# **The Battle of Neighborhoods**

## **Opening Ethnic Restaurants in the San Francisco Bay Area**

### **Introduction/Business Problem**

#### **Background Information**

The San Francisco Bay Area is the cultural, commercial, and financial center of Northern California surrounding the San Francisco Bay estuaries in Northern California. The heart of the San Francisco Bay Area is at the coordinates: 37.8272° N, 122.2913° W, a little under 90 miles Southwest of Sacramento, the capital of California. As the cultural, commercial, and financial center of Northern California, the San Francisco Bay Area is an ethnically diverse region, with a population of over 7.1 million over 9 counties. Counties and population are as below: Alameda (Population: 1.5 million) Contra Costa (Population: 1 million) Marin (Population: 252,000) Napa (Population: 136,000) San Francisco (Population: 881,000) San Mateo (Population: 718,000) Santa Clara (Population: 1.8 million) Solano (Population: 413,000) Sonoma (Population: 483,000)

#### **Problem**

In this project, because the San Francisco Bay Area is such an ethnically diverse region, I want to investigate if there are any locations that should open ethnic restaurants and whether or not there is a need for it.

#### **Interest**

Anyone who wants to open a new venue in any geographic location may be interested in this project by modifying search criteria.

### **Data**

#### **Data Sources**

To consider the problem we can list the following data sources, noted below:

* I get county data of San Francisco Bay Area from Wikipedia
* I use python geocoder library to get geographical coordinates of neighborhoods
* I use the Foursquare API venues explore method to get the venues of given counties of the San Francisco Bay Area
* I use the Foursquare API venues method to get ranks and likes of restaurants by given venue id

#### **Feature Selection and Data Usage**

I will use neighborhood location values to analyze the San Francisco Bay Area geographical structure. I will use the folium library of python to draw maps by using given latitude and longitudes of neighborhoods. Selected features will be as below.

I will use populations of counties who have big populations who may need a new restaurant.

I will also classify neighborhoods by using venues distribution and counts. In this way, I will find similarities of counties which will help me choose locations for opening a new restaurant. Similar structured counties may handle the same type of venues.

I will use the venue list category to find the distribution of restaurants and ethnic restaurants in neighborhoods.

I will also use ratings and likes of restaurants in the area. It may help me to find locations with bad rating restaurants which may need a new restaurant.