
WEB SCRAPPING PROJECT - Toronto rental prices

Analysis of the rental market of
the city of Toronto - Canada



Content

01 Motivation and data gathering

02 The dataset


03 Findings

04 Challenges

05 Conclusion and next steps


01 Motivation and data gathering

- Website
property.ca/toronto?mode=Rent
- Rental data by region and neighbourhood



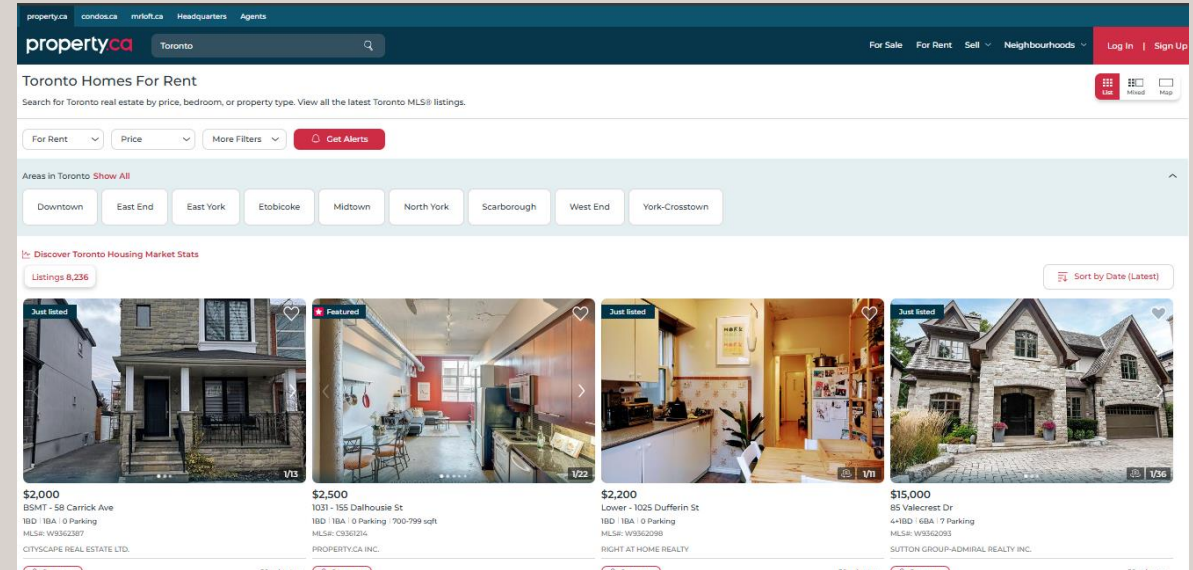
Just listed

\$2,100
BSMT - 53 Dennette Dr
2BD | 2BA | 1 Parking | 1,100-1,500 sqft
MLS#: E9362213



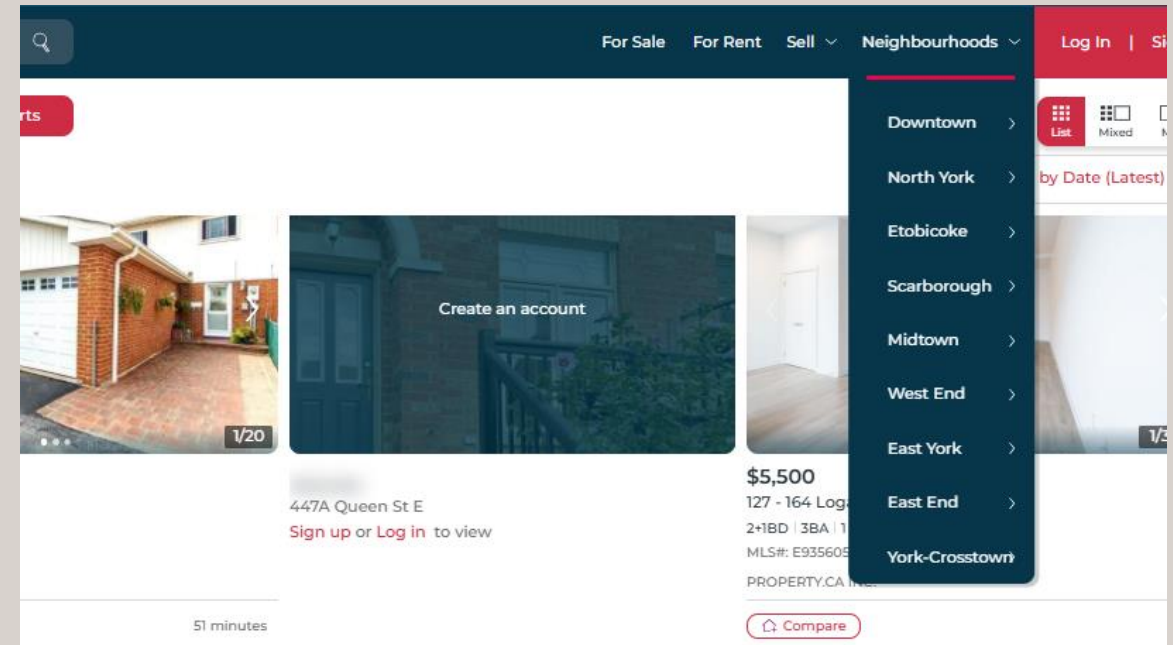
Just listed

\$2,600
BSMT - 115 Lowcrest Blvd
3BD | 2BA | 2 Parking
MLS#: E9362142



The screenshot shows the 'Toronto Homes For Rent' section of the property.ca website. It includes a search bar, filters for 'For Rent', 'Price', and 'More Filters', and a 'Get Alerts' button. Below the filters, there are buttons for various Toronto areas: Downtown, East End, East York, Etobicoke, Midtown, North York, Scarborough, West End, and York-Crosstown. A 'Discover Toronto Housing Market Stats' link is also present. The main content area displays four property listings with images, prices, and details.

Price	Address	Details
\$2,000	BSMT - 58 Carrick Ave	1BD 1BA 0 Parking MLS#: W5582357 CITYSCAPE REAL ESTATE LTD.
\$2,500	1031 - 155 Dalhousie St	1BD 1BA 0 Parking 700-799 sqft MLS#: C5582014 PROPERTY.CA INC.
\$2,200	Lower - 1025 Dufferin St	1BD 1BA 0 Parking MLS#: W5582099 RIGHT AT HOME REALTY
\$15,000	85 Vallecres Dr	4+1BD 6BA 7 Parking MLS#: W5582093 SUTTON GROUP-ADMIRAL REALTY INC.



The screenshot shows a property listing for 447A Queen St E, priced at \$5,500. The listing includes a photo of the property and a 'Create an account' overlay. A sidebar menu on the right lists various Toronto neighbourhoods: Downtown, North York, Etobicoke, Scarborough, Midtown, West End, East York, East End, and York-Crosstown. The listing details for 447A Queen St E are: 127 - 164 Log, 2+1BD | 3BA | 1, MLS#: E935605, PROPERTY.CA INC.

Price	Address	Details
\$5,500	127 - 164 Log	2+1BD 3BA 1 MLS#: E935605 PROPERTY.CA INC.

Motivation and data gathering

- Web requests using request
- Html parsing using BeautifulSoup
- Dataframe creation using pandas

```
def get_data(city, neighbourhood):  
    ...  
    Gather rental data from the website https://property.ca/. It returns a DataFrame regarding the neighbourhood of the city given as arguments  
    when the function is called, containing the following information:  
  
    Arg:  
        city (str): The name of the city.  
        neighbourhood (str): The name of the neighborhood  
  
    Returns:  
        Pandas dataframe containing the following data:  
        mls: the mls number for each unit listed.  
        address: address of the unit.  
        price: price of the rent per month in canadian dollars.  
        bedrooms: number of bedrooms of the unit.  
        bathrooms: number of bathrooms of the unit.  
        parking: number of parking slots of the unit.  
        size: size of the unit.  
        time_since_listed: the time since the unit has been posted on the website.  
        broker: broker responsible for the unit.  
        neighbourhood: the name of the neighbourhood the unit belongs to.  
        city: the name of the city where the unit is located.  
    ...  
  
    city_to_search = city.lower()  
    neighbourhood_to_search = neighbourhood.lower()
```

	mls	address	price	bedrooms	bathrooms	parking	size	time_since_listed	broker	neighbourhood	city	region
0	MLS#: C9350863	D - 32 Shank St	3500	2BD	3BA	2 Parking	1200-1399 sqft	15 minutes	LIVING REALTY INC.	king-west	Toronto	Downtown
1	MLS#: C9347984	3713 - 35 Mercer St	2450	1BD	1BA	0 Parking	0-499 sqft	2 days	PROPERTY.CA INC.	king-west	Toronto	Downtown
2	MLS#: C9350769	1508 - 8 Charlotte St	2450	1BD	1BA	0 Parking	500-599 sqft	15 minutes	LIVING REALTY INC.	king-west	Toronto	Downtown
3	MLS#: C9352026	3204 - 327 King St W	2350	1BD	1BA	0 Parking	0-499 sqft	45 minutes	RE/MAX PLUS CITY TEAM INC.	king-west	Toronto	Downtown
4	MLS#: C9351633	1013 - 1030 King St W	3600	2BD	2BA	1 Parking	600-699 sqft	45 minutes	RE/MAX EXCEL TITAN	king-west	Toronto	Downtown
...

02

The dataset

	mls	address	price	bathrooms	parking	size	days_since_listed	broker	neighbourhood	city	region	bedrooms	extra_bedroom_spaces
0	C9350863	D - 32 Shank St	3500	3	3	1200	0	LIVING REALTY INC.	King West	Toronto	Downtown	2	0
1	C9347984	3713 - 35 Mercer St	2450	1	1	400	2	PROPERTY.CA INC.	King West	Toronto	Downtown	1	0
2	C9350769	1508 - 8 Charlotte St	2450	1	1	500	0	LIVING REALTY INC.	King West	Toronto	Downtown	1	0
3	C9352026	3204 - 327 King St W	2350	1	1	400	0	RE/MAX PLUS CITY TEAM INC.	King West	Toronto	Downtown	1	0
4	C9351633	1013 - 1030 King St W	3600	2	2	600	0	RE/MAX EXCEL TITAN	King West	Toronto	Downtown	2	0

01

Duplicates were removed

02

The format of the data (such as '1BA') was corrected

03

The data types of variables was changed

04

Abnormal values (i. e. outliers) were examined and dealt with

05

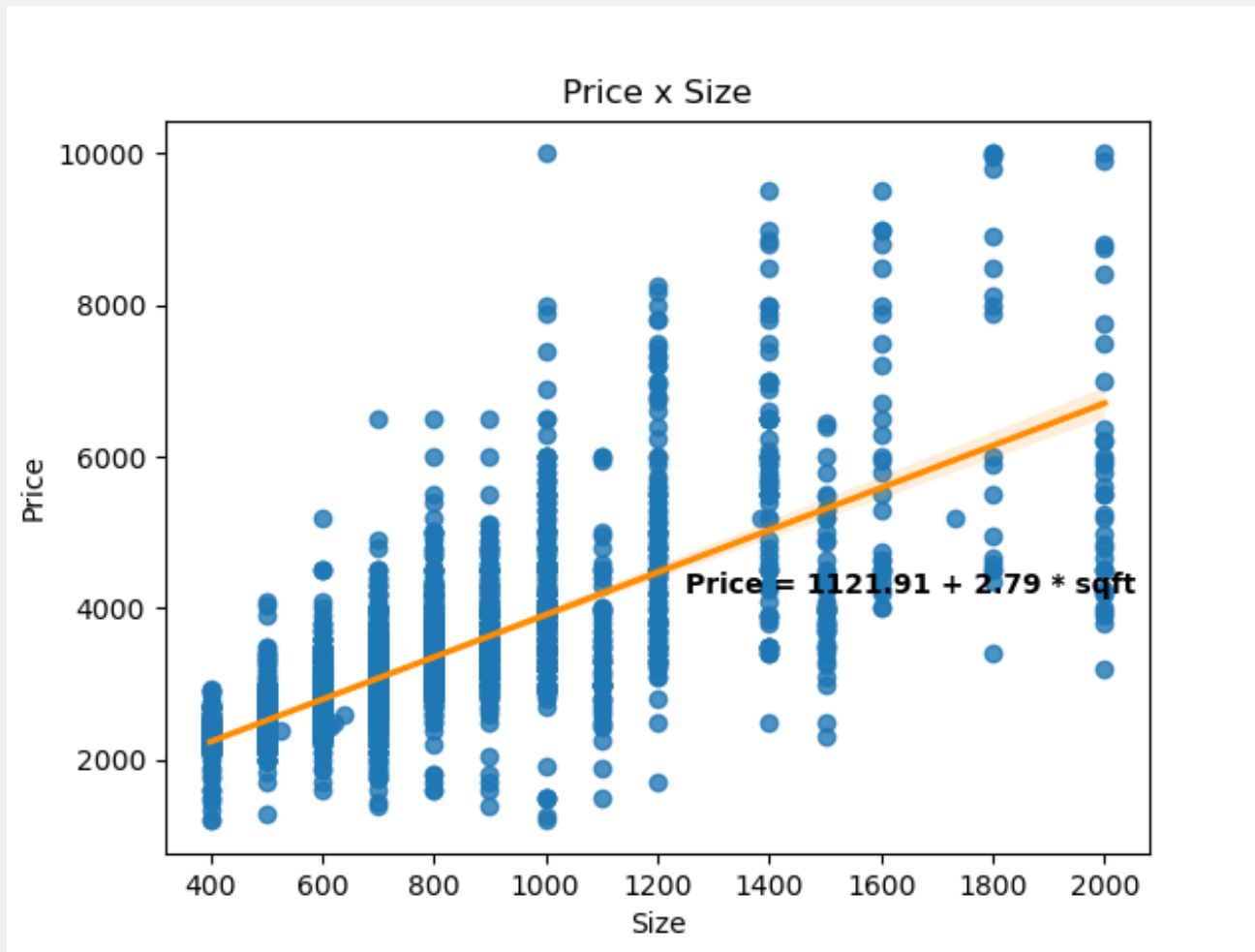
Only observations for the city of Toronto were kept

03 Findings

- Relationship between price and size
- Price per number of bedrooms
- Availability of units within each region
- Price per sqft for each region
- Most expensive and cheapest neighbourhoods



Relationship between price and size



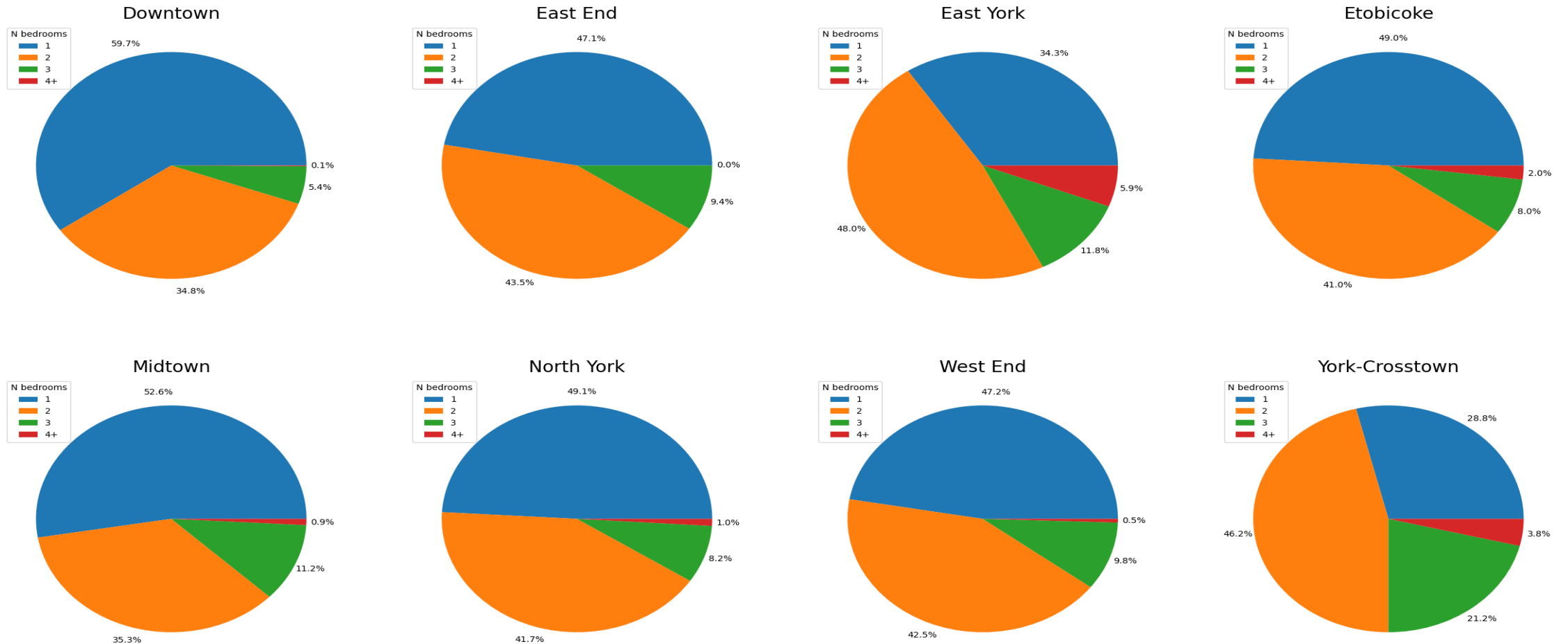
Adjusted R^2
0,581

Price per number of bedrooms

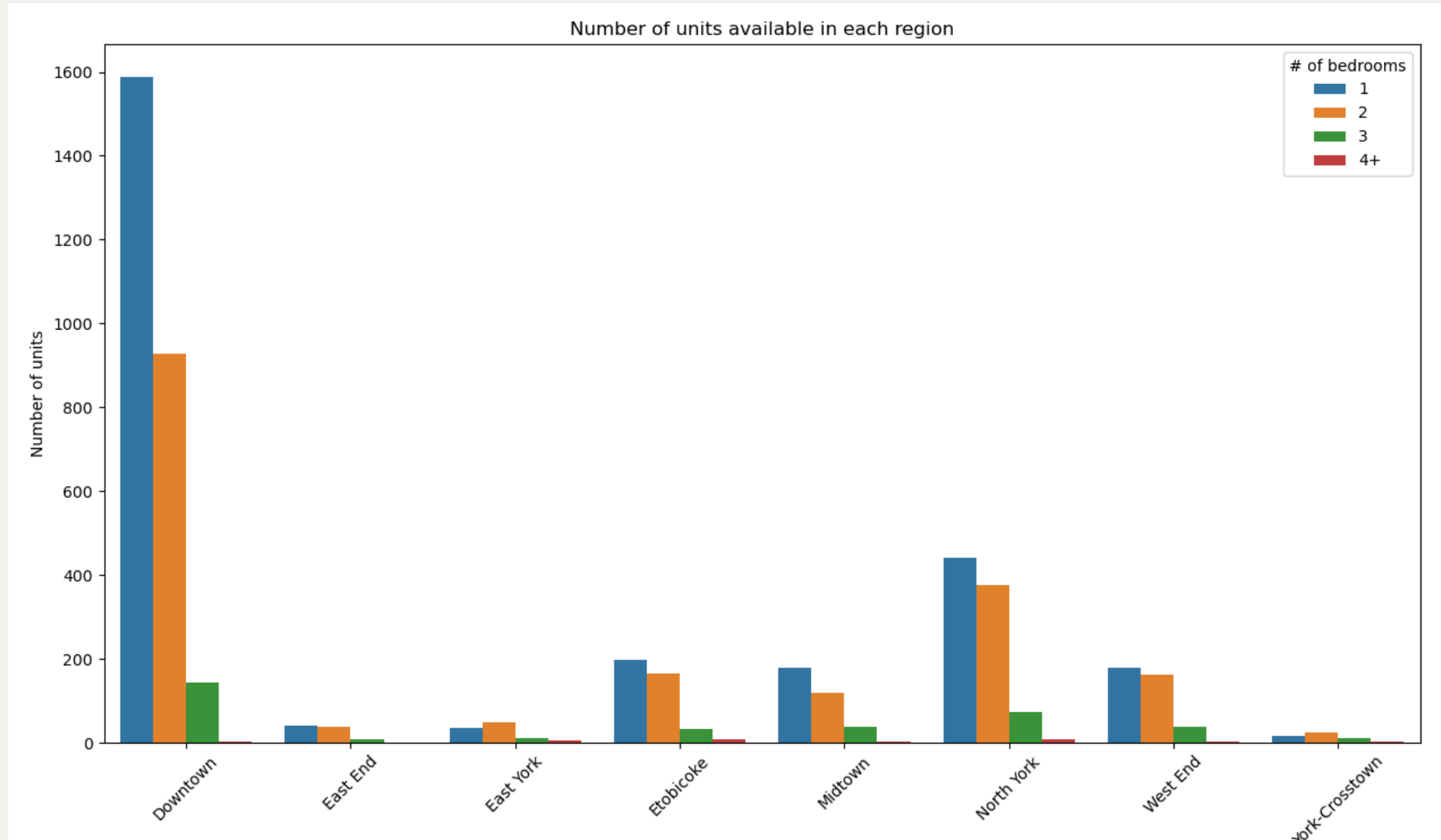


Availability of units within each region

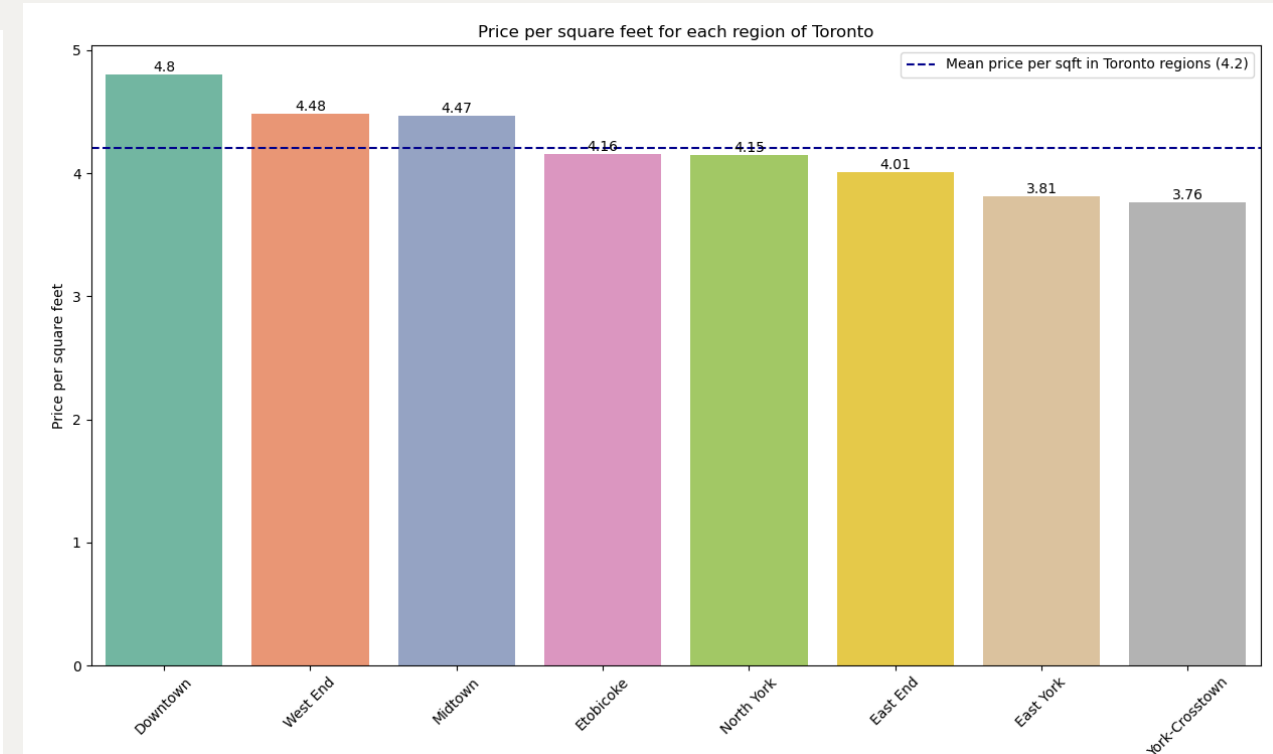
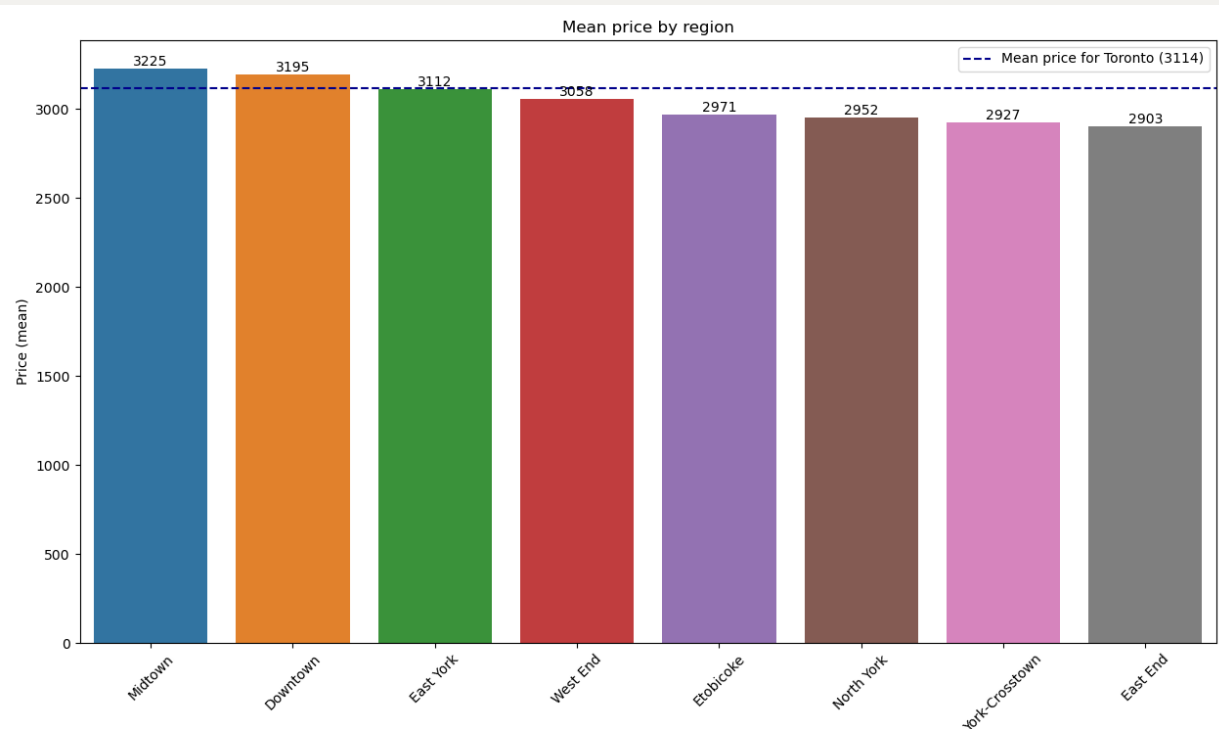
Proportion of units available in each region considering the number of bedrooms



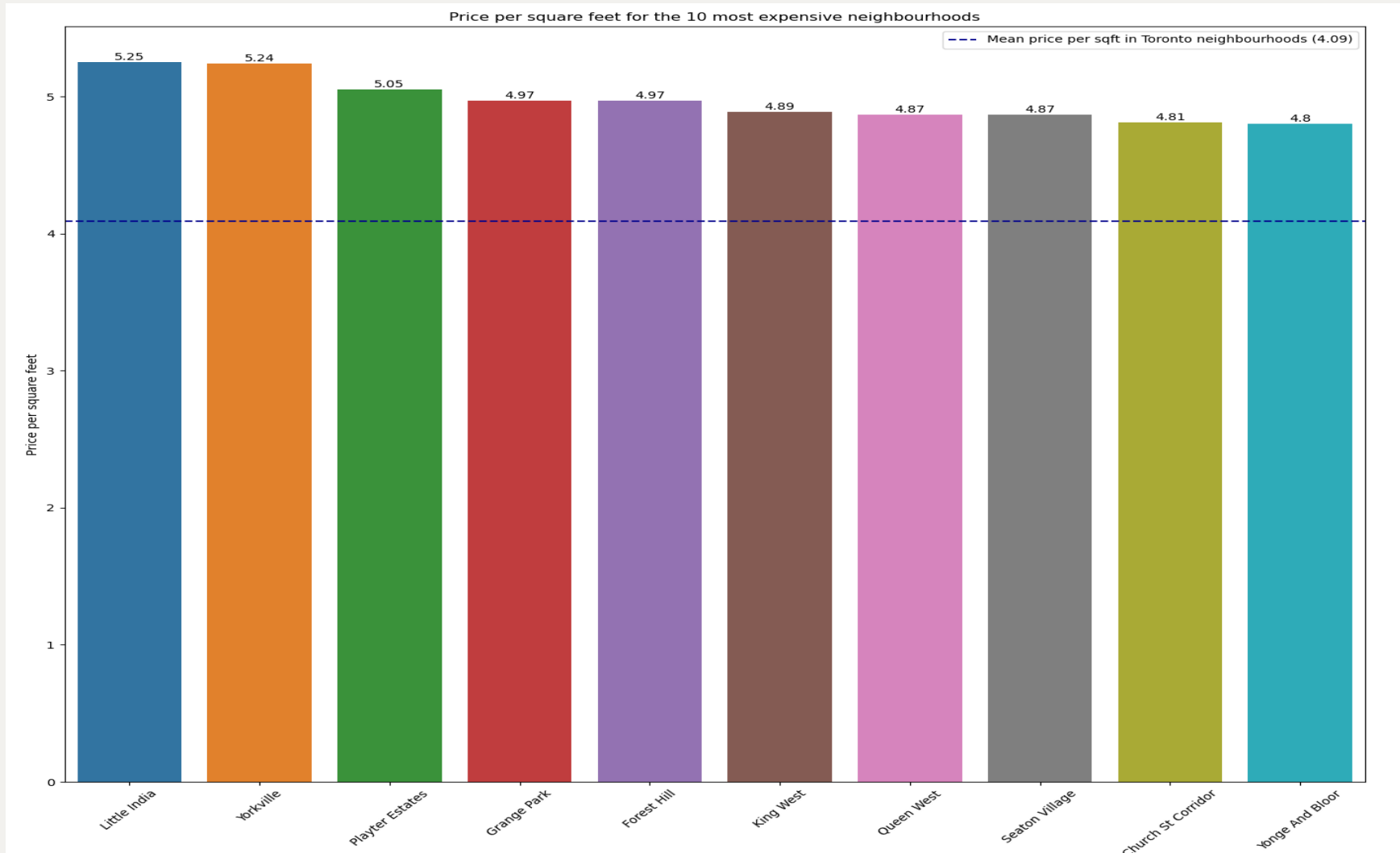
Availability of units within each region



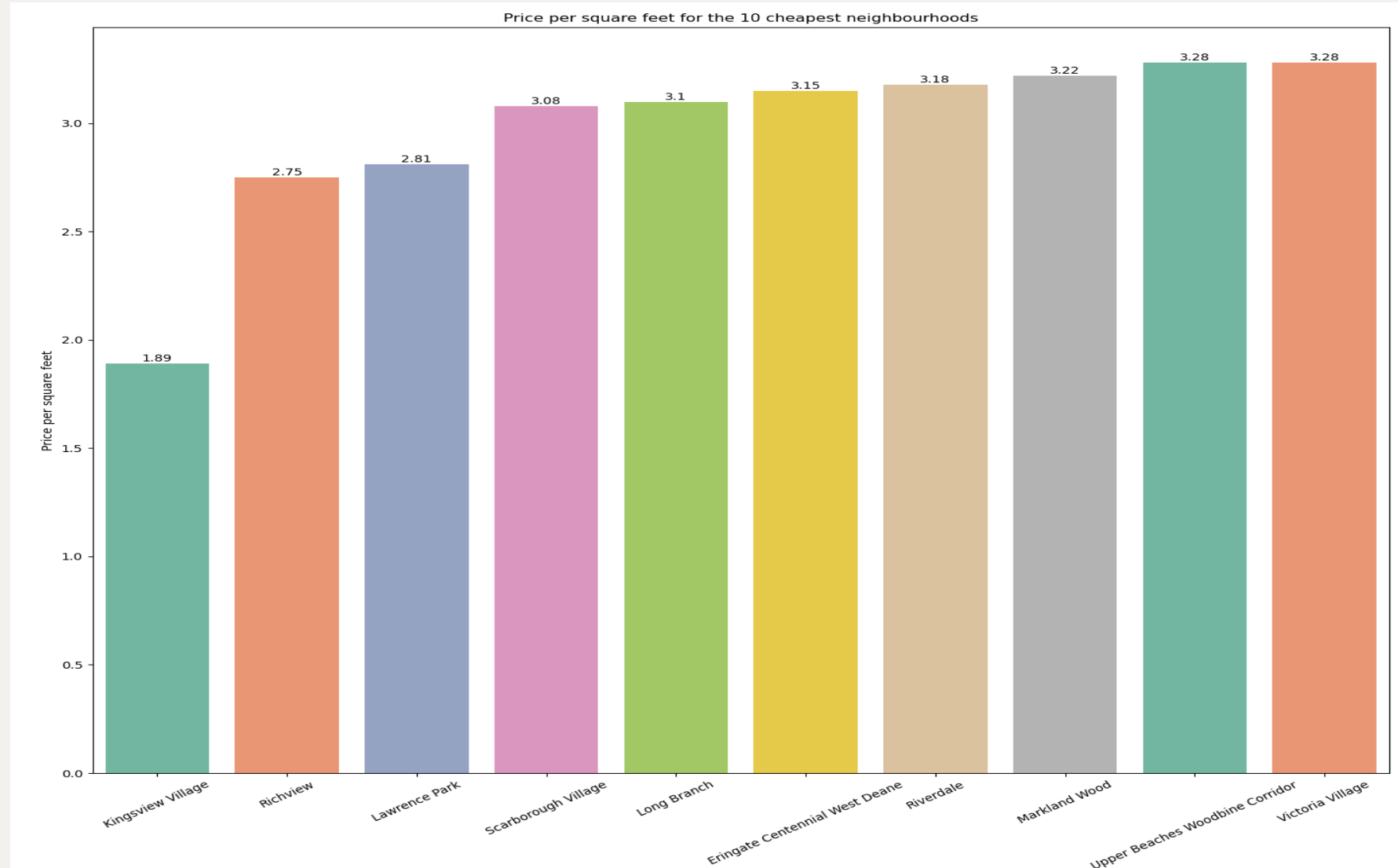
Price per region



Most expensive neighbourhoods

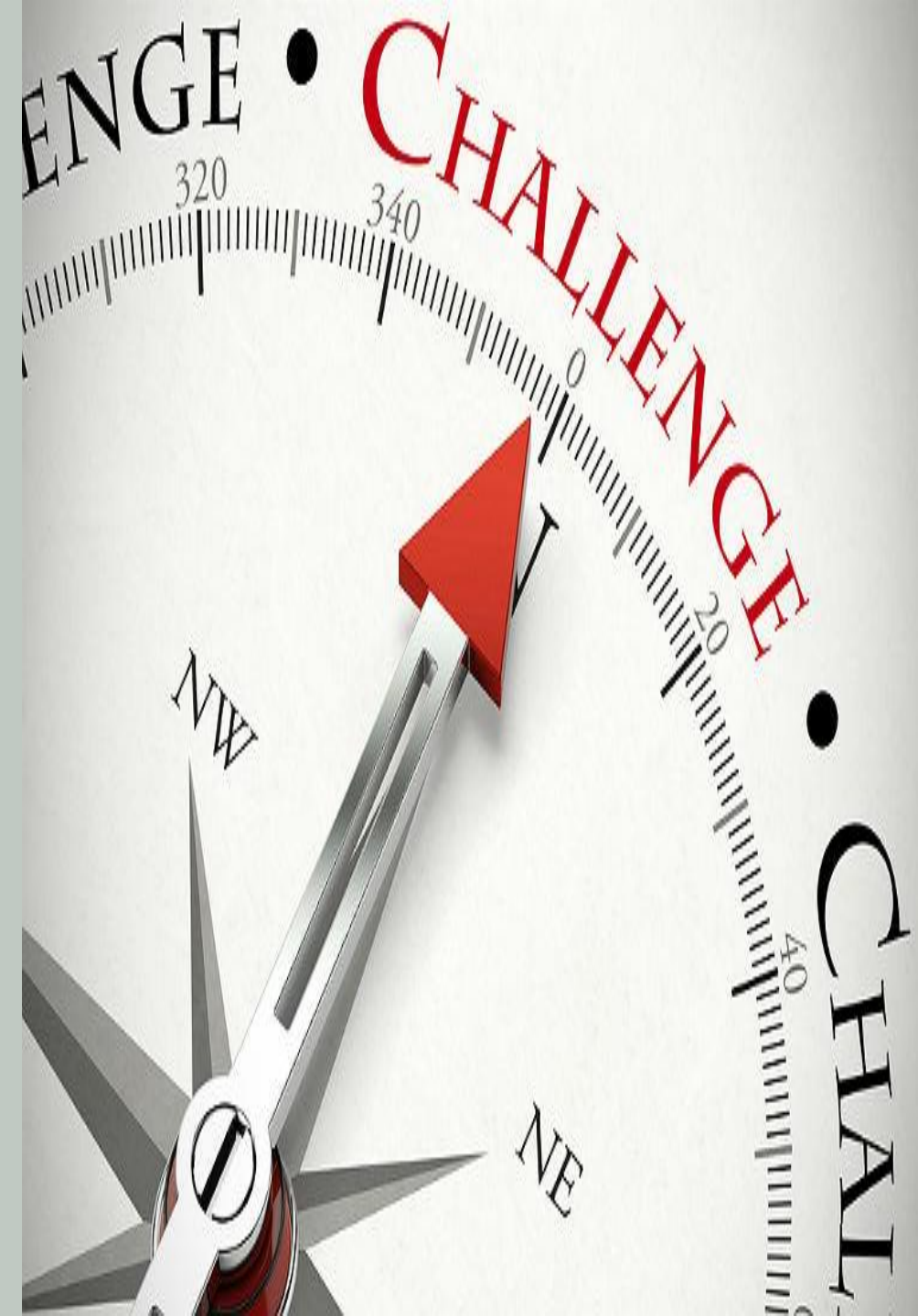


Cheapest neighbourhoods



04 Challenges

- Dealing with html request denials
- Taking decision about how to deal with abnormal numbers in the data
- Narrowing down the analysis to a point of interest



05 Conclusion and next steps

- Size and location seems to play an important role when it comes to renting price..
- The metric mean price per square feet highlighted here could be used as reference for evaluating renting prices within a given region or neighbourhood and help renters to make better deals.
- The next steps for a project such as this could involve the deployment of an interactive html app for users to explore their personal interests and the exploration of the relationship of other variables in the dataset (for example, number of bathrooms and parking slots).