

Coursera Capstone Project: The Battle of Neighbourhoods

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INTRODUCTION

The importance of a shopping mall, as we all know, is mainly for people to get out of the house for a while and do something entertaining. Shopping malls can provide the best shopping experiences such as social gatherings, entertainment, performances, product launches, promotions and festivals. The events list at shopping malls goes on and on for any, particular, person to be entertained for a number of hours.

Any shopping mall can be a great place to hang out with friends, eat, shop, and more. We can go to all your favourite stores and I believe that parents enjoy it just as much as kids.

Shopping malls also tend to be a major tourist attraction. The malls can be more convenient and helpful, for a tourist, to have one central location to do all their shopping, rather than to have to drive many miles just to buy different types of products for their personal needs.

Shopping physically at a mall, compared to shopping online is very different. Going to a mall is always more convenient as for example, shopping for clothing can be a hassle online because we aren't able to try on the cloths and find something that fits for sure. Whereas, shopping at a mall allows us to try anything, we're interested in, on to make sure it fits before you invest in it.

As a result, there are many shopping malls in the Surat city and many more are being built. Opening shopping malls also allow the property developers to earn consistent rental income. But opening a new mall requires serious considerations and it is a lot more complicated than it seems; especially the locations of shopping mall is one of the most important decisions that will determine whether the mall will be a success or failure.

Business Problem

The objective of this project is to analyse and select the best locations in Surat, Gujarat to open a new shopping mall. Using the various aspects of Data Science like visualisation and Machine Learning techniques like clustering, this project aims to provide answer to one of the prime questions, i.e., 'What should be the recommended place to open a new shopping mall in a developed city like Surat?'

Target Audience

This project will provide useful insight to the business developers and investors, who are looking forward to open or invest into the new shopping malls in the capital city of Gujarat, i.e., Surat.

Sources of Data & Tools required

1. *List of neighbourhoods in Surat:*

The Wikipedia page '[https://en.wikipedia.org/wiki/Category:Neighbourhoods in Surat](https://en.wikipedia.org/wiki/Category:Neighbourhoods_in_Surat)' contains a list of neighbourhoods in Surat, with a total of 76 neighbourhoods. Web scraping techniques will be used to extract this data from the source page.

2. GPS coordinates of the neighbourhoods:

Geographical coordinates (latitude, longitude) of the neighbourhoods will be obtained, using Python Geocoder package, which will help us to plot the map and obtain venue data.

3. Foursquare API:

After the above steps, Foursquare API will be used to extract data of the neighbourhoods. The data obtained will be used to cluster the neighbourhoods. A machine learning model (k-means clustering) can be used to do the same and recommend the best place to construct new malls.