

# **Mexican Restaurant Recommender**

## **for Best location for new visitors in Sacramento City**

This project aims to utilize all data Science concepts learned in the IBM Data Science Professional Courses. We define the business problem, the data that will be utilized and used, we are able to analyze it using Machine Learning tools.

In this project, we will go through all processes in step by step manner from problem statement to final conclusion.

### **Table of contents**

- Introduction
- problem statement
- Methodology
- Discussion
- Conclusions

### **1. Introduction:**

Sacramento is the capital city of California. known for many things such as its agriculture, sustainability, infrastructure, healthcare and educational institutions, Sacramento is a lush and vibrant metropolitan city in the northern California. the neighborhoods of Sacramento offer a distinct balance between an urbanites dream and suburban escape.

#### **1.1. Statement of the problem:**

The main purposes for this project is to recommend the best Mexican Food Restaurant in county in Sacramento for new visitors with best services surround the location.

#### **1.2. Data:**

For the purpose of this project, the data will be restricted to Sacramento City. The information about car dealership will be from the neighborhoods and boroughs of San Sacramento only. We will need a couple of dataset and will combine them to get the desired outcome which are as following datasets:

##### **1.2.1. Sacramento Data (Boroughs +Neighborhoods):**

The first database will be used would contains all required geographical data about Sacramento city. namely we would be used 'Borough', Latitude, Longitudes, and Neighborhoods among all other data elements presented in our data. In order to explore/segment the neighborhoods, we will essentially need a dataset that contains the boroughs and the neighborhoods that exist in each borough as well as the latitude and longitude coordinates for each neighborhood. the "Latitude and "Longitude extracted from this data will also be pivotal when we use it to perform clustering with K-means.

##### **1.2.2. Four Square Sacramento City Guide Data (venues):**

Foursquare API: to find dealerships/venues

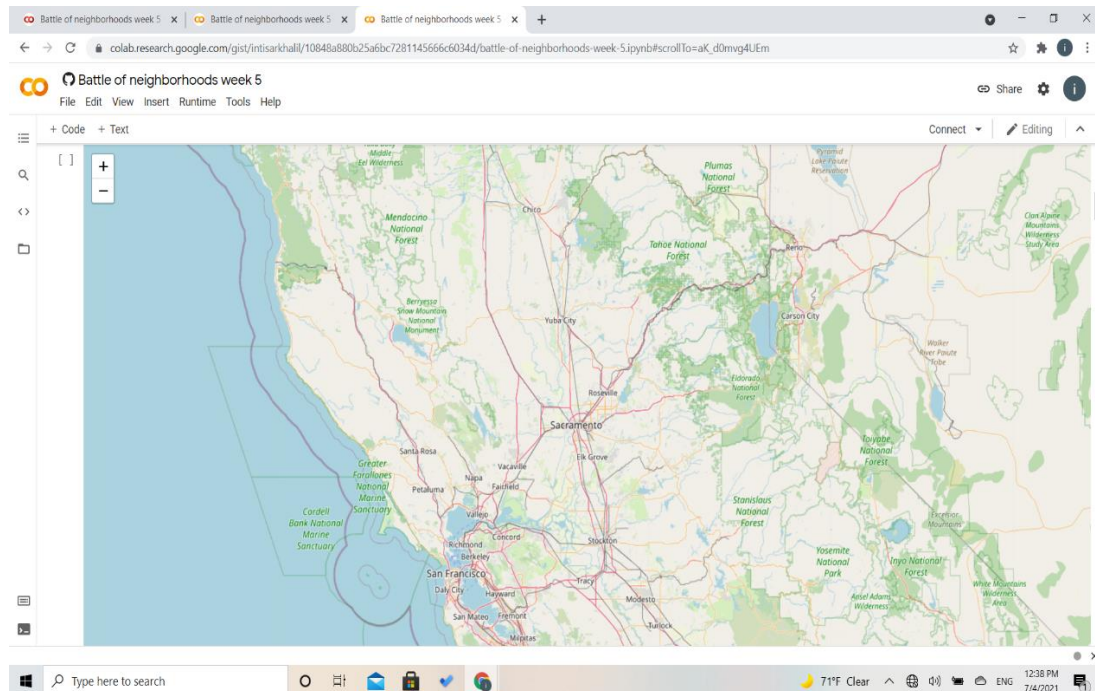
### **2. Methodology:**

Data will be collected <https://data.cityofsacramento.org/> and cleaned and processed into a dataframe.

FourSquare be used to locate all venues and then filtered by county

## Sacramento Neighborhoods

Sacramento is located in the heart of Northern California and is the perfect base from which to visit some of the most important California attractions. Whether you're into adventure travel, family fun, history, culture, food tourism or any number of other activities, Northern California is full of fun. Let's take overviews on Sacramento counties.



### 2.2.1. Arden Arcade:

The biggest features of the Arden Arcade area are the Cal Expo Fairgrounds, which also houses the Sacramento Republic FC soccer club's Papa Murphy's Park, and the sprawling Arden Fair Mall, which houses numerous national retailers, restaurants and is surrounded by a host of other restaurants and developments. Hotels in Arden Arcade have convenient access to downtown Sacramento via Highway 160 and Interstate 80, as well as access to East Sacramento and North Sacramento. Ethnic restaurants on Fulton Boulevard draw locals and visitors alike, providing a culinary cross-section of Sacramento's diverse population.

### 2.2.2. Natomas:

A relatively new community, Natomas is home to parks and trails, family-friendly eateries and shopping areas, sure to please visitors and locals alike. If you're hungry, check out its many taquerias and food trucks or head to the La Superior market along Northgate Boulevard to shop for authentic Mexican foods. If you're the outdoorsy type, Discovery Park, one of the region's largest green spaces, is the perfect place to perch during a hot Sacramento summer day. A part of the American River Parkway, the park offers a variety of recreational activities including boating, picnic areas. PDF File and wading in the river. It's also home to the emerald and very Instagram-worthy Jibboom Street Bridge. In the summer, the 47+ acre North Natomas Regional

Park hosts some of the community's biggest events, including movie nights and farmers markets. The park also offers its own sports fields, bikeways, play areas, water features, and some of the best play areas for both your kiddos and doggos.

#### **2.2.3. West Sacramento:**

This city is just across the Sacramento River from Sacramento, which also divides Sacramento and Yolo counties. Great views of Old Sacramento and the downtown Sacramento skyline can be had from the pleasant river walk between Tower Bridge and the I Street Bridge, and West Sacramento is also home to Raley Field, home of the Sacramento River Cats, the AAA affiliate of the San Francisco Giants. Just blocks back from the waterfront is a burgeoning cluster of restaurants and bars, and several breweries such as Jackrabbit, Bike Dog and Yolo Brewing Company are just down the river. Retail giants IKEA and Fry's Electronics anchor shopping centers just off Interstate 80 that have many food options and other shopping choices.

#### **2.2.4. Downtown:**

Sacramento's central city is composed of the downtown and Midtown neighborhoods and has a high concentration of restaurants, bars, attractions, parks and the SAFE Credit Union Convention & Performing Arts District. Downtown is the bustling metropolitan hub of the region, and nearby Midtown is a trendy cultural hub with plenty of eats and drinks, and an eclectic mix of architectural styles, coffee bars and art galleries. On the western side of downtown is the Old Sacramento Waterfront, with historic buildings, wood-plank sidewalks, museums, the Sacramento River and charm from the Gold Rush era.

#### **2.2.5. East Sacramento**

Located just east of Midtown, East Sacramento is home to tree-lined streets, the Fabulous Forties, McKinley Park, Sacramento State University and miles of beautiful bike trails along the American River. Pop into a local shop for coffee, browse a unique boutique or savor the flavors of the region at one of the many eateries. Favorite activities include biking or jogging on the trails, lounging in the park made famous by the film "Lady Bird," or touring the famous Fabulous Forties, home to Ronald Reagan when he was governor of California and another iconic setting in "Lady Bird." Not far from Sacramento State University is the Pavilions shopping center and Loehmann's Plaza, featuring a host of local and regional retailers and some of Sacramento's best restaurants.

#### **2.2.6. North Sacramento**

This section of Sacramento encompasses a wide variety of attractions and activities. The arts scene along Del Paso Boulevard is thriving, and the unique Greens Hotel provides a memorable place to lay your head when you're in town. Gibson Ranch is a sprawling park that hosts concerts and provides an excellent setting for family reunions, outdoor recreation or just a lazy day lounging in the sun. The former McClellan Air Force Base is now home to a conference center and hotels, and the Aerospace Museum of California is on-site, with interactive exhibits on aviation and aviation history accompanied by numerous aircraft displayed outside dating back to World War II. Golfing is also popular in North Sacramento, with a host of courses sprinkled throughout.

#### **2.2.7. Oak Land**

The screenshot shows a Jupyter Notebook with the following code and output:

```

dataframe = dataframe[
    (dataframe.lat > 37.412) & (dataframe.lng > -121.45)
]

dataframe_filtered = dataframe[
    (dataframe.lat > 37.412) & (dataframe.lng > -121.45)
]

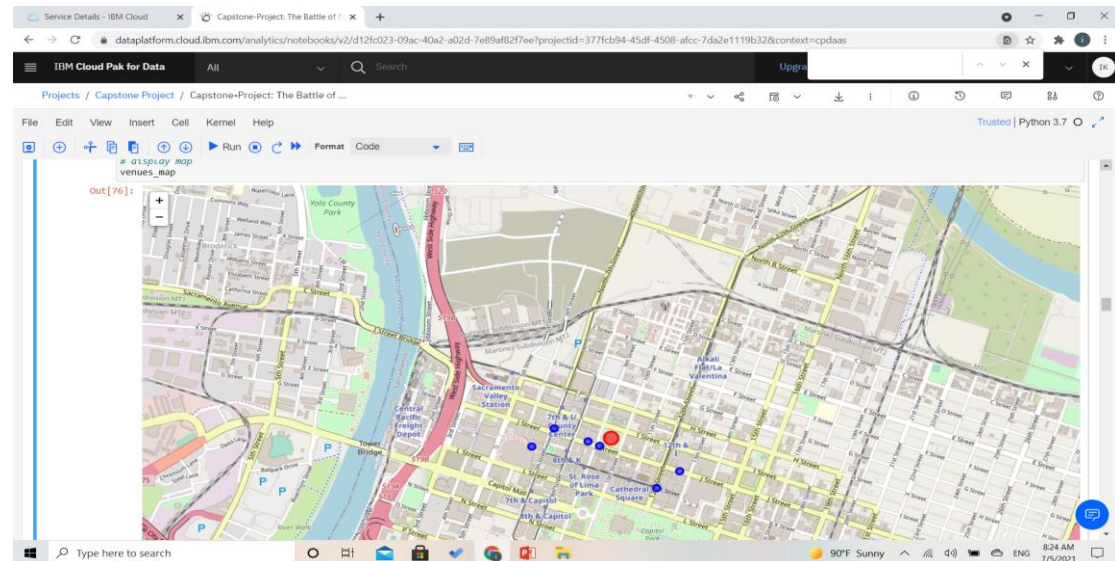
dataframe_filtered

```

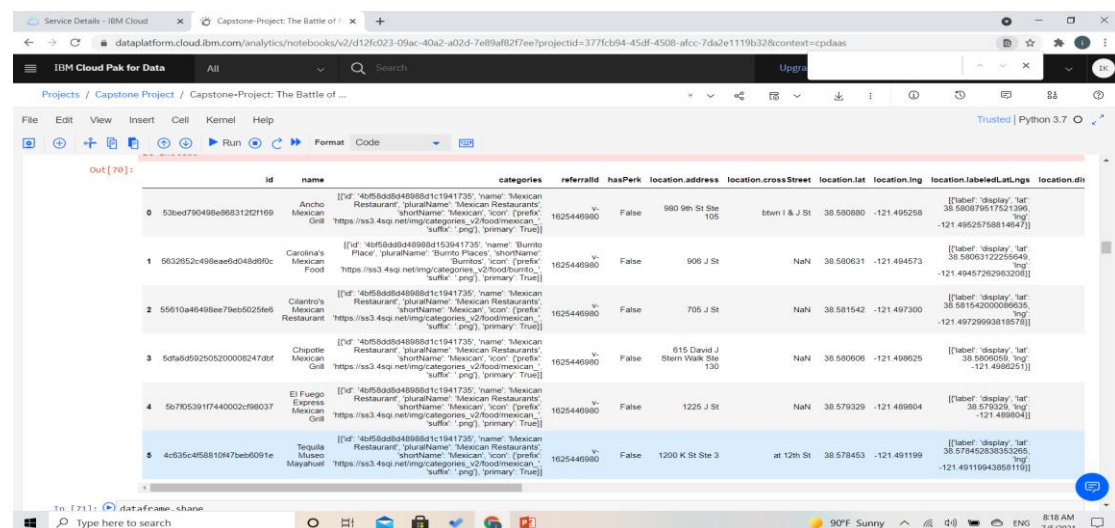
The output is a table with 17 columns: name, categories, address, lat, lng, latitude, longitude, distance, postalCode, cc, city, state, country, formattedAddress, crossStreet, and id. It lists several locations in California, including Mountain View, San Francisco, and Sacramento.

## Discussion:

Sacramento county contains of many Mexican food restaurants and stores. The following map show the location of these restaurant.



The following table show the Mexican restaurants with more information; name, address, location coordinates, and id.



	id	name	categories	referralid	hasPerk	location.address	location.crossStreet	location.lat	location.lng	location.labeledLatlngs	location.displayName
0	53bed790498e9883120169	Ancho Mexican Grill	[[{"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}, {"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}], primary: True]]	1625446990	False	980 9th St Ste 105	btwn I & J St	38.580880	-121.495258	[[{"label": "display", "lat": 38.580879517521396, "lng": -121.49526758814847}]]	
1	5632652c498eaeed048d90c	Cardinal's Mexican Food	[[{"id": "4b58d8544988d1c1941735", "name": "Burrito Place", "pluralName": "Burrito Places", "shortName": "Burrito", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/burrito_.png"}, {"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}], primary: True]]	1625446990	False	900 J St		38.580631	-121.494573	[[{"label": "display", "lat": 38.58063122256649, "lng": -121.4945726293205}]]	
2	55610446498ee79eb5025a6	Cilantro's Mexican Restaurant	[[{"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}, {"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}], primary: True]]	1625446990	False	705 J St		38.581542	-121.497300	[[{"label": "display", "lat": 38.58154200066635, "lng": -121.4972993818576}]]	
3	50fa9d92505200009247dbf	Chipotle Mexican Grill	[[{"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}, {"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}], primary: True]]	1625446990	False	615 David J Stren Walk Ste 130		38.580606	-121.498625	[[{"label": "display", "lat": 38.5806060, "lng": -121.4986251}]]	
4	5b7053917440002f98037	El Fuego Express Mexican Grill	[[{"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}, {"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}], primary: True]]	1625446990	False	1225 J St		38.579329	-121.498904	[[{"label": "display", "lat": 38.579329, "lng": -121.498904}]]	
5	4c835c4f5881047eb6091e	Tequila Museo Mayahuel	[[{"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}, {"id": "4b58d8544988d1c1941735", "name": "Mexican Restaurant", "pluralName": "Mexican Restaurants", "shortName": "Mexican", "icon": "Prefix", "https://s3.4sq.net/img/categories_v2/food/mexican_.png"}], primary: True]]	1625446990	False	1200 K St Ste 3	at 12th St	38.578453	-121.491199	[[{"label": "display", "lat": 38.5784528353265, "lng": -121.49119943658119}]]	

We filter the data frame and extract the rating for each venue, the results show that only two Mexican restaurants are rated;

- TEQUILA MUSEO Restaurant with the high rate (7.4)  
Number of tips:42  
Location: [1200 K Ste 3 (at 12th St), Sacramento, CA 95814, United States]
- Cheptole Mexican Gril: Rate (7.2)  
Location 615 David J Stren Walk Ste 130

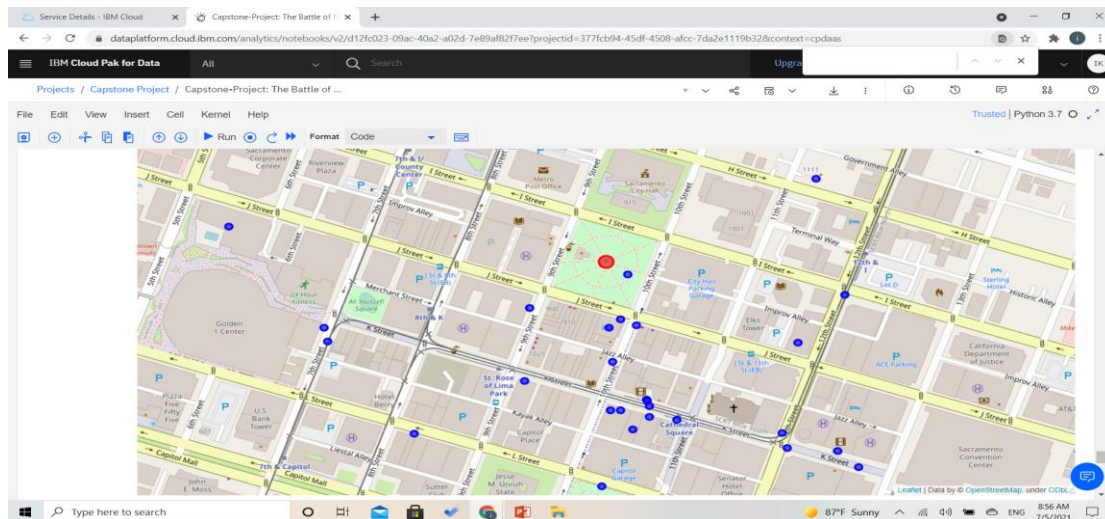
Tequila Museo Mayahuel show cases Mayahuel as a Cultural Museum of México. Everything we do at Mayahuel is a part of that Museum – from how artfully the food is presented on the plate, to the perfection of a superbly made cocktail, the passion of art and music, and the



beauty of an excellent glass of fine Tequila. It's the embodiment of history and culture, passion and love, lives ancient and present-day.

The we explore the venues surrounded the Tequila Museo Resturent to recommend if it is good location for vistors or not. We explore tips and user tips and trending.

The following Map show all the features (30 venues) surround the Tequila Museo Resturent,



These venues are a very high ranking such as Hyatt Regncy Sacramento Hotel, California State Capital Museum, Social Night Club, Bar, PIZZA ROCK, and so on.

### Conclusion:

Sacramento County is the very populated county in the area.

The location 1200 K St 3 (at 12th St), have the best Mexican Restaurant.

Tequila Museo Mayahuel the best restaurant for Mexican Visitors person.

The Tequila Museo Mayahuel location is the best location because it is surrounded by many venues such as Hyatt Regncy Sacramento Hotel, California State Capital Museum, Social NightClub, Bar, PIZZA ROCK, and so on.

### References:

- **Sacramento open data source website**
- **Coursera courses Notes**