Capstone Project: Battle of the neighborhoods

Where to buy a house in Montreal?

Background

I currently reside in Montreal, Quebec, Canada. With more than 4 million inhabitants in its urban area, Montreal is the most populous city in the Canadian province of Quebec, and the second most populous in Canada, after Toronto [1]. The economy of Montreal has been booming in the recent times, especially in the tech sector and biotechnology. This has led to a steep rise in the number of people moving to Montreal, with as many as 179,000 immigrants moving to the metropolitan area between 2011-2016 (Census data). Because of a long history and being culturally distinct from the rest of Canada, Montreal has developed into a multicultural city with distinct neighborhoods. For someone wanting to settle in the city by buying a house, the choices can seem overwhelming. Thus, the aim of my project is to come up with a solution for this problem using the data available online and applying the data science and machine learning techniques I have learned in this course.

Montreal's housing market is considered to be one of the most affordable among major Canadian cities and knowing where to buy a house would maximize not only the return on the investment. The decision to choose where to buy the house would depend on two factors. First, the price of the house has to be affordable. Secondly, the neighborhood should have a wide selection of venues and restaurants. An ideal house would thus be the one from a neighbourhood with relatively lower prices, while at the same time, with a broader choice of venues and restaurants around.

Problem and interested audience

While Montreal offers a wide selection of neighborhoods and housing, the problem becomes choosing the house in a neighborhood that will strike a perfect balance between affordability and social life. The results from my analysis aim to help the people who are new to the city and are looking to buy property.

Data Description

I obtained coordinates of the neighborhoods of Montreal and their boundaries from the City of Montreal website. The Json file with this data will be used to generate the maps and to segment the neighborhoods so that they can be explored [2].

I will use the Foursquare API to explore the neighborhoods and to obtain the list of the venues in them. This data will be crucial in creating clusters of neighborhoods.

---

[1] https://en.wikipedia.org/wiki/Montreal
[2] https://github.com/blackmad/neighborhoods/blob/master/gn-montreal.geojson

The data for housing prices by neighborhoods in Montreal is available online. This data will be used to cluster the neighborhoods by average price of a home [3].

[3] https://news.shupilov.com/blog/montreal-boroughs-ranked-according-to-5-year-appreciation/