

Best Location for opening Indian Grocery Store



Problem Statement

The objective of this capstone project is to find the most suitable location for my friend to open a new Indian grocery store and later expand to Asian grocery chain in Toronto, Canada.

Identify the high demand and low demand neighborhoods as well as population density, income per capita, crime rate and near-by venues/attractions

To answer,

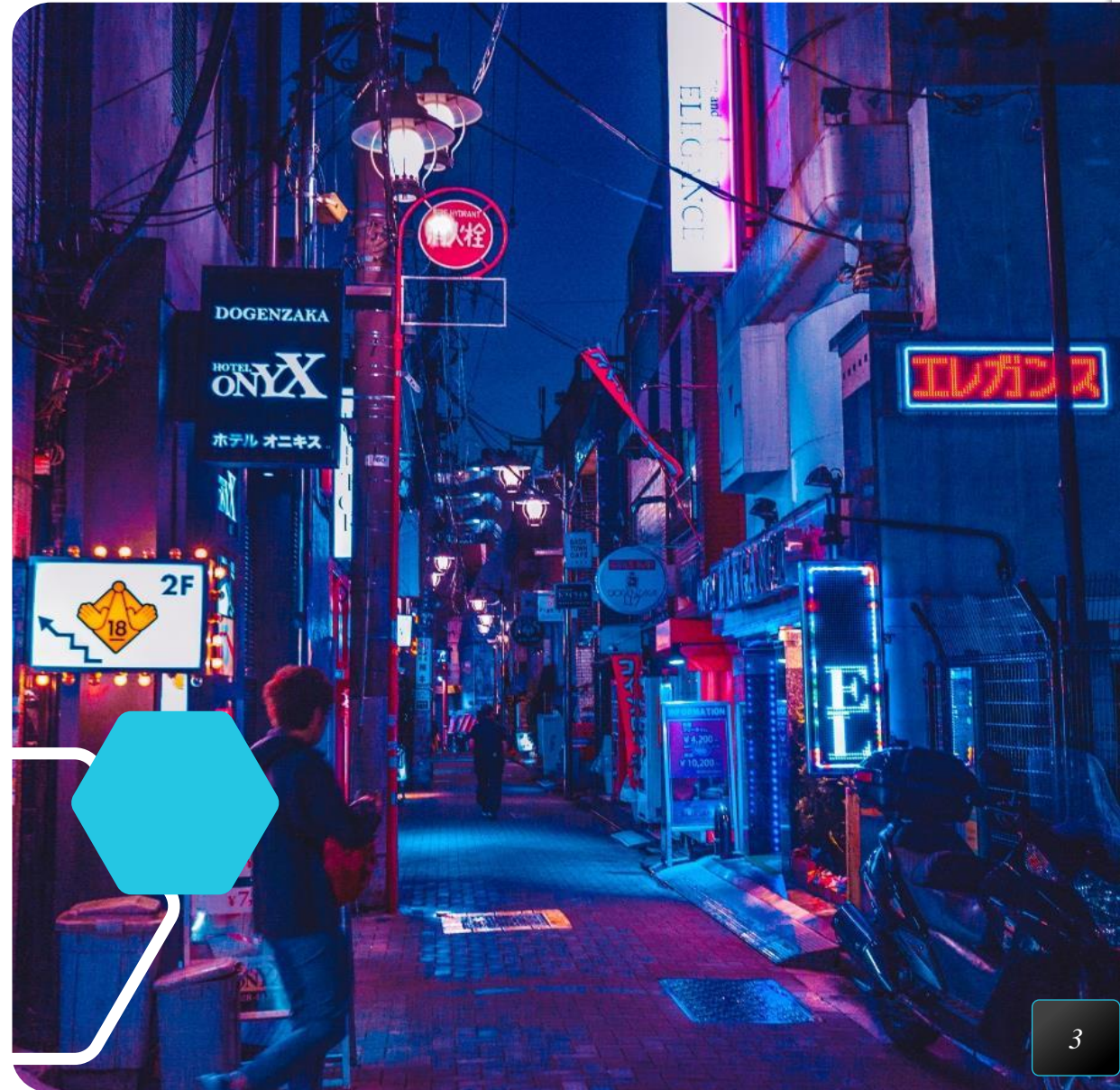
What is the best place to open an Indian grocery store in Toronto?



Data Preparation

We need to have access to

- List of neighborhoods in Toronto, Canada.
- Latitude and Longitude of these neighborhoods.
- Venue data related to Asian restaurants.



Data Collection

The following data needs to be collected to perform the necessary analysis –

- Wikipedia information for scraping Toronto neighborhood related data
- Geocoordinates (Longitude and Latitude) via Geocoder package
- Venue and Nearby location information using Foursquare API.



The Process

Extract the location information and geocoordinates of Toronto and its respective neighborhoods.

Load geocoordinates (longitude and latitude) and merge the information from Wiki and Geocoordinates.

Foursquare API for Venue information and Near by places.

Get the Top 100 Nearby Venues with in a radius and limit.

Pick “Grocery Store” as our category and performed K-means clustering to understand the density of grocery stores.

The data is now clustered into 3 areas ($k = 3$) based on the frequency of the occurrence of “Grocery Store”.



Results

- 3 Clusters (k=3)
- The neighborhoods in Cluster 1 and 2 are densely occupied by Grocery Stores and Restaurants and are near by various other locations.
- There are very few Grocery Stores in Cluster 3 in the neighborhood of Christie.





Cluster 3 (Christie) is BEST Neighborhood to open up an Indian Grocery Store.