

airbnb

AIRBNB PRICES IN EUROPEAN CITIES

GROUP 5



FILTERS X ROOM TYPE X PRICE X NEIGHBORHOODS



Private room
Ridgewood, Queens

\$84
Per night



Private room
Jackson Heights, Queens

\$75
Per night



BACKGROUND INFO


Online marketplace that allows people to rent out their homes, apartments, or rooms to travelers.

220 countries and regions

Over 7 million listings worldwide.

A hand holding a smartphone with the Airbnb logo on the screen. The logo consists of a red circular icon with three interlocking loops and the word "airbnb" in red lowercase letters below it. The phone is held in a way that the screen is clearly visible. The background is a blurred bedroom with a bed and a nightstand.

**HOW MANY OF YOU HAVE
EVER STAYED AT AIRBNB ?**



WHAT IS THE
MOST IMPORTANT
THING TO YOU
WHEN BOOKING
AN AIRBNB?

DATA PREPARATION

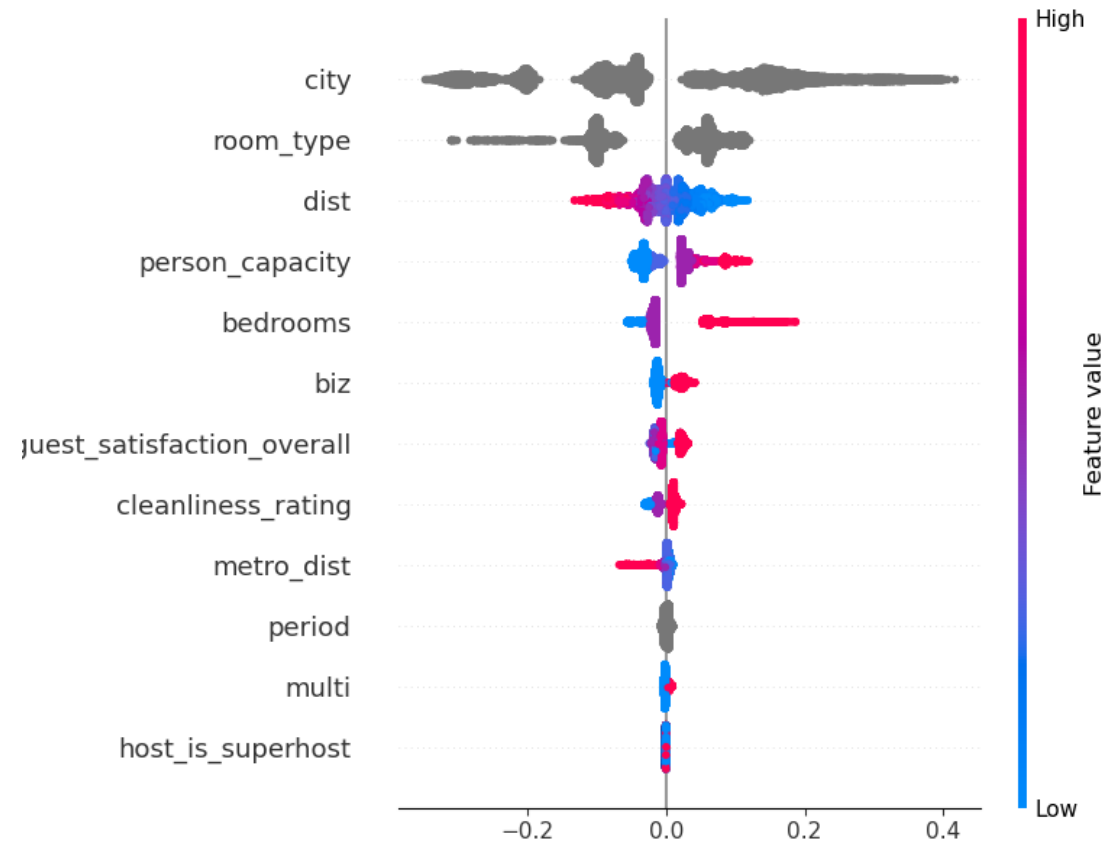
Continuous dataset

Removed longitude and latitude from the dataset

Removed outliers

FEATURE IMPORTANCE

- City was the most important
- Room Type and Number of Bedrooms had positive impact
- Interestingly, metro distance had a negative impact





MODEL SELECTION

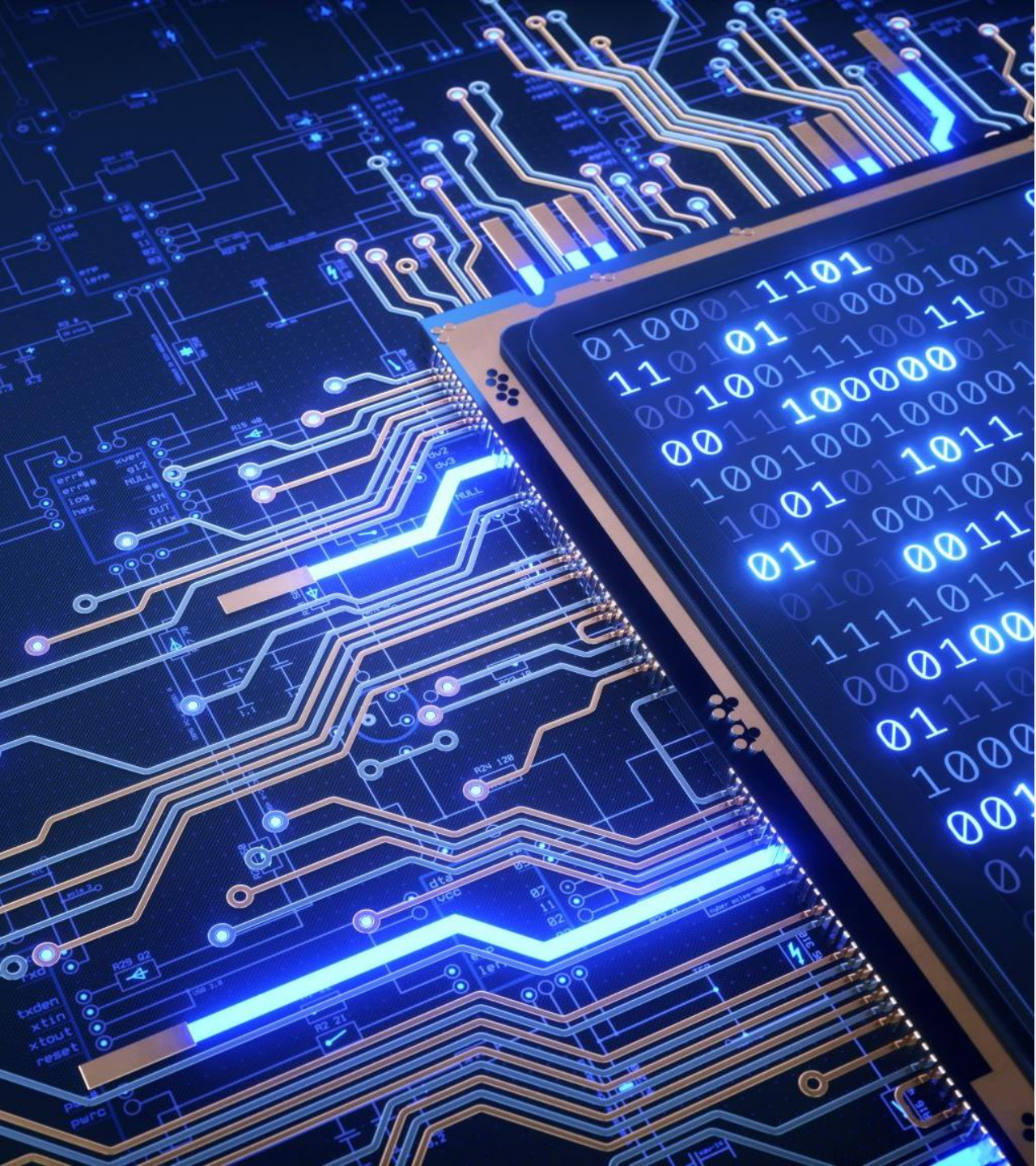
- RANDOM FOREST AND GRADIENT BOOSTING*
- KNN*
- RANDOM FOREST CLASSIFIER*
- GRADIENT BOOSTING*
- DECISION TREE*
- LINEAR REGRESSION - OLS

*Regressor



ACCURACIES

ML ALGORITHM	R2
KNN	0.703
Random Forest	0.881
Gradient Boosting	0.873
Decision Tree	0.692
OLS	0.584
Nicer OLS	0.611



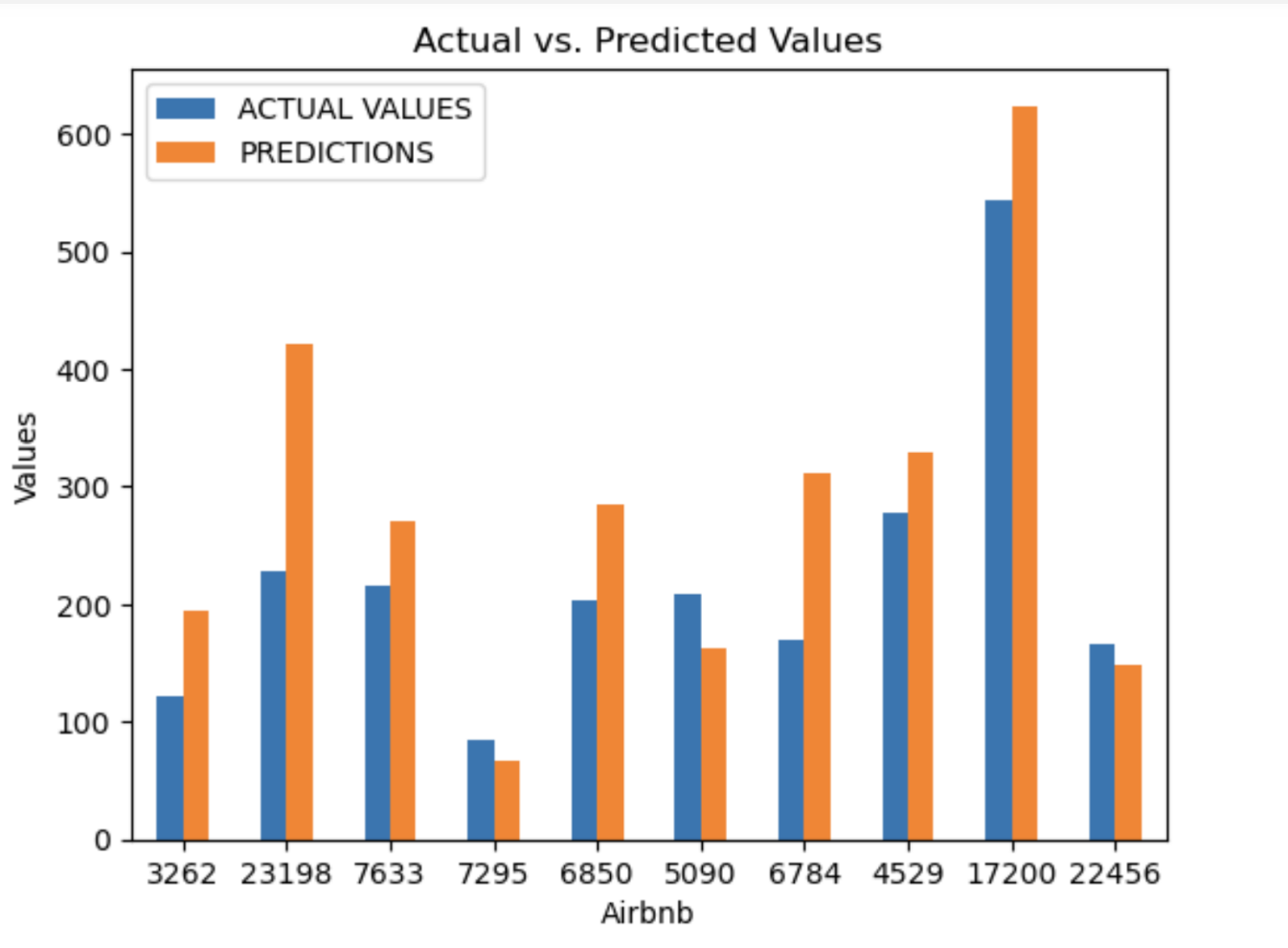
LIMITATIONS

- Unable to do the confusion matrix due to the continuous dataset
- Unsure if the same accuracy would translate to other markets
- Avoid grouping data

A close-up, blue-tinted photograph of a document. In the foreground, a silver pen lies diagonally across the top right. Below it, a line graph is visible, featuring a solid blue line and a dotted blue line. The background is filled with various numbers and text, some of which are blurred. Notable numbers include '2.5' on the left, '2.47' on the right, and '20' in the bottom left corner. The overall composition suggests a professional or academic setting focused on data analysis.

RESULTS AND INTERPRETATION

OLS : linear regression



Gradient Boosting Regressor

