

COURSERA CAPSTONE PROJECT

Problem Statement :

Opening a new shopping mall in Toronto



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Introduction :

Shopping malls are always a very trendy thing and always get good attention from residents as well as tourists. Now, there are shops in shopping malls which cater to different budgets. Shoppers prefer shopping centres/malls to stand-alone shops for various reasons. They have their own parking facility. There is a wide variety of products available. There are products from competing producers available under one roof. So, they can compare and make purchases. They have facilities such as restrooms. They have gaming zones. There are food courts with a wide variety of cuisine. There are movie theatres in shopping centres. All these features making shopping a fun-filled and satisfying experience. Since shopping centres are the most sought-after shopping destinations, it is beneficial for a businessman to set up a store in a shopping mall. Generally, retail store owners rent shop space in a mall. Renting store space benefits the businessman in many ways. Shopping malls are usually located in prime locations which are easily accessible. So the location of the mall is a very important decision to be taken.

Problem Statement :

The objective of this Capstone Project is to help opening a new shopping mall in Toronto. Using the location data obtained and the various clusters of venues in the neighbourhoods of Toronto we can find a prime location for this shopping mall ensuring that this becomes a successful project.

Target audience :

This project is useful to the property developers and investors looking to open or investing new shopping malls in the financial city of Toronto. According to research, many of the top shopping malls of Canada are located in Toronto being led by Yorkdale Shopping Centre ,Toronto ON, having productivity nearly \$1,905.00.Thus the shopping mall business is beneficial in this area .All this makes me think that this will be a highly prospectus project for the present times as well as for the future. The shopping mall is a good business idea due to the country's continued obsession with building more shopping space despite oversupply.

Data section :

The various data sources to be used are :

1. We use the Foursquare location API data to explore the venues around any neighbourhood .This helps us to get the information regarding the popularity of that neighbourhood .
2. We need to find the geographical location like latitudes and longitudes of the venues to create a map. This ensures that we can visualize our data properly so that we can determine the best location in the neighbourhood for our shopping mall.
3. After clustering the neighbourhoods we need to find out the more prominent clusters. As more prominent the cluster will be more people would visit the shopping mall resulting in good money.

We can use web scraping to extract the data regarding the borough and the neighbourhoods in Toronto. Using data wrangling or data cleaning methods we can easily clean the data. Then we will get the latitudes and longitudes of the coordinates using the geocoder package in Python. We will use the Foursquare location API to explore the venues around these neighbourhoods. We will mainly focus on the shopping mall category of the venue to solve our problem.

This project involves use of many data science skills like data analysing, powerful data visualizing tools like folium and machine learning tools like K-means clustering.