

Coursera Capstone

IBM Applied Data Science Capstone

Opening a New Restaurant in Portland, Oregon



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Introduction:

A great city always has many restaurants, from high-end and luxury, to close and friendly, anyone can pick up a restaurant and enjoy the dinner weekday or weekend. For shopkeepers, the central location and the large crowd near workplaces are great places to open their business. So you can easily find a restaurant in downtown Portland. Opening a restaurant can earn a lot of money, but also the rent is high. For that, the location of the restaurant is one of the most important decisions that will determine whether the mall will be success or failure.

Business Problem

The objective of this capstone is to analyse and select the best locations in Downtown Portland to open a new restaurant. Using data science methodology and machine learning techniques like clustering. This project aims to provide a solution the question of in Downtown Portland, where to open a new restaurant?.

Data:

- List of neighborhoods in Portland. Downtown Portland specializes in South West and North West Portland.
- Latitude and longitude coordinates of those neighborhoods. This is required in order to plot the map and also to get the venue data.
- Venue data, particularly data related to restaurants. We will use this data to perform clustering on the neighborhoods.

Source of data:

The Wikipedia page (https://en.wikipedia.org/wiki/Neighborhoods_of_Portland,_Oregon) contains a list of neighborhoods in Portland, with is total of 29 neighborhoods in Downtown. We will use web scraping techniques to extract the data from Wikipedia page using BeautifulSoup packages. Then we will get the geographical coordinates of the neighborhoods using Python Geocoder package which will give us the latitude and longitude coordinates of the neighborhoods.

After that we will use Foursquare API to get the venue data for those neighborhoods. The API will provide many categories of the venue data, we are particularly interested in the Restaurant category in order to help us to solve the business problem.