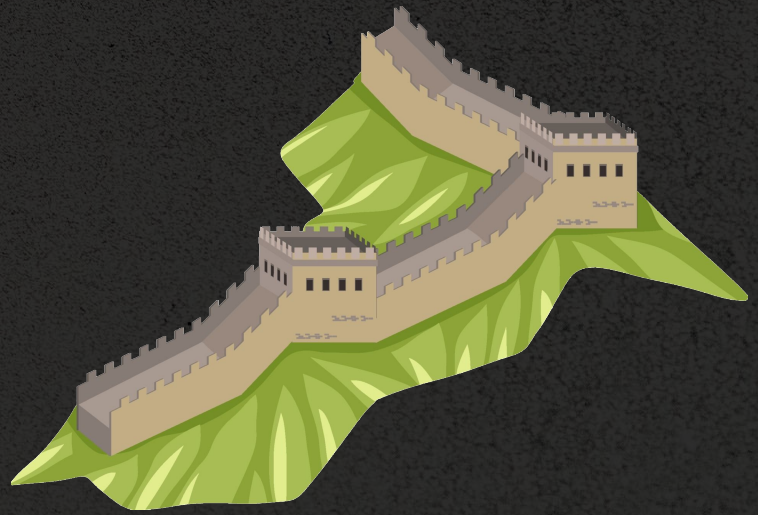
Beyond the Great Wall

Data Science Meets Beijing Real Estate

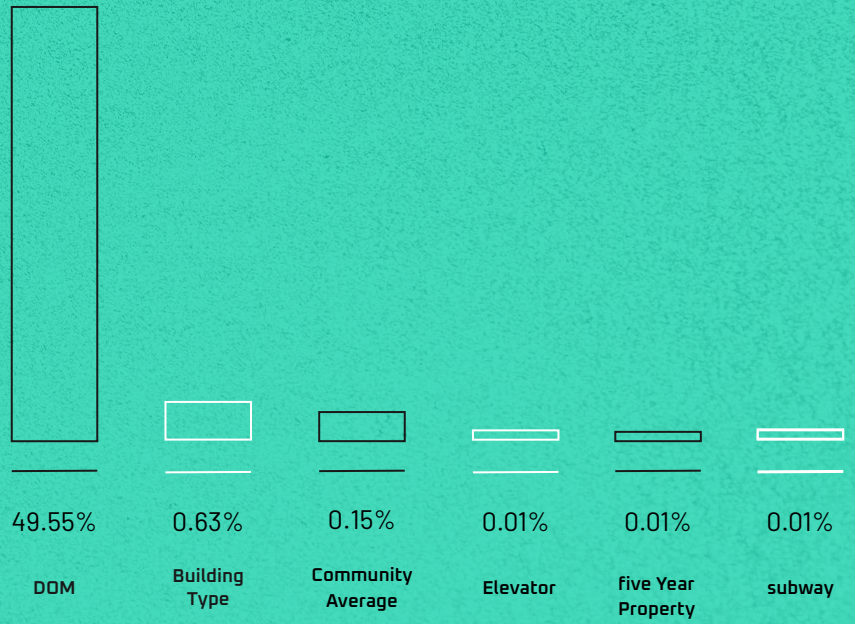


From Raw Data to Insights

Preprocessing Beijing's Housing Data

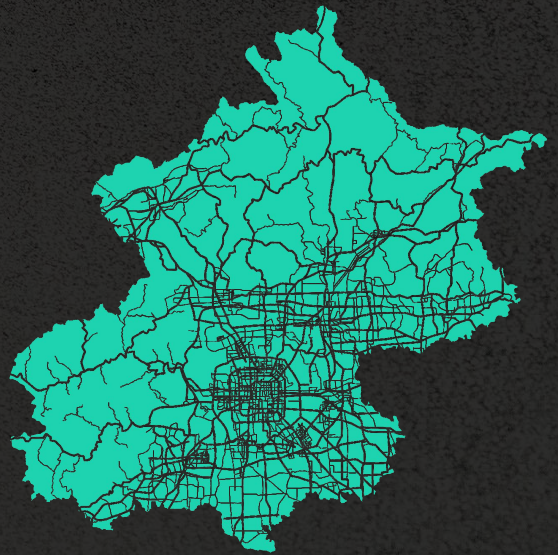
Preprocessing

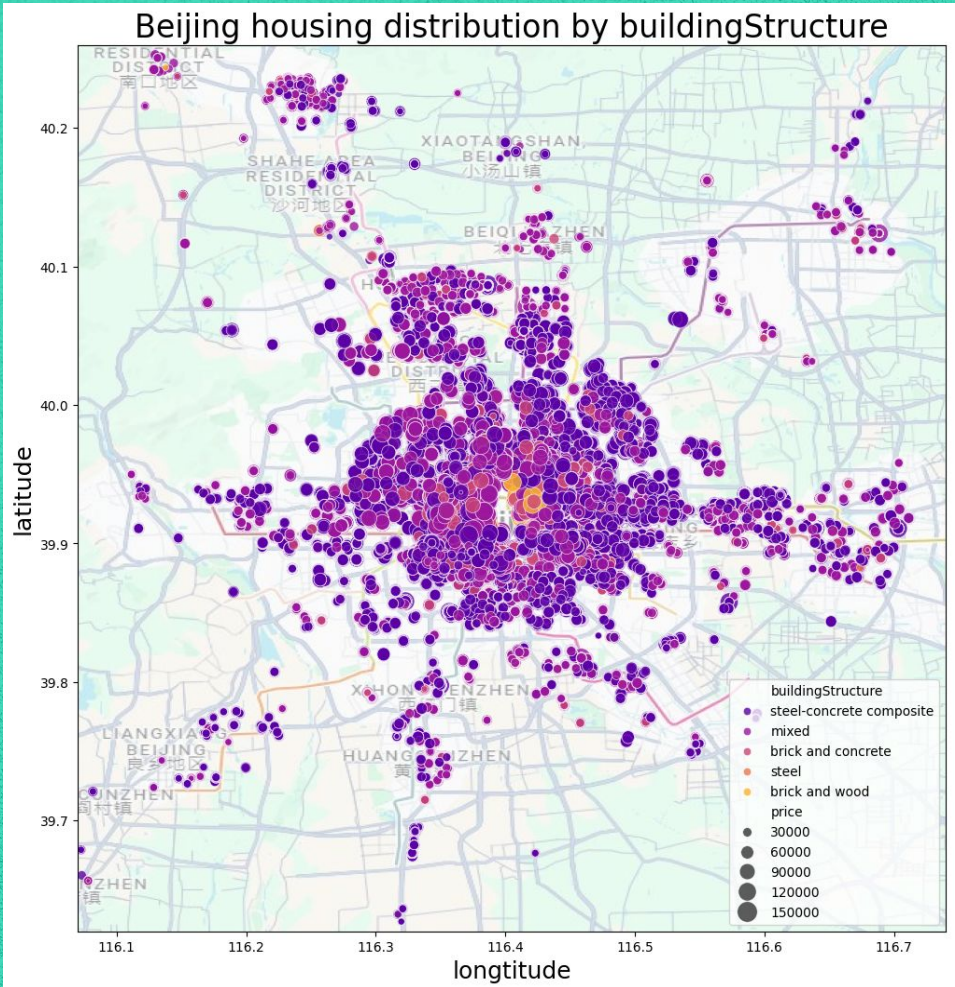
- over 300,000 properties.
- 26 features ,Including price, geographical coordinates, and property characteristics.
- translating Chinese terms.
- handling missing values (dropping 'DOM' and delete other rows).
- feature engineering (extracting 'floorNumber').

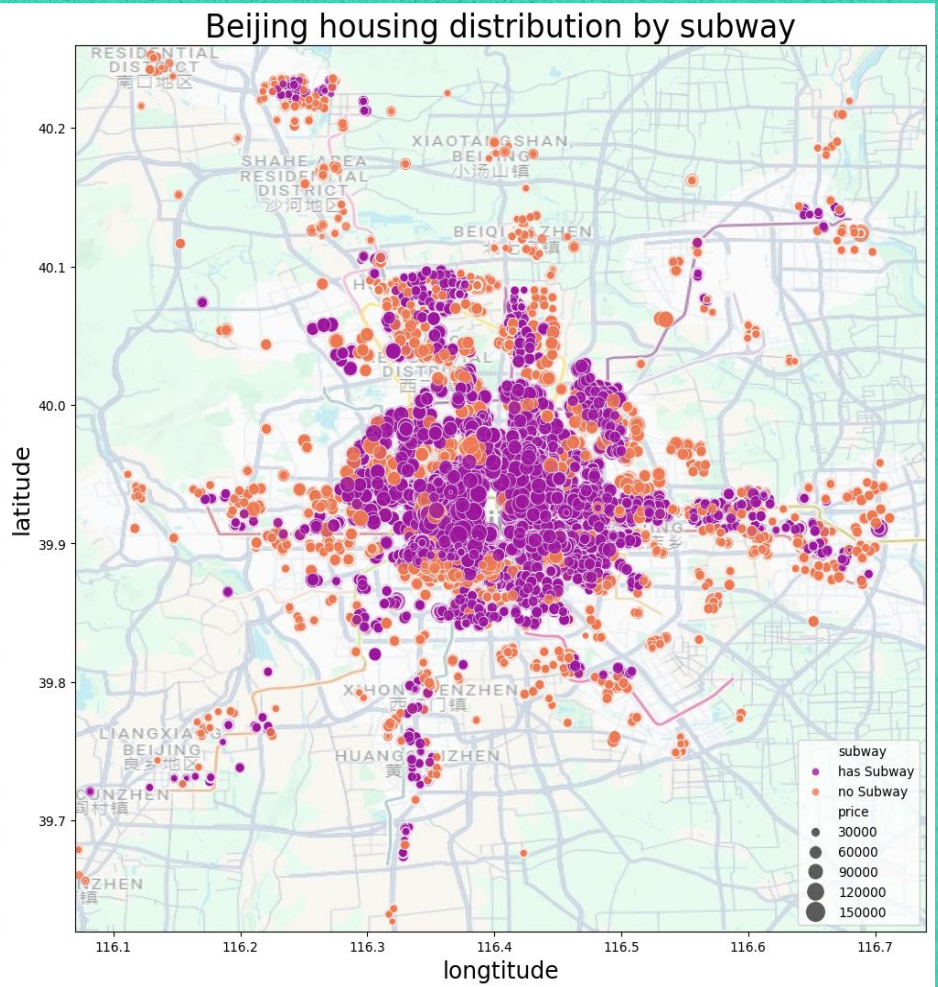


Geospatial Data Science

Mapping Beijing's Property Features

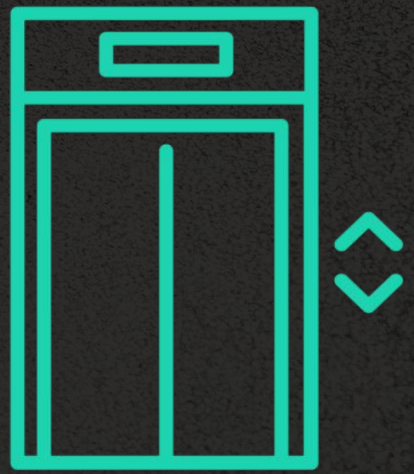


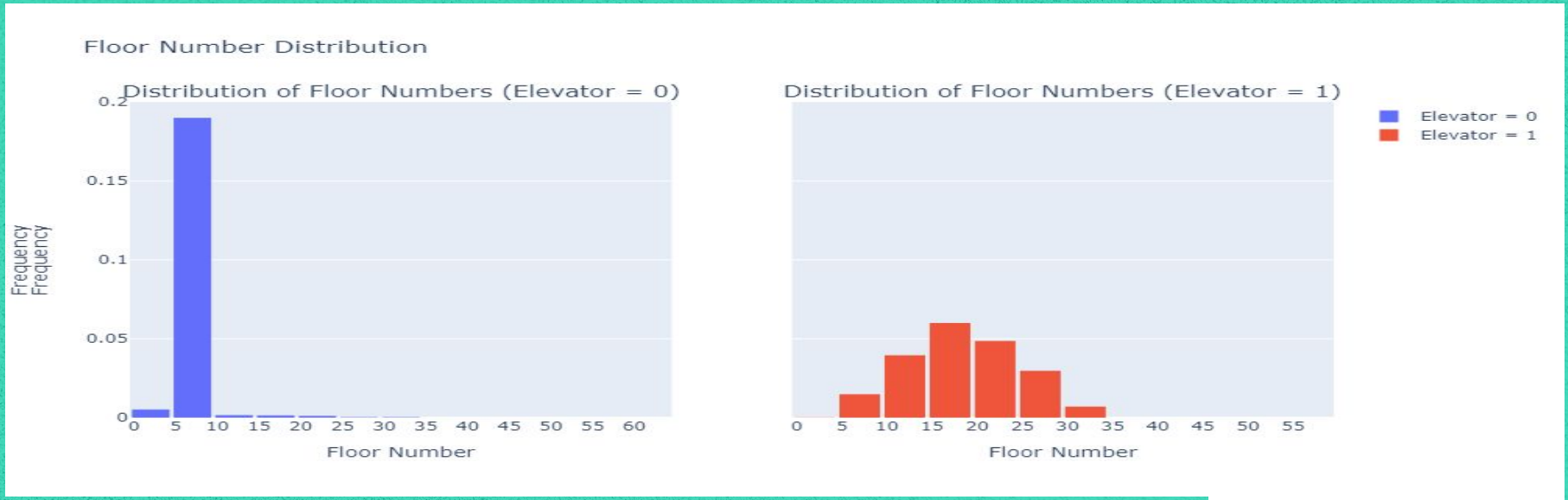

Beijing housing distribution by buildingStructure
latitude
longtitude
40.2
40.1
40.0
39.9
39.8
39.7
116.1
116.2
116.3
116.4
116.5
116.6
116.7
buildingStructure
steel-concrete composite
mixed
brick and concrete
steel
brick and wood
price
30000
60000
90000
120000
150000


Beijing housing distribution by subway
latitude
longtitude
40.2
40.1
40.0
39.9
39.8
39.7
116.1
116.2
116.3
116.4
116.5
116.6
116.7
subway
has Subway
no Subway
price
30000
60000
90000
120000
150000

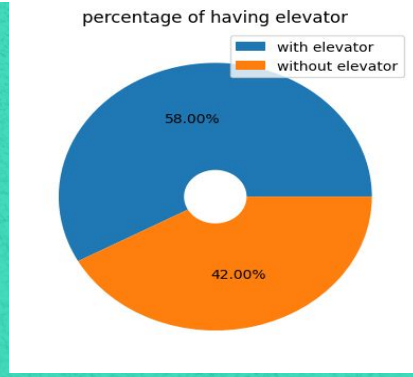
Vertical Living in Beijing

Data-Driven Insights on Floor Numbers and Elevator Access



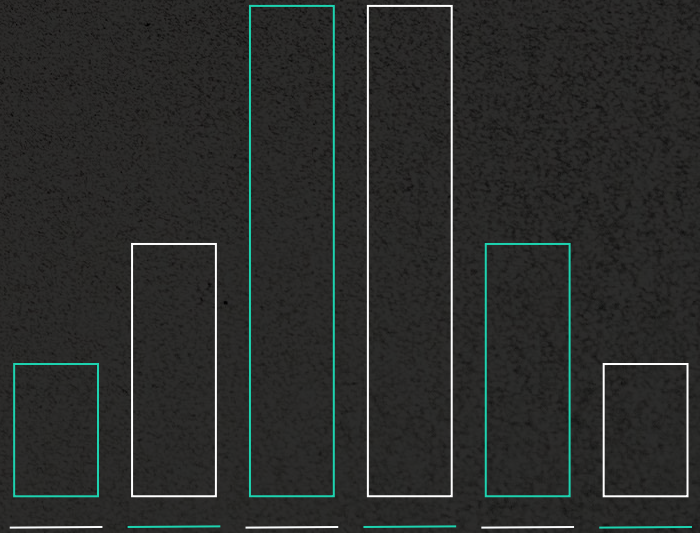


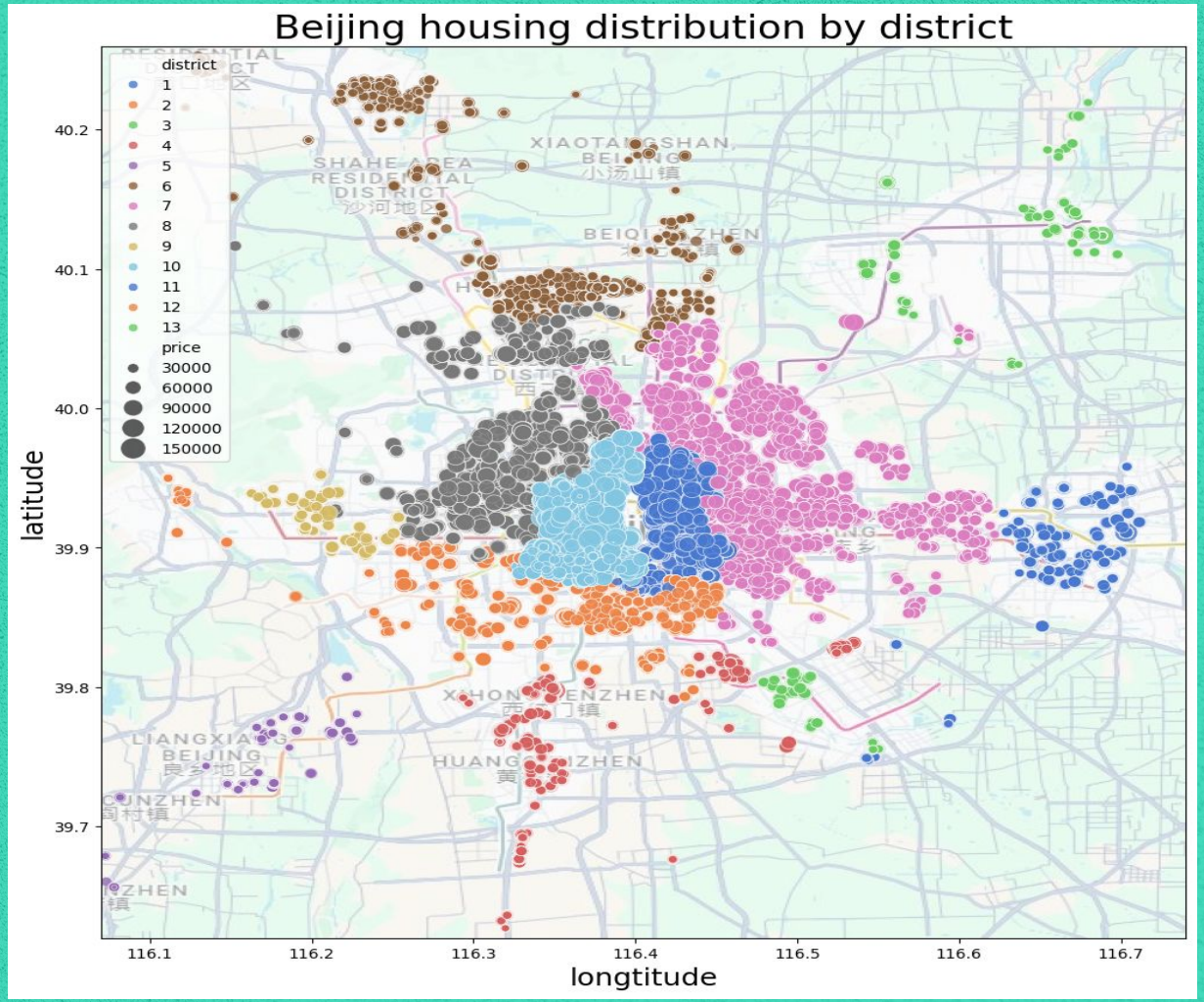
As you can see in the plots, houses with higher `floorNumber` have elevators, and most houses with no elevator are under 10 floors.

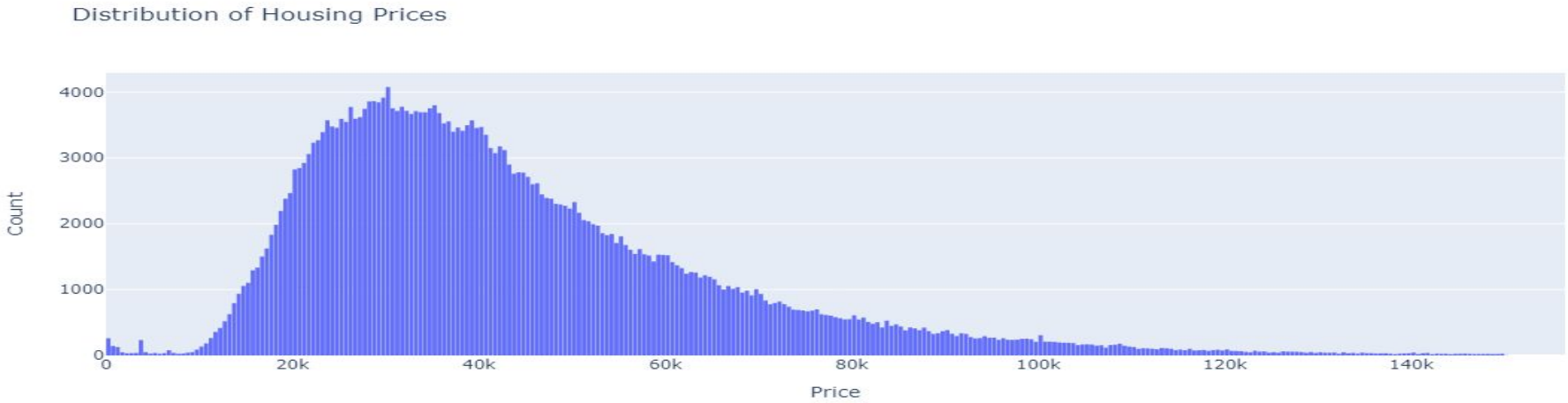


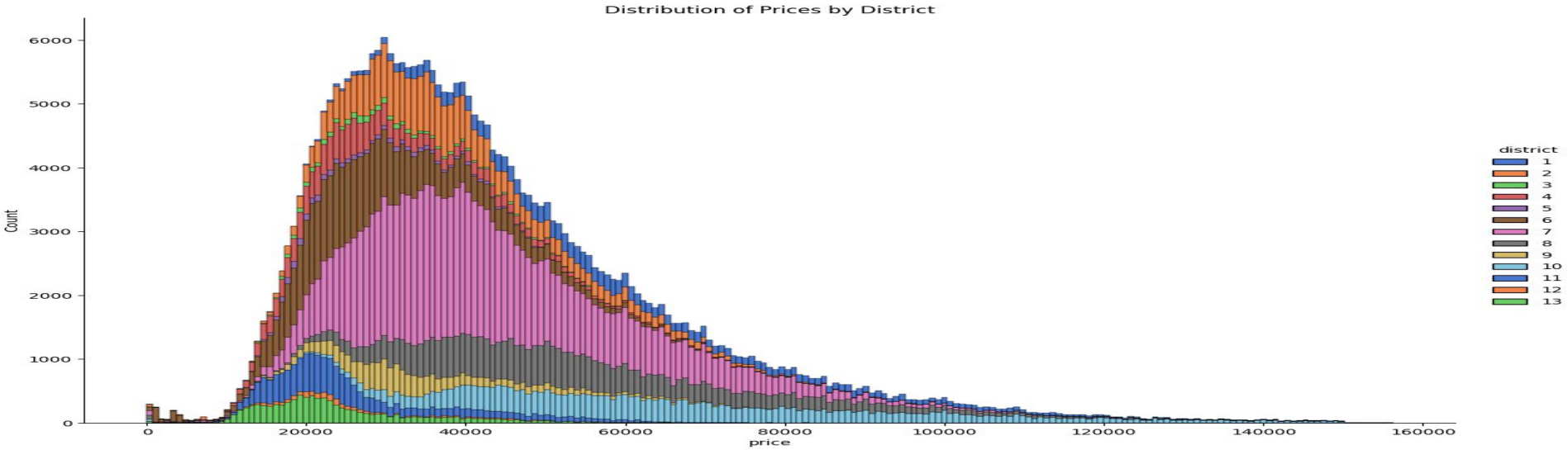
EDA Techniques

Unraveling Price Patterns Across Districts



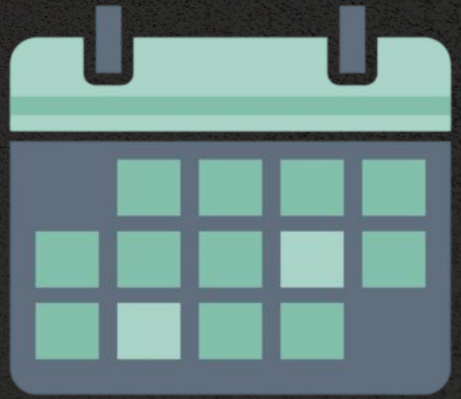

Beijing housing distribution by district
district
1
2
3
4
5
6
7
8
9
10
11
12
13
price
30000
60000
90000
120000
150000
latitude
40.2
40.1
40.0
39.9
39.8
39.7
116.1
116.2
116.3
116.4
116.5
116.6
116.7
longtitude


Distribution of Housing Prices
Count
4000
3000
2000
1000
0
0
20k
40k
60k
80k
100k
120k
140k
Price

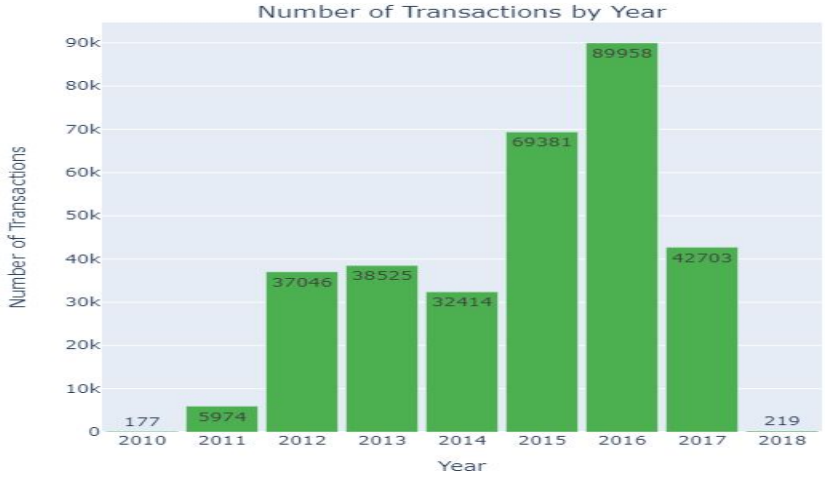

Distribution of Prices by District
Count
6000
5000
4000
3000
2000
1000
0
0
20000
40000
60000
80000
100000
120000
140000
160000
price
district
1
2
3
4
5
6
7
8
9
10
11
12
13

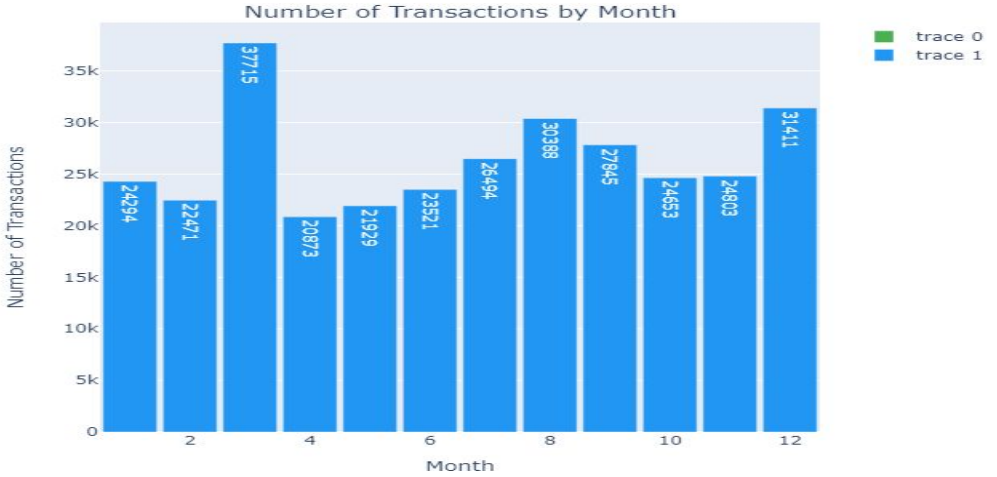
Unveiling Market Dynamics

Temporal Analysis in Data Science

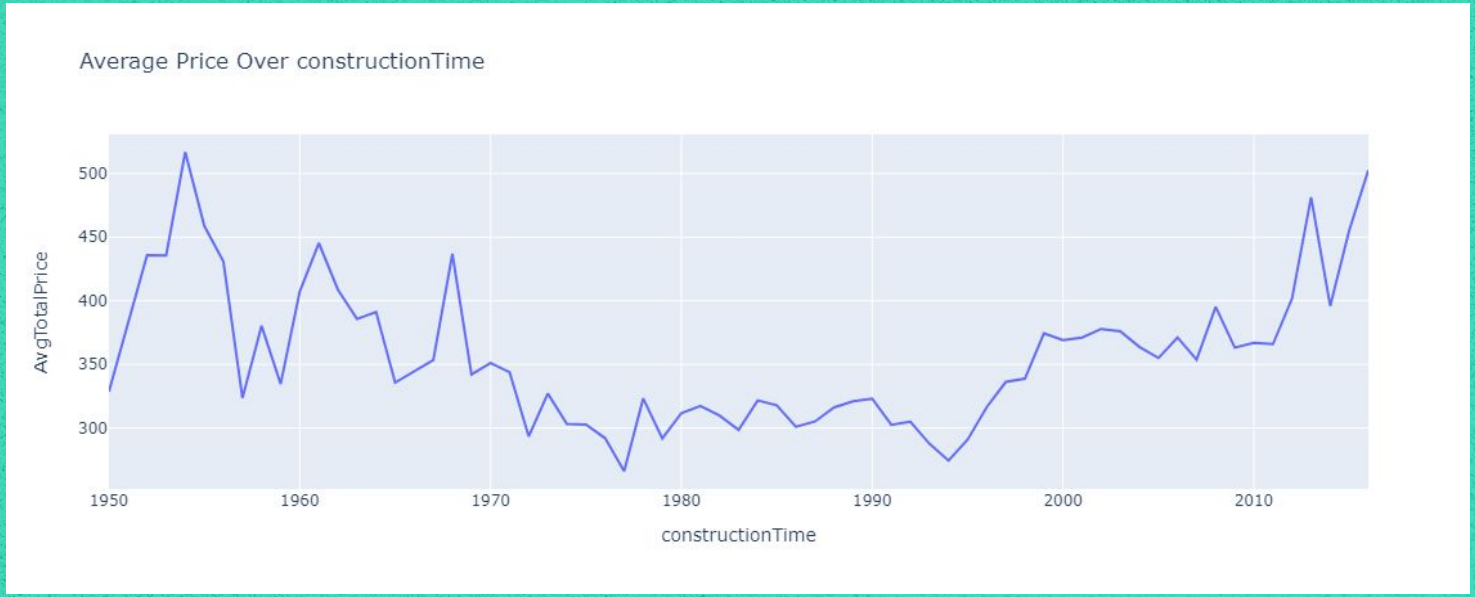


Transactions over Time





Average Price Over tradeTimeYear



Data analysis reveals that newer Beijing properties command higher average prices, with a negative correlation between construction time and price. However, this trend may be skewed by limited data on older properties.

That's All, Folks!