

Coursera IBM Data Science Capstone Project

Opening a new catering service outlet in Pune, India

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Introduction

For the Capstone project, I have prepared a hypothetical scenario for a food business owner who wants to explore opening of catering service outlets in different parts of a new city(Pune). The motivation of this project evolves from the fact that Pune is one of the fastest growing cities in India. Being an IT hub, the city attracts crowds from several states having different food palette. For a food enterprise owner who is aware of the aforementioned fact but oblivious of areas/regions within the city suitable for specific outlet, the information about specific parts of the city best for opening a particular outlet is of paramount importance. With that thing in mind, finding locations to open such outlets is one of the most important decisions for the owner and I am designing this project to help him find the most suitable locations.

Business Problem:

The purpose of this capstone project is to find the most suitable location for the catering service owner to open limited delivery outlets in different parts of the Pune city. Although several locations can be triangulated based on distance, the owner wants to find the most popular types of food consumed across different parts of the city to setup relevant outlets in relevant parts of the city. Also there is a budgetary restriction to the opening of number of outlets. By using data science tools and machine learning models such as clustering, this project aims to provide solutions to answer the business question: In Pune city, if a food business owner wants to open outlets, which suitable locations should he consider to open it?

Target Consumer:

The catering service owner who wants to explore best locations to setup a delivery outlet in a new city(Pune).

Data:

To solve this problem, following data is needed:

- 1) List of areas in Pune, India.

2) Latitude and Longitude of these areas.

3) Venue data related to all categories of restaurants. This is will useful in finding segments in the city which contains pertinent concentration of food outlet/restaurant types.

Extracting the data:

1) Web scraping to retrieve list of areas in Pune city. Website “makemytrip” alphabetically lists down all areas within Pune city.

2) Extracting Latitude and Longitude data of these areas using geopy package

3) Using Foursquare API to get venue data related in relevant areas.