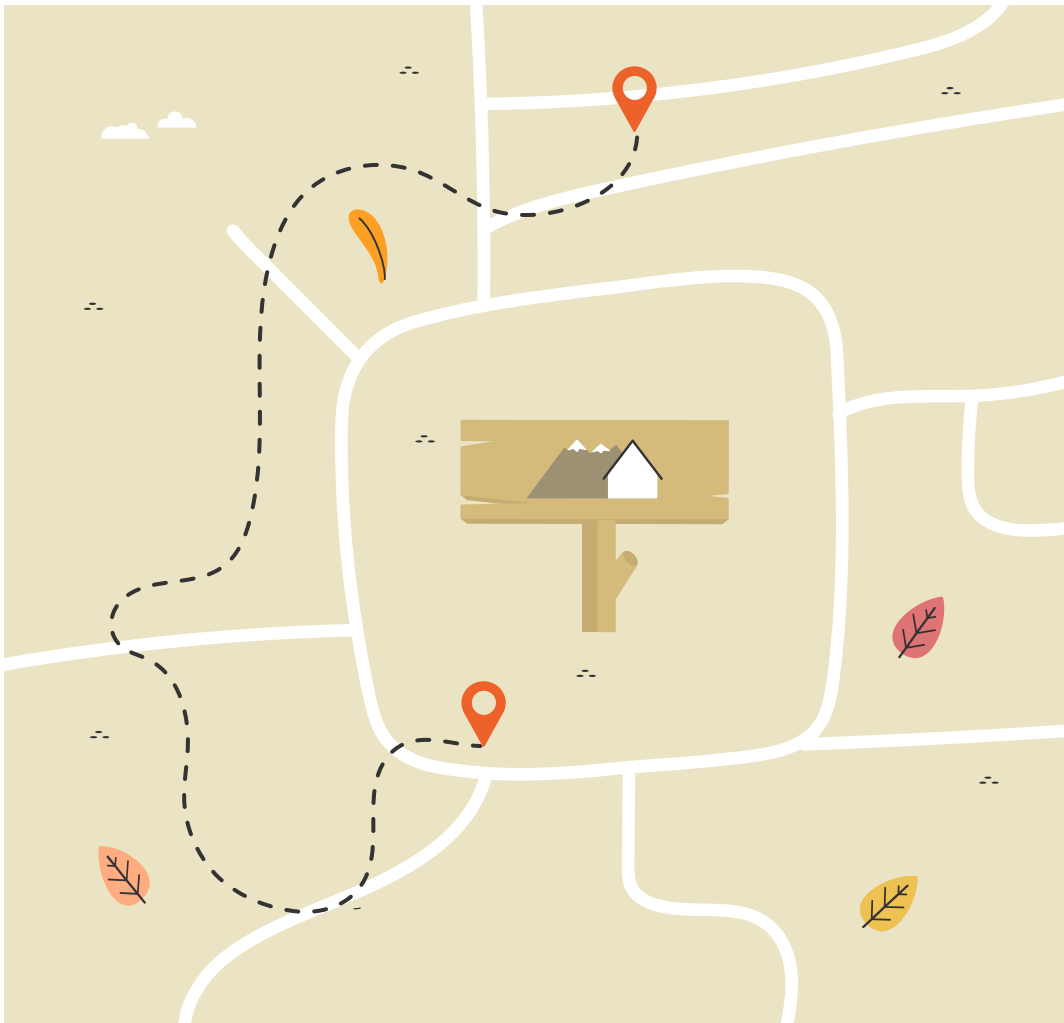
Test 0.72



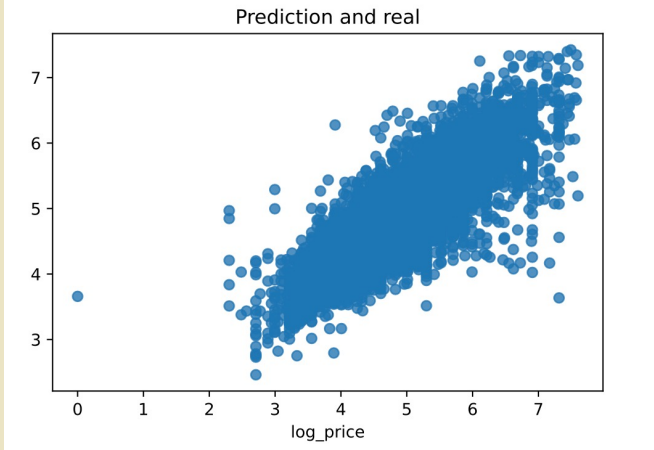
**Ridge**

$R^2$

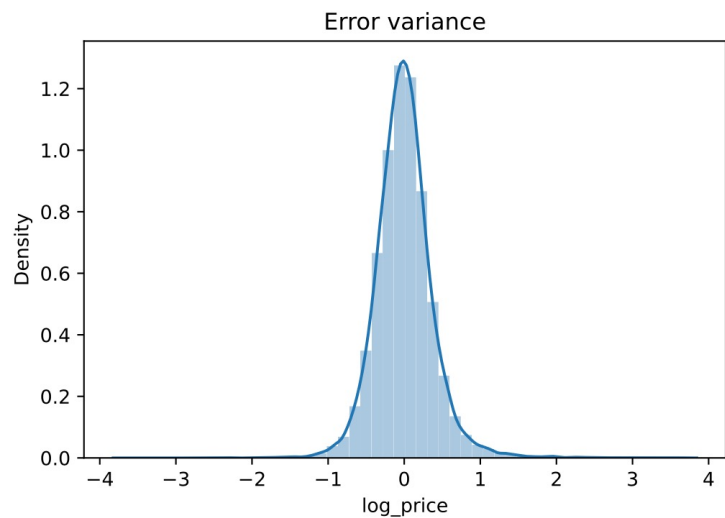
Validation 0.597



# PREDICTION AND REAL



## Residuals distribution



# Thanks!

**Do you have any questions?**