Capstone Project

Opening a new Pizza Place in Oakland, CA

Business problem

i. Business problem:“If a business person is interested in opening a new pizza place in Oakland, CA, in which area(s) would they be recommended to do so?”.

ii. Project Aim: to determine the most suitable areas in Oakland, CA, to open a new pizza place based upon the current occurrence of Pizza Places in Oakland.

iii. Target audience: businesspeople interested in opening a new Pizza Place in Oakland. This is of interest due to the massive popularity of Pizza Places.

Data acquisition

i. A list of neighborhoods in Oakland, CA, USA. This data can be obtained from the Wikipedia page https://en.wikipedia,org/wiki/Category:Neighborhoods_in_Oakland,_California which contains a list of these neighborhoods.

ii. Latitude and longitude coordinates of the respective neighborhoods in Oakland. This data will be obtained using the Python Geocoder package.

iii. Venue data for these neighborhoods, particularly focusing on Pizza Place venue dataThis venue data will be obtained using Foursquare API, providing many venue data categories for the associated neighborhoods.

Methodology

i. Scrape Wiki page for list of neighborhoods in Oakland

ii. Use Geocoder to obtain latitude and longitude coordinates

iii. Use Foursquare API to get venue data

iv. Group data by neighborhood and by mean of the frequency of occurrence of each venue

v. Obtain DataFrame for PizzaPlaces only

vi. Apply k-means clustering on DataFrame

vii. Visualise clusters in Folium Map

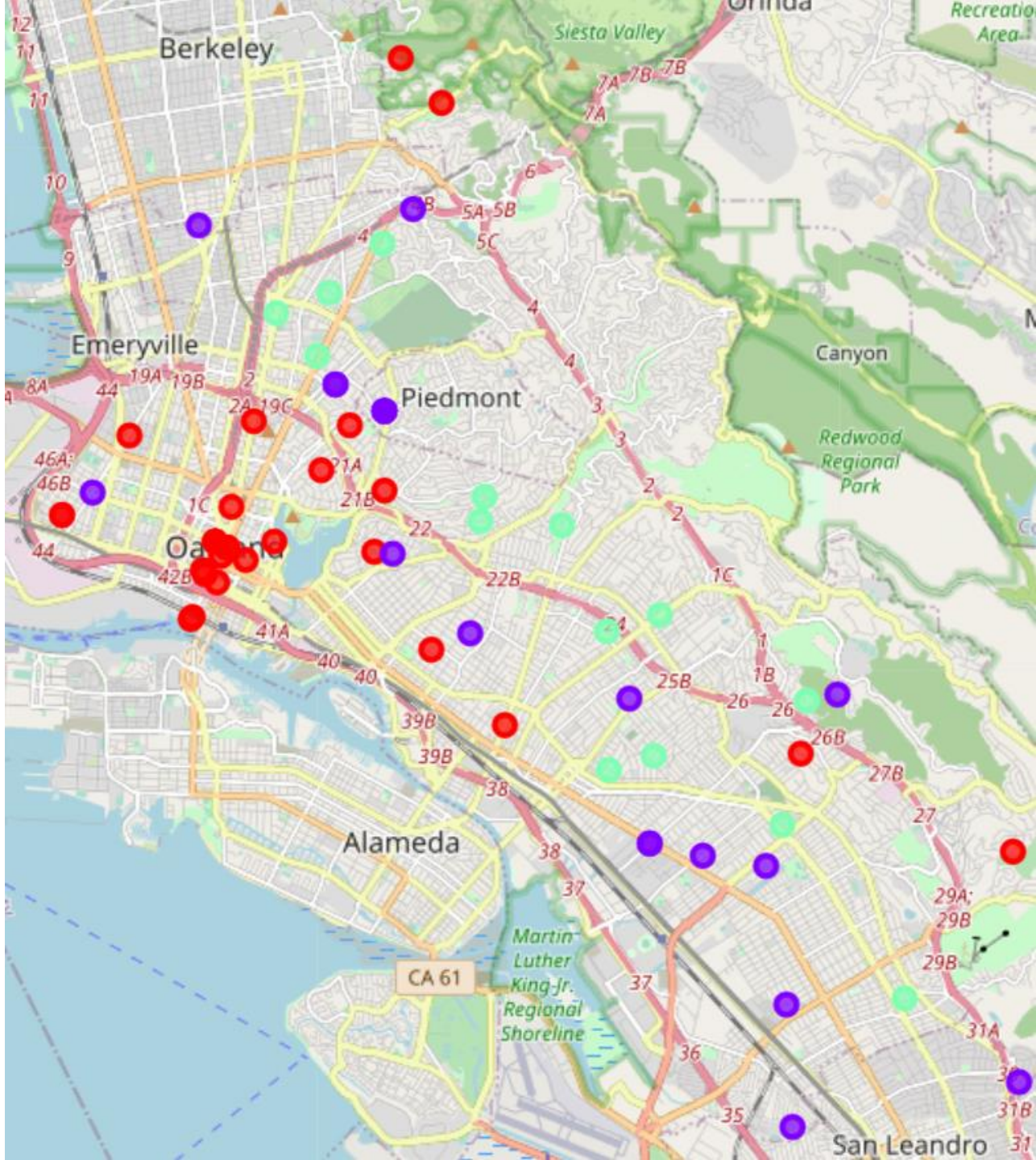
Results

- Cluster 1 (red) is situated in city centre
- Clusters 2 (purple) and 3 (green) situated in outskirts of city centre

i. Cluster 1 (red) has low or zero concentration of Pizza Places

ii. Cluster 2 (purple) has an intermediate concentration of Pizza Places

iii. Cluster 3 (green) has a high concentration of Pizza Places



Conclusion and future directions

i. Due to high abundance of Pizza Places in Cluster 3, it is advised to avoid neighborhoods in this area when considering opening a new Pizza Place.

ii. Despite the low concentrations of Pizza Places of neighborhoods in Cluster 1, due to the central location of these neighborhoods, further analysis would be required in order to ensure the competition from other food places not considered in this study is too high in the city centre.

iii. Thus, the preferred location for a new Pizza Place is proposed to be within Cluster 2, situated outwith the dense city centre and with an intermediate abundance of current Pizza Places.

iv. Future analysis may involve looking at the impact of competition from other types on food places.