

Immo Eliza

Analysis

Jayesh Italiya
Matthew Samyn
Logan Vendrix

Table of content

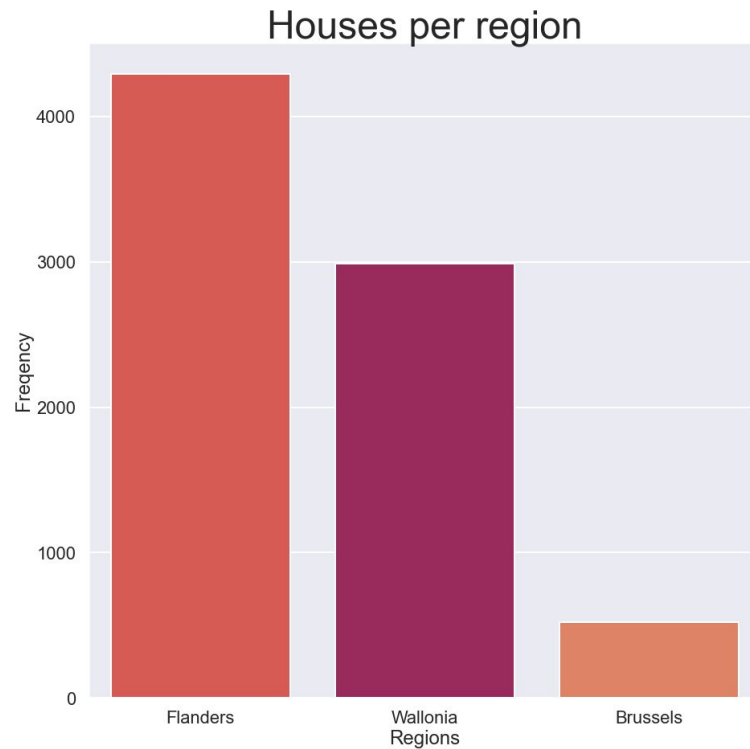
- Data Cleaning
- Data Analysis
- Data Interpretation
- Conclusion

Data Cleaning

- Which variable is the target ? Price
- How many rows and columns ?
 - Original: 10092 rows x 17 columns
 - Current: 7801 rows x 18 columns
 - Added columns: Regions and Price/m2
 - Removed rows with NaN in Area (strong influence on price)
 - Removed duplicates (if Area, Price, Zip code , State of building, Land surface, Garden surface)
 - Removed column 'Type_property' as all are 'House'

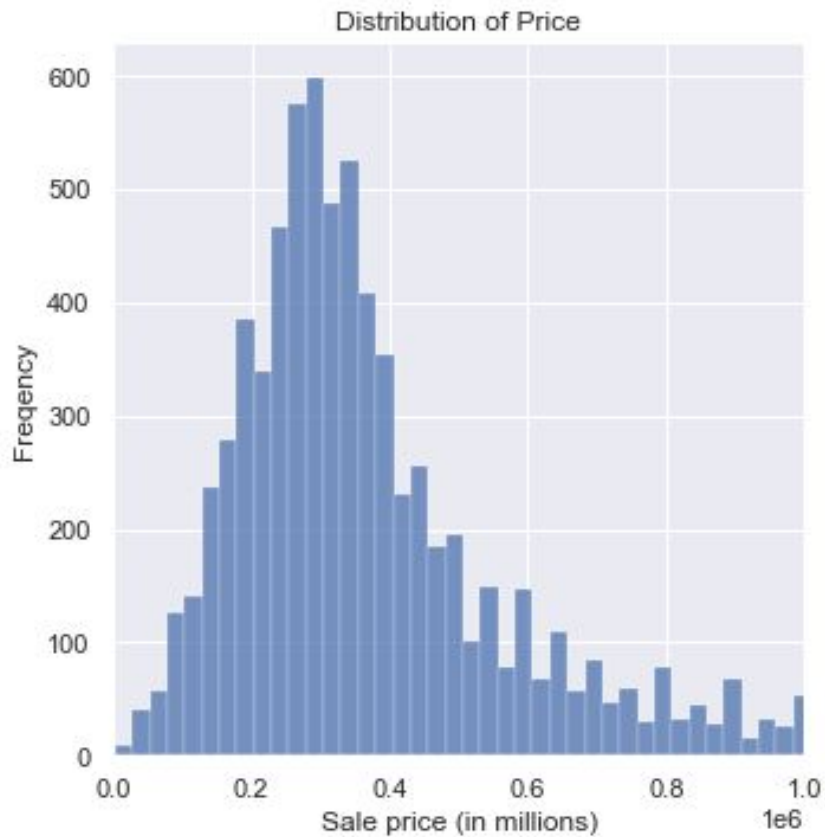
First insights

	Number of houses
Flanders	4293 (55%)
Wallonia	2986 (38,3%)
Brussels	522 (6,7%)
All	7801



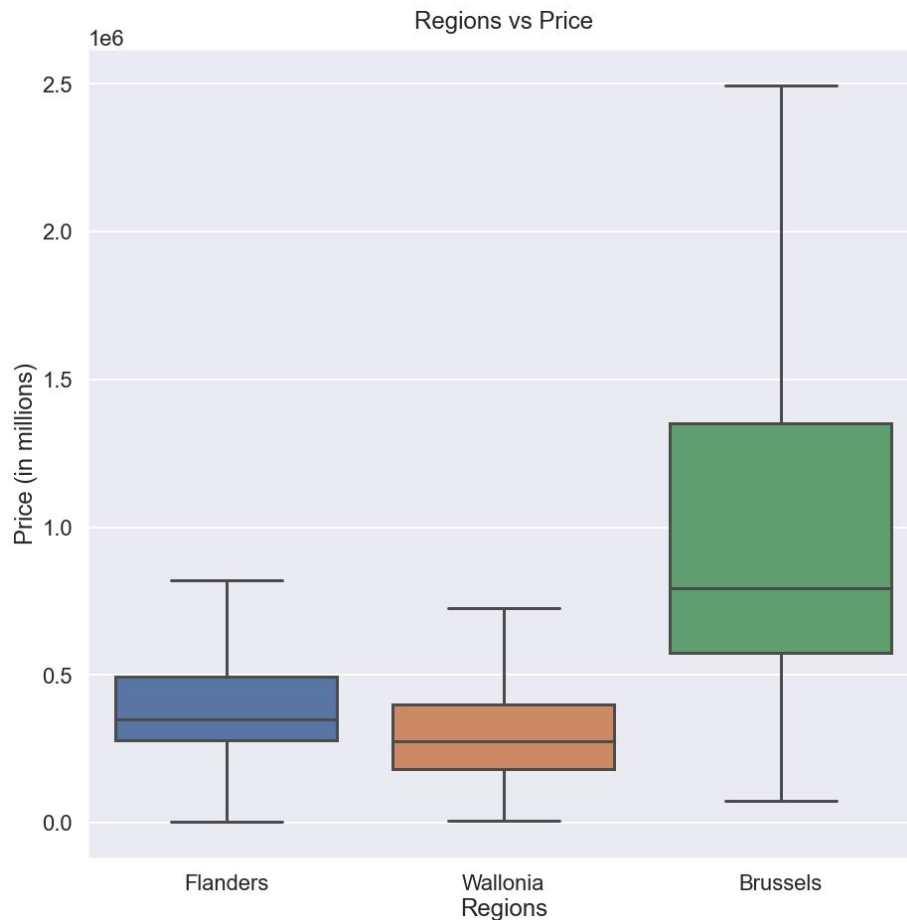
First insights

	Mean	Median
All	471.203	339.000



First insights

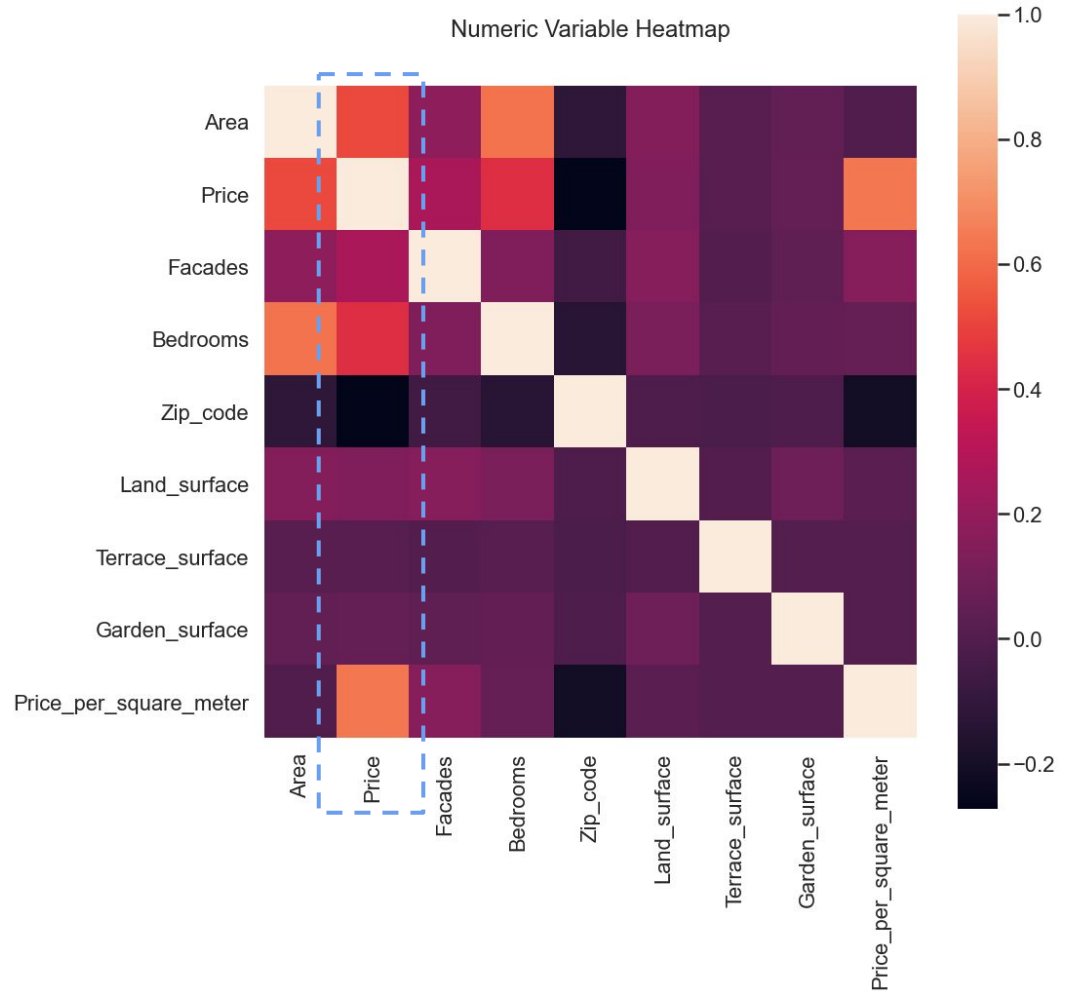
	Mean	Median
Flanders	477.923	350.000
Wallonia	359.338	275.000
Brussels	1.055.840	795.000
All	471.203	339.000



Data Analysis

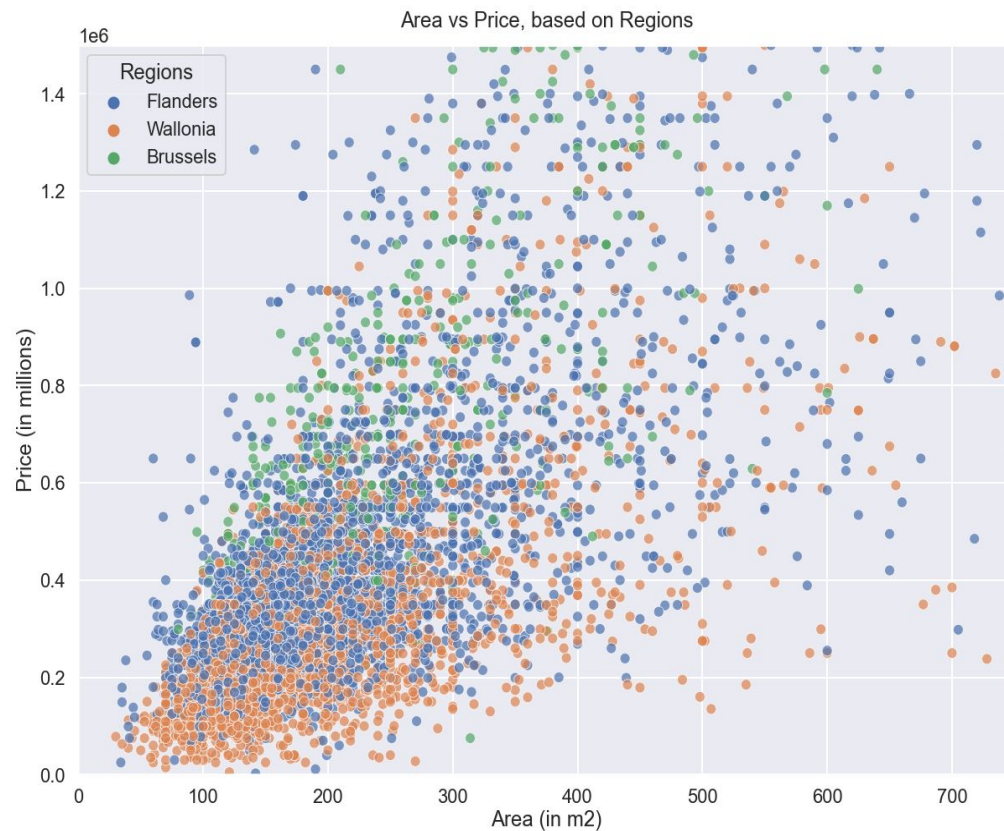
Heatmap (Numerical variables)

- High correlation
 - Area
 - Bedrooms
- Some correlation
 - Facades
 - Land surface
- Low correlation
 - Terrace surface
 - Garden surface

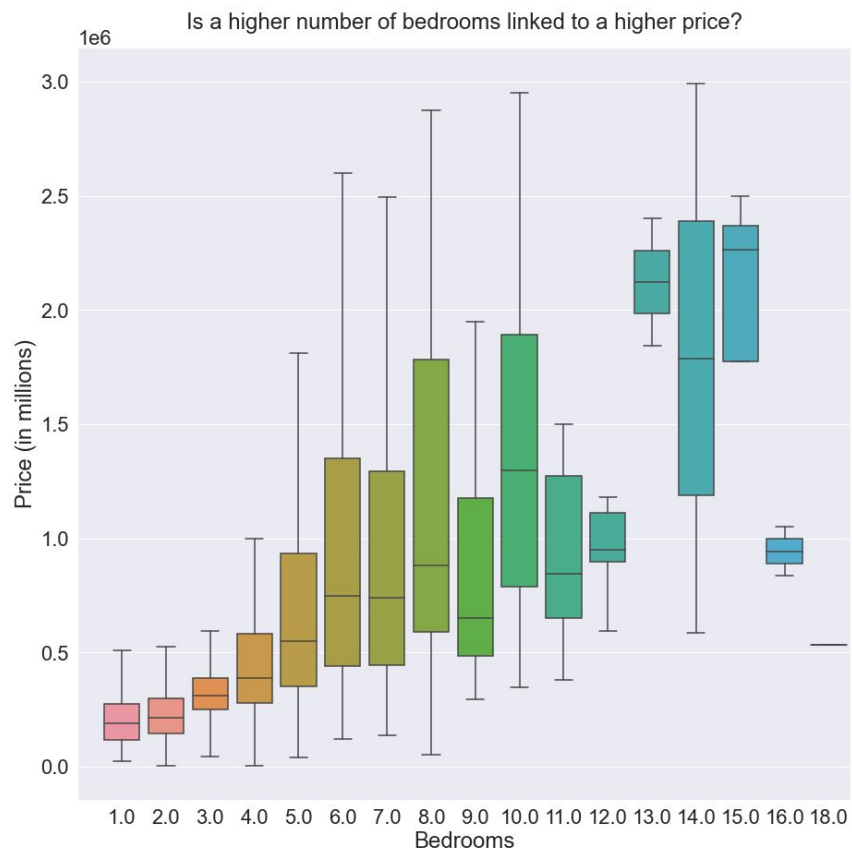


Area

- High correlation with price
- Independently of the region

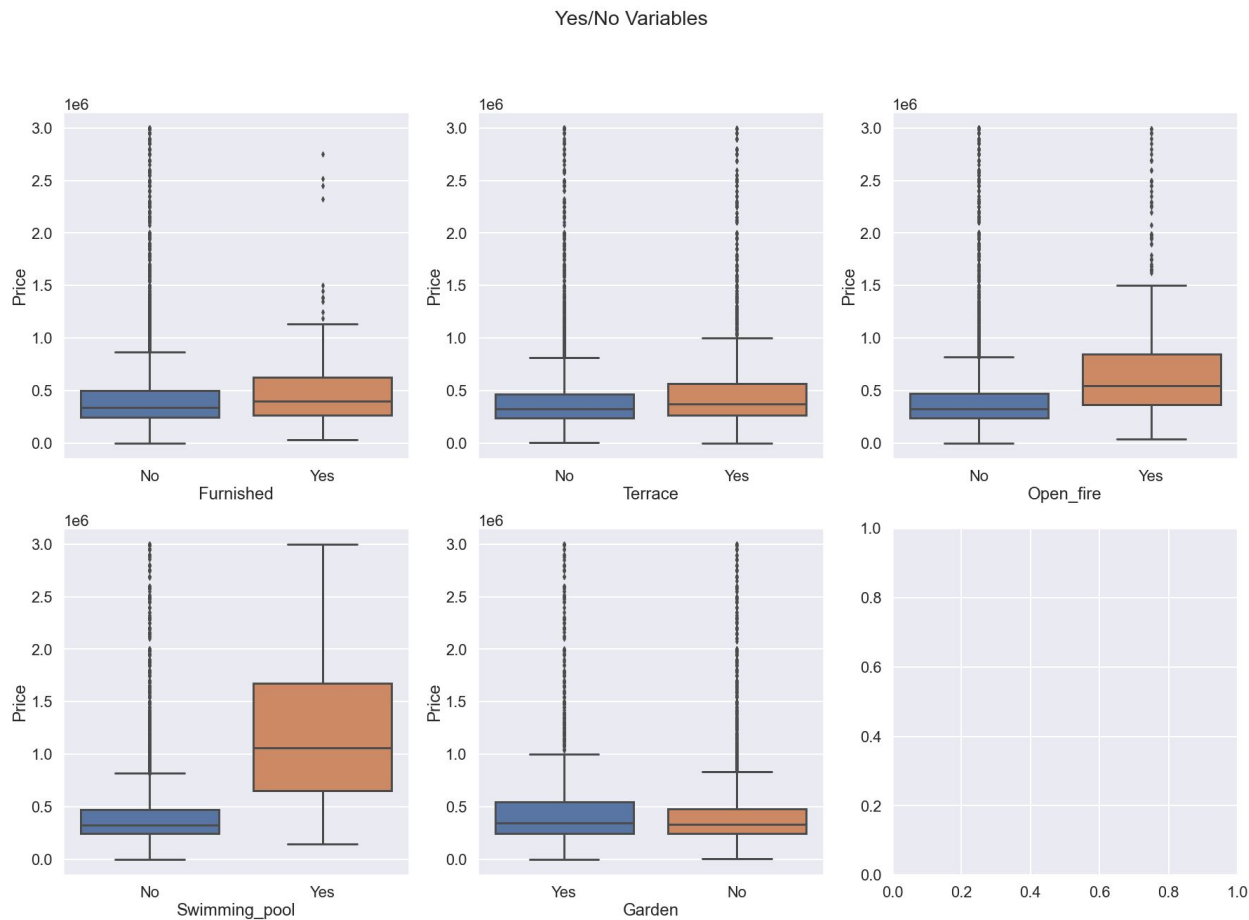


Bedrooms



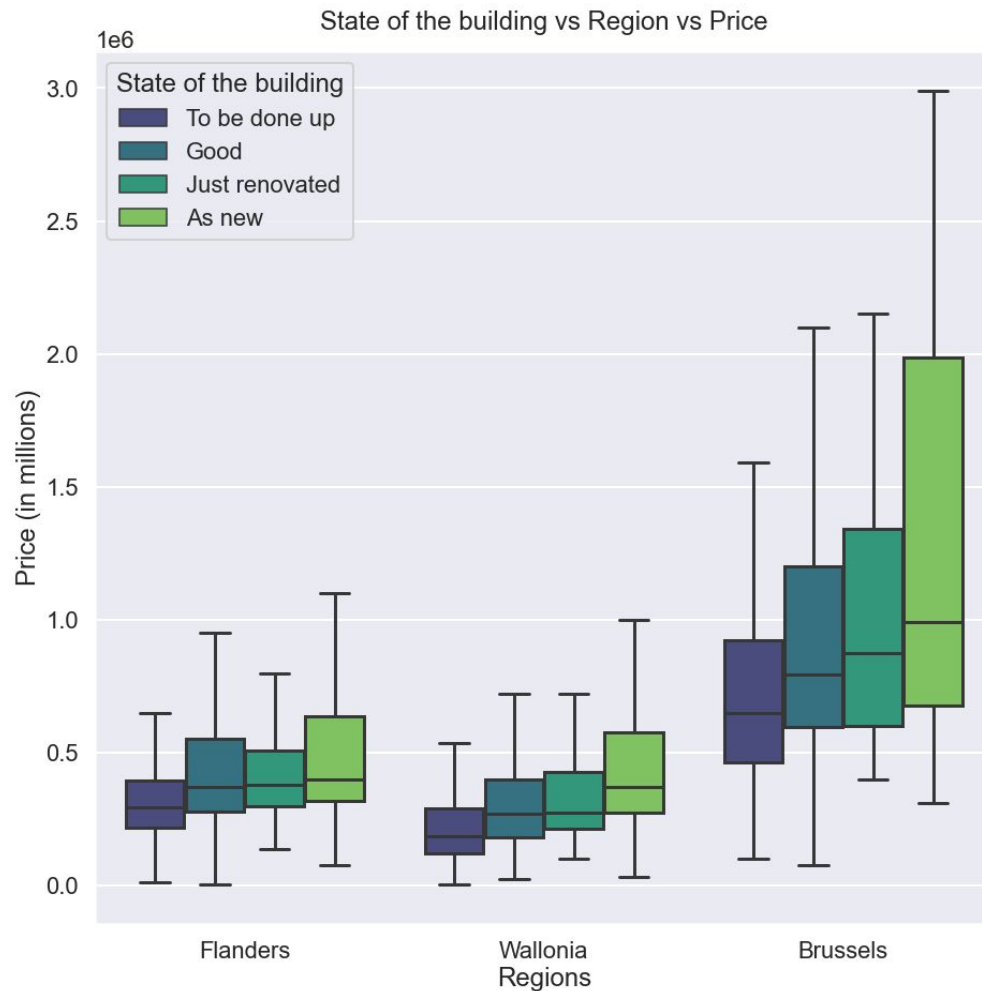
Yes/No Variables

- High correlation
 - Swimming-pool
- Some correlation
 - Open-fire
- Low correlation
 - Furnished
 - Terrace
 - Garden



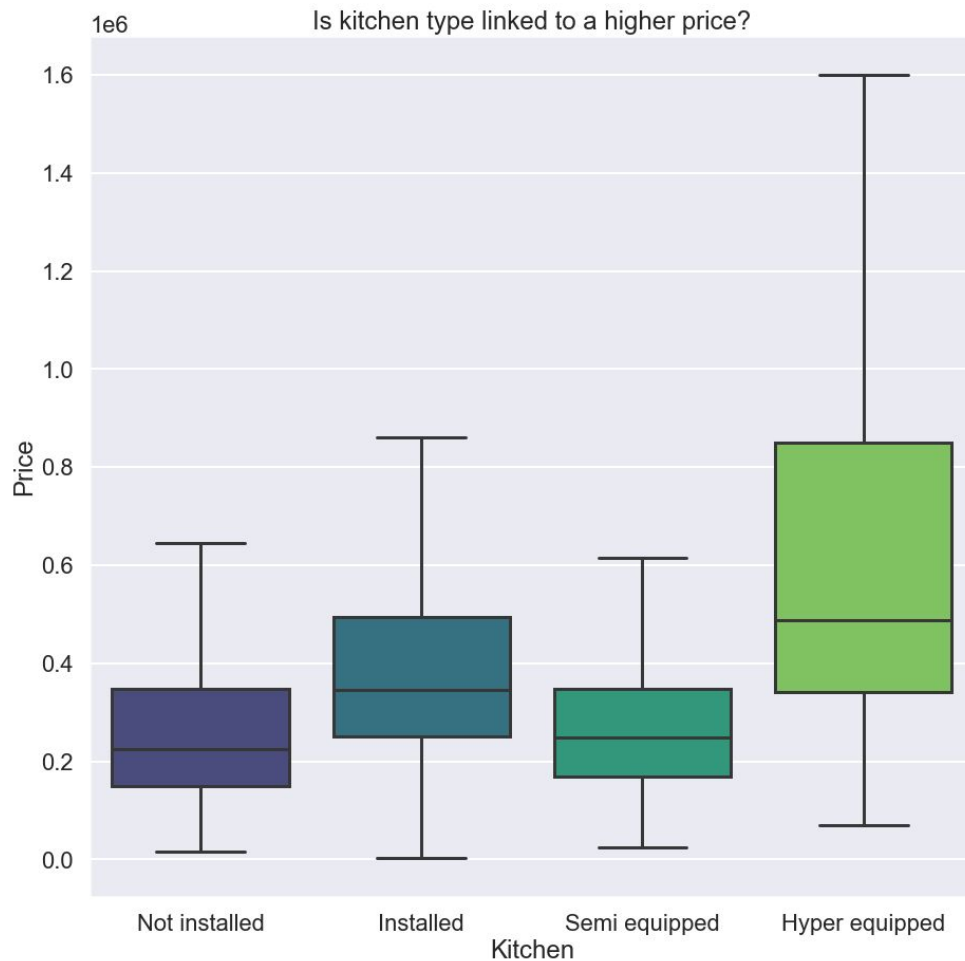
State of the building

- Correlation with price
- In Brussels, more difference between states



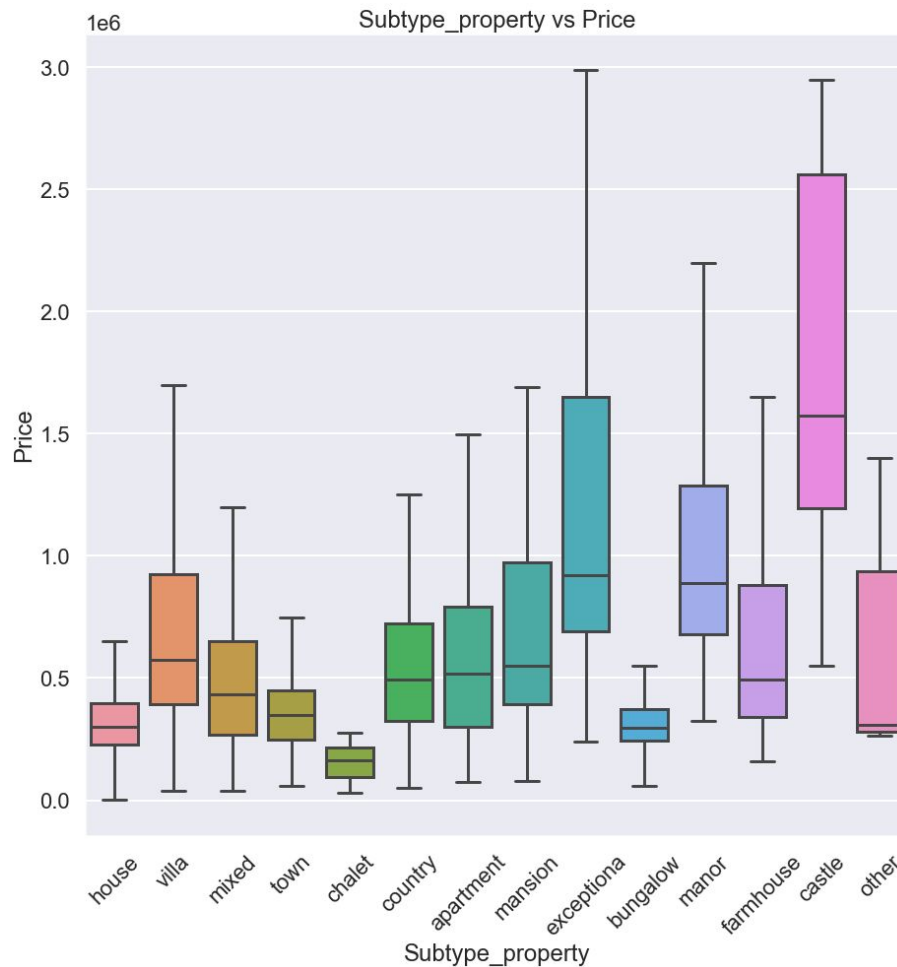
Kitchen

- Correlation with price



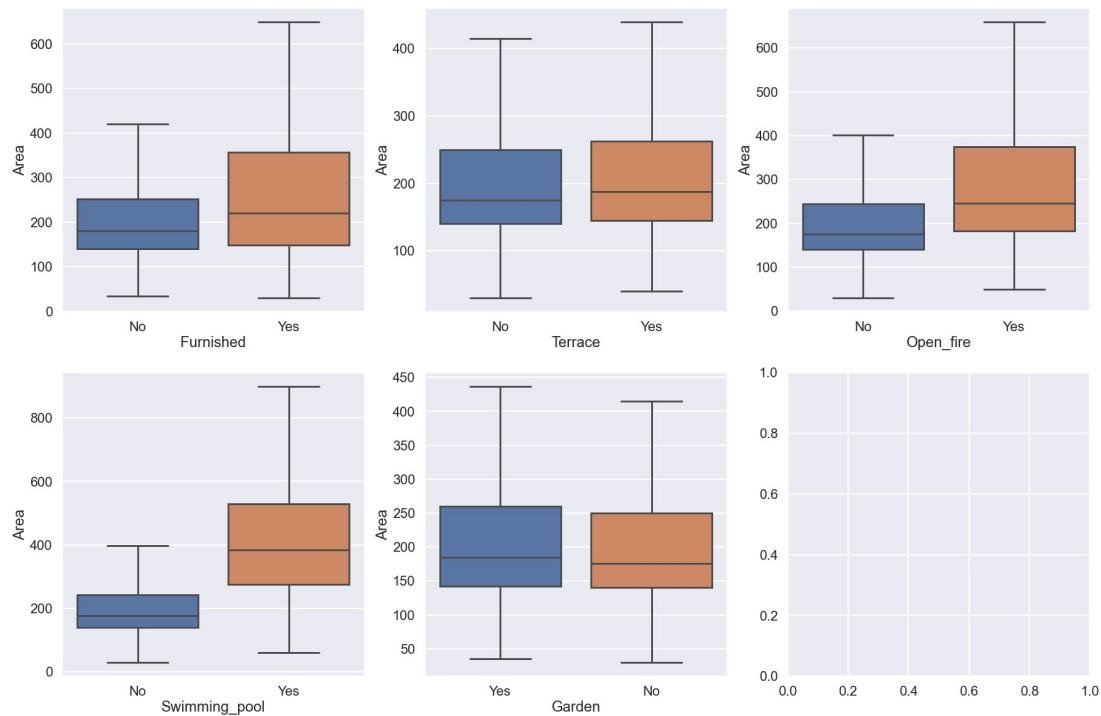
Subtypes

- Correlation with price

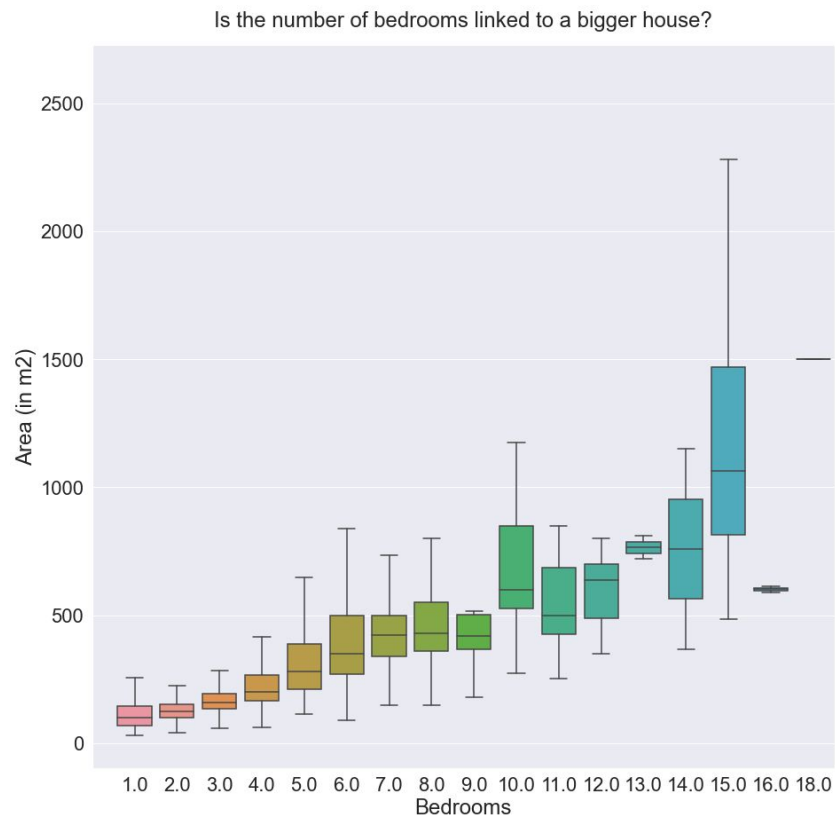


Correlation between other variables

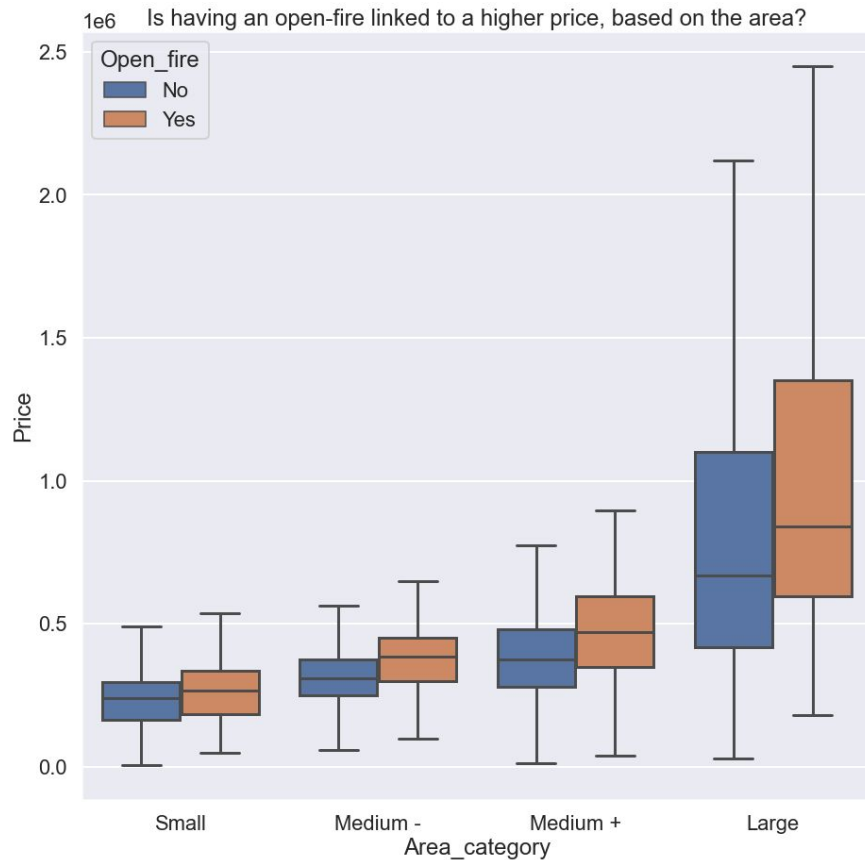
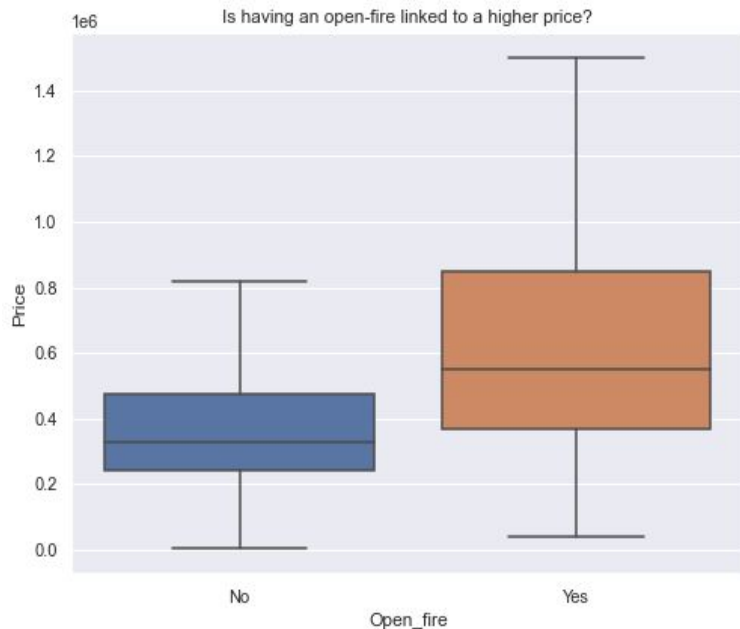
Variables linked to Area



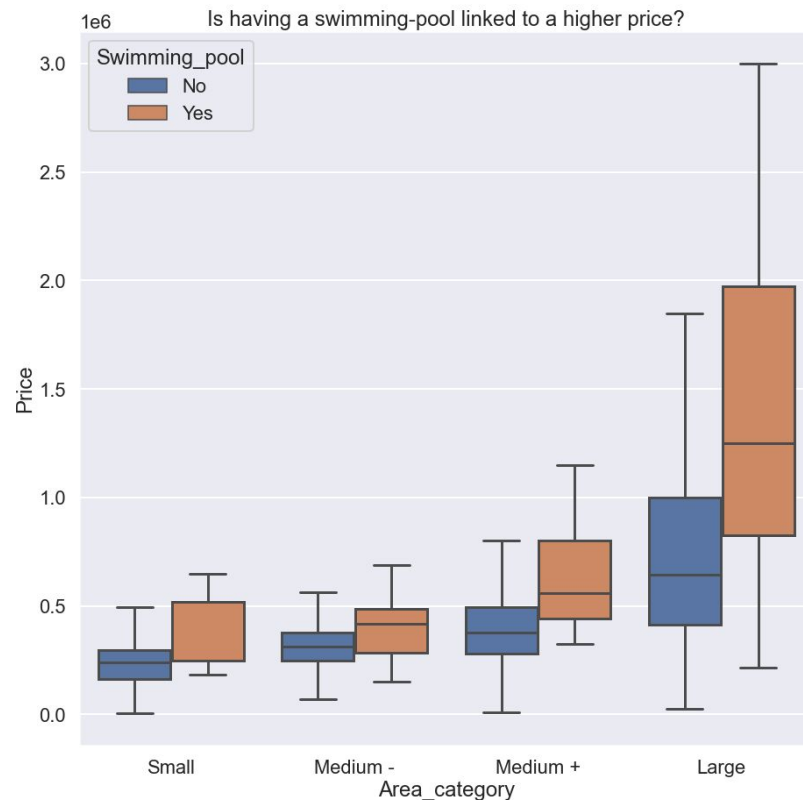
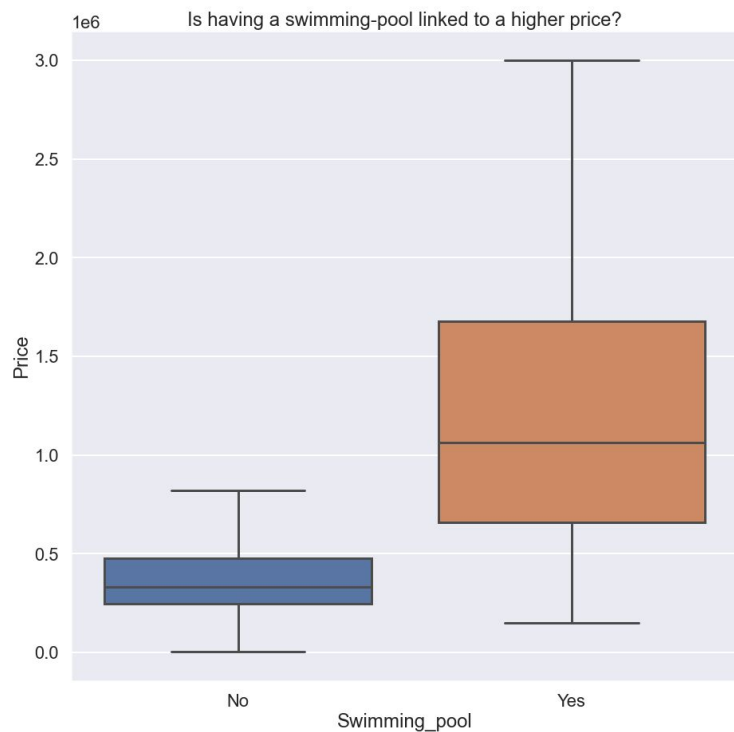
Correlation between other variables



Correlation between other variables

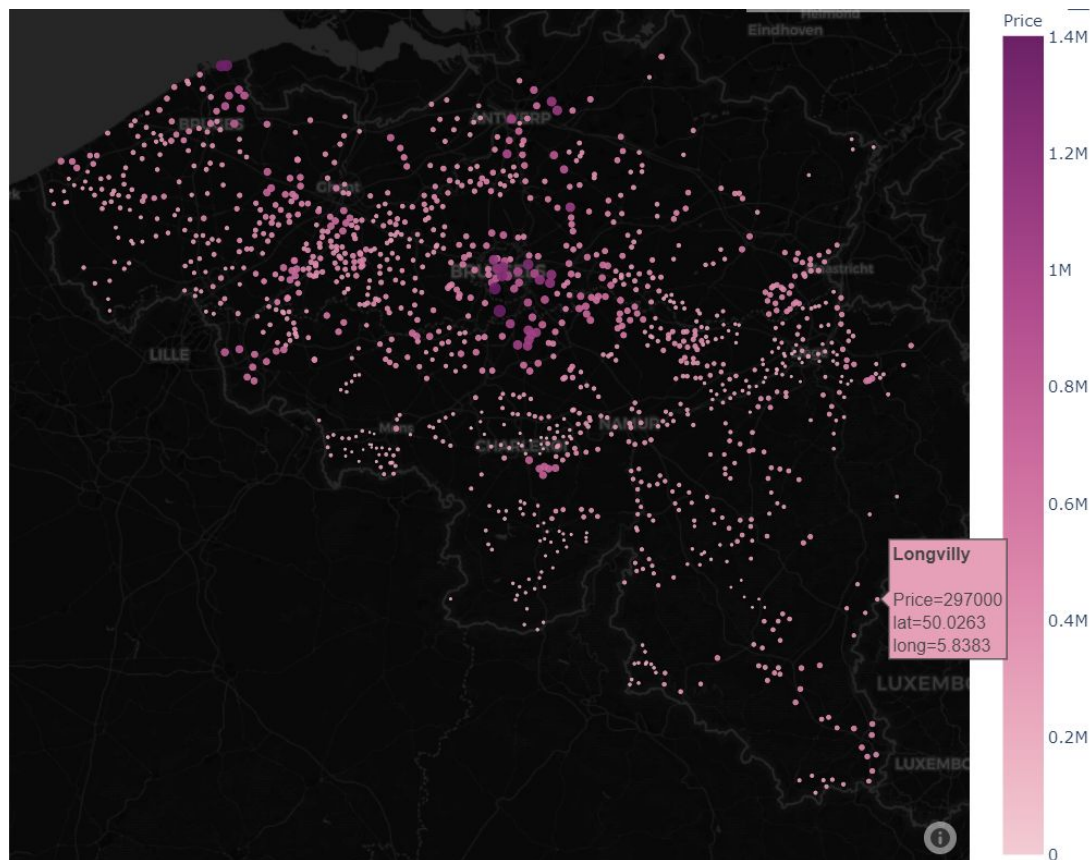


Correlation between other variables



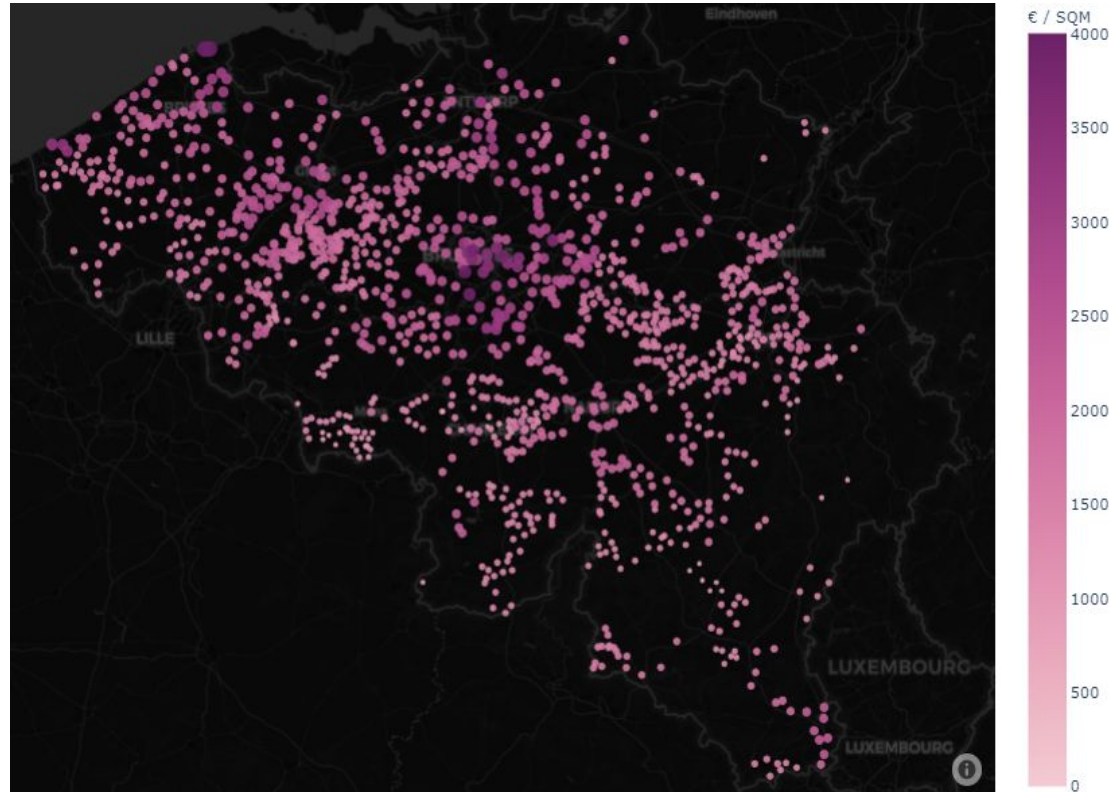
Mean price

	Municipality	Mean
1	Rhode-Saint-Genèse	1.682.692
2	Uccle	1.537.943
3	Knokke-Heist	1.373.209
4	Kraainem	1.276.667
5	Ixelles	1.238.990



Mean price/m²

	Municipality	Mean
1	Knokke-Heist	5458
2	Uccle	4131
3	Rhode-Saint-Genèse	3883
4	Woluwé-Saint-Pierre	3848
5	Wezembeek-Oppeem	3785



Outliers

Variable	Quantity
Price	243
Facades	5
Bedrooms	114
Land surface	20
Terrace surface	2
Garden surface	6

Variable with the least correlation

- Garden and garden surface
- Terrace and terrace surface
- Furnished
- Land surface

Machine Learning \Rightarrow Decision Tree Model

