Predicting the best Dublin neighborhoods to live in

Ilaria C. Grimaldi

Predicting the best Dublin neighborhoods is valuable for immigrants

Dublin has overtaken Paris for the first time to become the fifth most expensive place for an expat to rent a home in Europe

Dublin's rise in the ranking is also due to the migration of financial services businesses out of London in the lead-up to Brexit

There is a need to identify what are the best neighborhoods for mid-range expats to choose to live in based on crime rate, rental cost, transport and available services
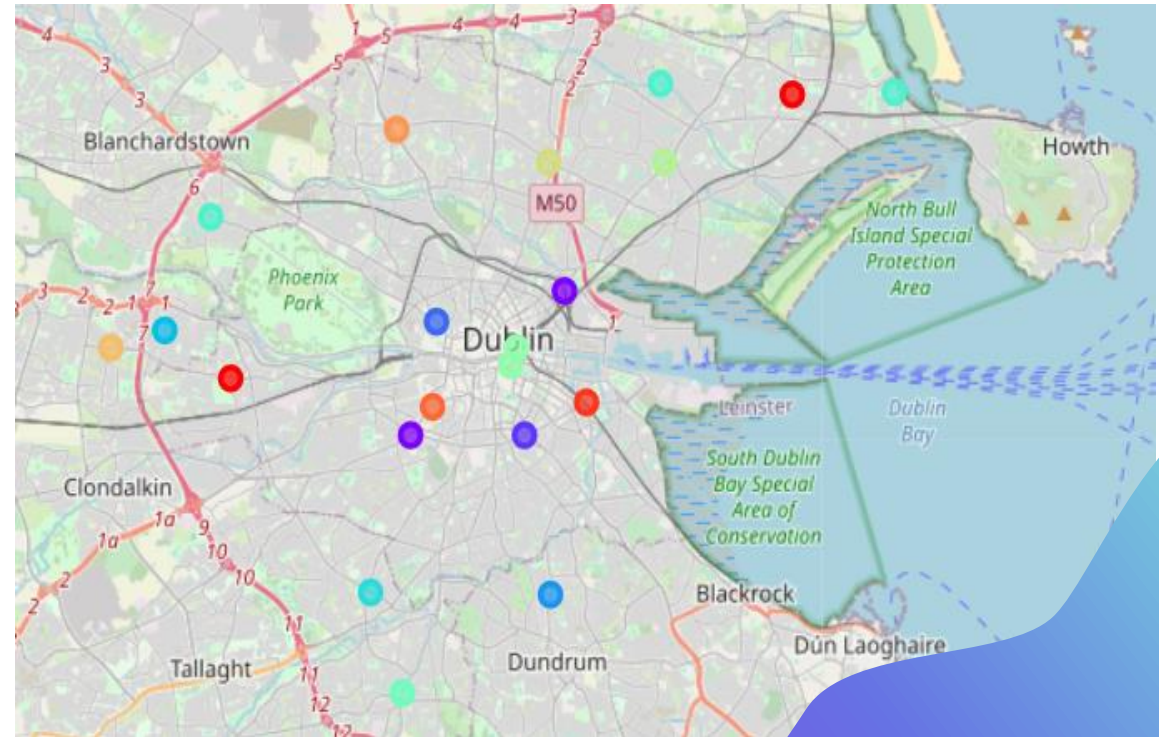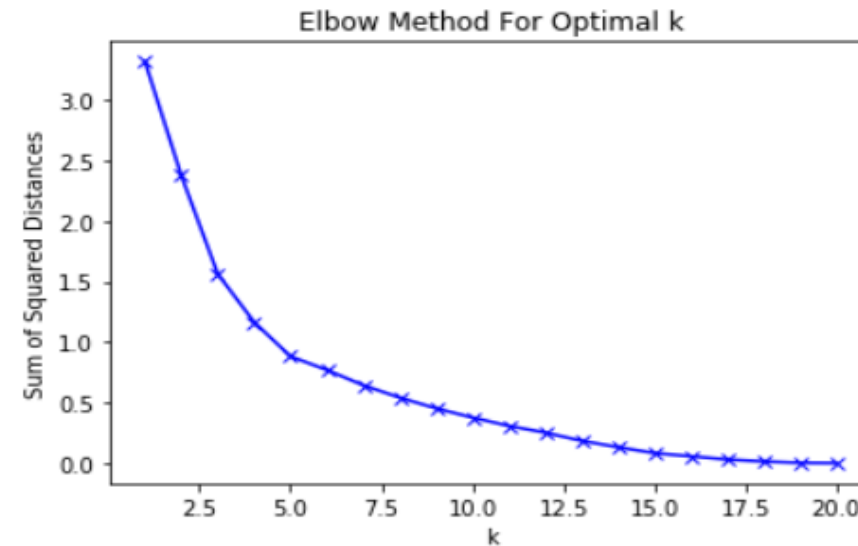
Data acquisition and cleaning

- To obtain data on house/apartment purchases in each district of Dublin in the year 2020, the dataset created by the Property Services Regulatory Authority (PSRA) was used

- Foursquare was also used to extract location information, limiting the number of locations to 30 due to free account limitations, within a distance of 700 meters from each area

- Data on the crime rates of North and South Dublin for the year 2019 published by the Irish newspaper "The Irish Time" were collected

- In total, 11.948 rows and 23 features in the raw dataset

- Irrelevant features and rows with missing values have been removed, and important features to compute Kmeans have been added
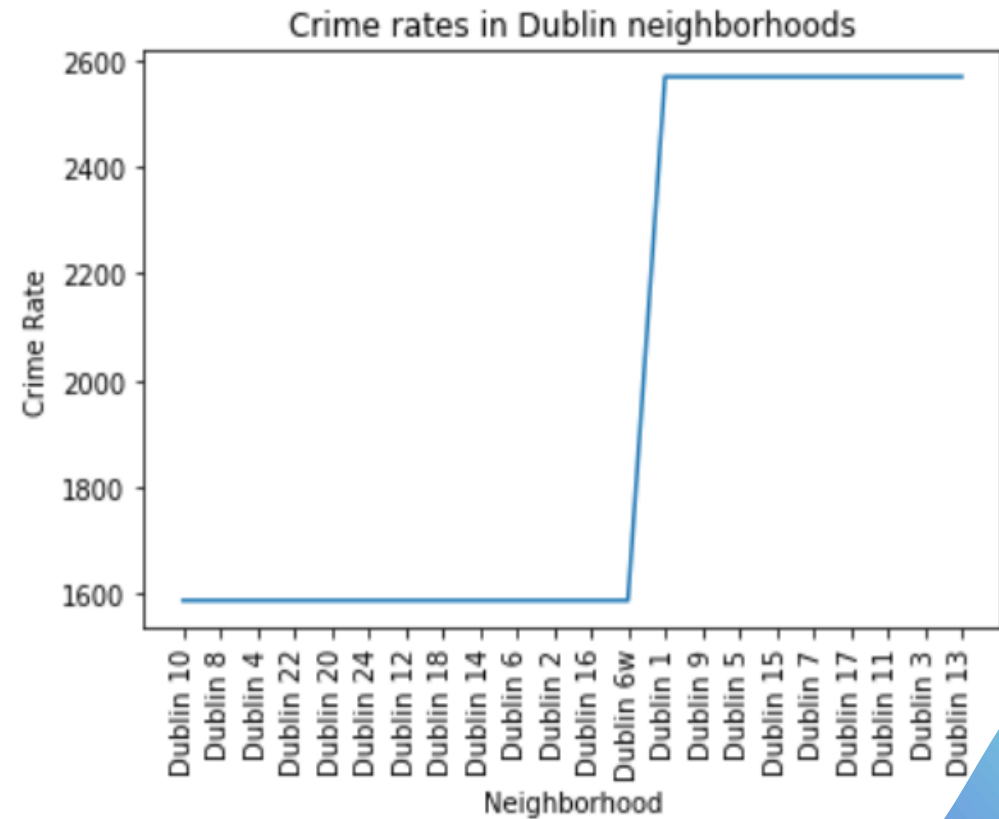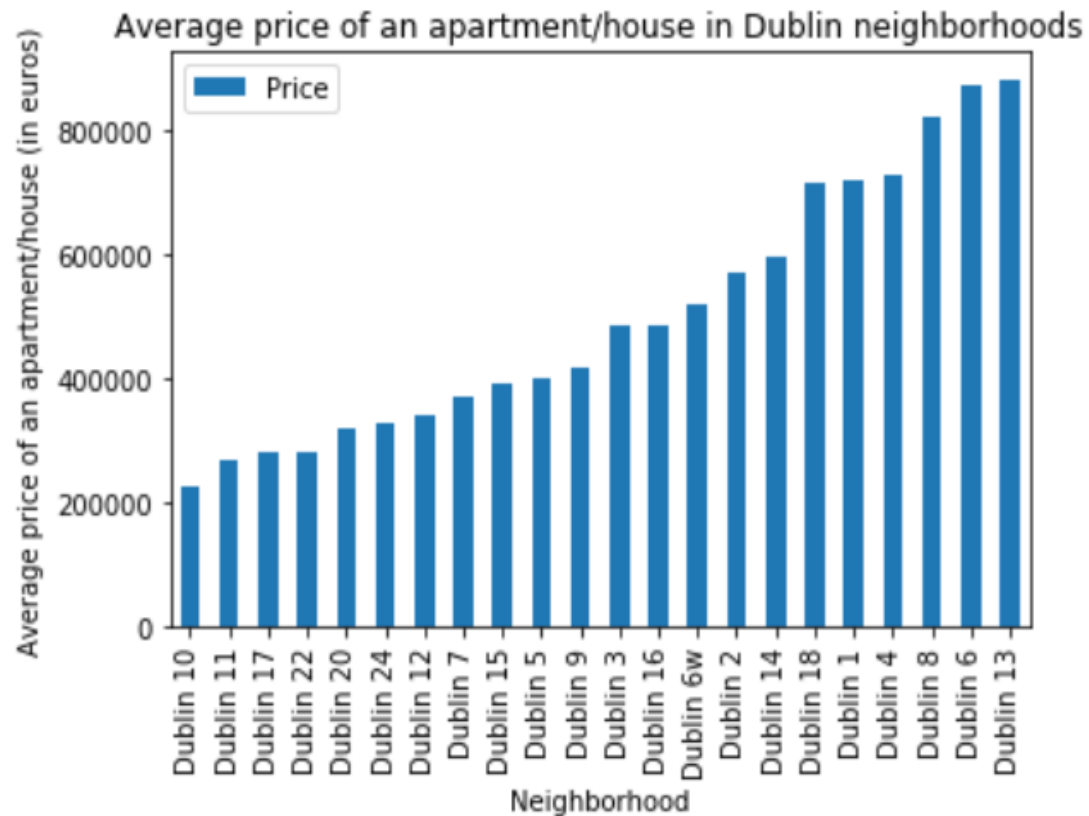
- Cleaned data contains 28 features

Similarities between neighborhoods

- The similarities between the different neighborhoods were investigated considering their proximity to each service identified as being of primary necessity, using the KMeans method for the creation of clusters to incorporate similar neighborhoods

- The categories of venues were processed using One Hot Encoding and grouped based on the average of the values of each category

- The Elbow Method was used to identify the optimal number of clusters to create, selecting 16

- It was also useful for understanding the variability of services offered by neighborhood groups (highest for Dublin 3, Dublin 6 and Dublin 8)

Average prices of apartments/houses and crime rates in Dublin neighborhoods

Five top venues for each neighborhood

	Postal Code	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Dublin 1	Gym / Fitness Center	Burger Joint	Chinese Restaurant	Farm	Bar
1	Dublin 10	Department Store	Electronics Store	Supermarket	Fast Food Restaurant	Grocery Store
2	Dublin 11	Supermarket	Café	Coffee Shop	Discount Store	Sandwich Place
3	Dublin 12	Mobile Phone Shop	Coffee Shop	Electronics Store	Fast Food Restaurant	Burger Joint
4	Dublin 13	Supermarket	Convenience Store	Gym	Bowling Alley	Shopping Mall
5	Dublin 14	Pub	Convenience Store	Supermarket	Gastropub	Bar
6	Dublin 15	Grocery Store	Pub	Chinese Restaurant	Café	Garden
7	Dublin 16	Supermarket	History Museum	Hotel	Pub	Bistro
8	Dublin 17	Café	Pub	Italian Restaurant	Asian Restaurant	Convenience Store
9	Dublin 18	Supermarket	Grocery Store	Bus Stop	Convenience Store	Pub
10	Dublin 2	Pub	Betting Shop	Grocery Store	Coffee Shop	Burger Joint
11	Dublin 20	Convenience Store	Pub	Grocery Store	Supermarket	Fast Food Restaurant
12	Dublin 22	Golf Course	Bus Stop	Convenience Store	Pizza Place	Falafel Restaurant
13	Dublin 24	Liquor Store	Coffee Shop	Pub	Convenience Store	Asian Restaurant
14	Dublin 3	Pub	Coffee Shop	Restaurant	Italian Restaurant	Cocktail Bar
15	Dublin 4	Pub	Light Rail Station	Fast Food Restaurant	Thai Restaurant	Bakery
16	Dublin 5	Baseball Field	Moving Target	Music Venue	Auto Garage	Yoga Studio
17	Dublin 6	Pub	Coffee Shop	Café	Clothing Store	Bookstore
18	Dublin 6w	Pub	Café	Hotel	Bar	Coffee Shop
19	Dublin 7	Brewery	Bar	Gym	Grocery Store	Restaurant
20	Dublin 8	Coffee Shop	Café	Hotel	Restaurant	Pub
21	Dublin 9	Supermarket	Fast Food Restaurant	Train Station	Grocery Store	Shopping Mall

This analysis guarantee immigrants an extra means to select the area of Dublin they would prefer to move to based also on their personal preferences

Conclusions and future directions

The analysis conducted can be used as an additional means for immigrants of choosing which Dublin area to live in

There is no perfect area to live in. Excluding the areas with a higher crime rate, we can define Dublin 14 as the best neighborhood in which house prices are average (around 518.071 euros) and which has a good variety of basic necessities. Also, the most common venue in this area are pubs, which could help immigrants to make friends more easily and soon

It would be possible to extend this analysis to a greater number of venues, excluded due to the restrictions of the free account of Foursquare, and the best areas could be evaluated for specific groups of individuals

Thanks for the attention