**Finding the best office location in Toronto**

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1. Introduction

I have been tasked to find the best hotel location in Toronto with easy access to public transportation and within walking distance or a short ride to a nearby hotel.

As new startups have been popping up, the need for office space is ever increasing. A very important factor in finding the best location for office space is easy access to public transportation. Where I work continually has out of town vendors, contractors, etc who visit the office and need to stay overnight.

Any new business who is searching for office space would like to use the information I am gathering

1. Data collection and methodology

I am gathering my information from Foursquare API to get the most current information available in the Toronto neighbourhood.

First I gathered all the names of the neighbourhoods in the Toronto area along with the associated PostCodes and Boroughs and put them into a data frame. I then dropped any duplicates.

I then got the latitude and longitude of each post code and inserted those into the data frame. I then mapped those out using folium.

From here I accessed Foursquare and got all the nearby venues and used one hot coding to give all the varying venues a score and put them into a dataframe. The neighborhoods now have the associated rankings of each transport and hotel in a nice dataframe.

1. Methodology

At this point we use k-means clustering to find the best area neighbourhood for office space. We then merge the neighborhoods with venues and map it for visual representation

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1. Results

Luckily, we have many options to chose from. The more central downtown locations has all of our needs satisfied. More peripheral locations are also available.

1. Discussion

While we have many options, we can focus on more uncentrailized locations for cheaper office space. I would recommend choosing the location by the Universoty of Toronto as the prime locations for office space

1. In conclusion, by using machnne learning, we were able to find the most idela location at the University of Toronto

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