

Data Science Capstone Project

Introduction/Business problem

Metro Manila, simply Manila, is the National Capital Region and the Philippines' prime tourist destination. Manila comprises 17 cities and municipalities, including the capital city, Manila City. Though it is the smallest region in the country, Metro Manila is the most populous of the twelve defined metropolitan areas in the Philippines and the 19th most populous in the world (Koop, 2021). Being the capital, Manila is considered to be the center of commerce, education, and entertainment of the country.

In this Capstone Project, I want to know the most common places available to Manila's people. After I determine the Top 3 Most Common Places, I will cluster the type of place and determine what kind of establishment is best to set up in a particular city. Lastly, I also want to know the most common cuisines people prefer to eat here in the metro.

Link to Koop, 2021: <https://www.visualcapitalist.com/most-populous-cities-in-the-world/>

Description of the data

The different districts present in Metro Manila were obtained from the Philippines Statistics Authority records (PSA). Every city has been divided into different smaller neighborhoods or "barangays," as termed in the Philippines. To make the data processing easier, Microsoft Excel is used to clean the PSA data while also retaining the different Metro Manila cities.

Each city's central location's latitude and longitude is requested from Google Cloud's Geocoding API. These coordinates will then be used as input in the Foursquare API, which is used to obtain the different venues present at each city within a 3000-meter radius relative to its coordinates.

Lastly, from the Foursquare API's response, the result will be parsed to obtain necessary values such as each venue's coordinates, name, venue sub-category, and main category. The main type is how Foursquare classifies the venue. To name a few, this can be food, arts, and education. Venue sub-category is the specific category a venue is classified as, i.e., Japanese Restaurant for Food.

Link to the PSA

Data: https://psa.gov.ph/sites/default/files/attachments/hsd/pressrelease/2015_Table%201_Legislative%20Districts.xlsx