

# Opening a Coffee Shop

in Honolulu, Hawaii

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# Background

- ▶ Entrepreneurs have hired me to produce a report to identify the best locations to open a new coffee shop in Honolulu, Hawaii
- ▶ Coffee shops are popular in Honolulu. Due to the competition for business, it is important to select the right location
- ▶ Aim to select a location with high volume of traffic and a vibrant neighborhood

# Data

- ▶ Location data on the centroids for ZIP codes in Honolulu identifies different neighborhoods
- ▶ Data on venues obtained from Foursquare developer API

# Methodology

## 1. Exploratory Data Analysis

- ▶ ZIP code locations are used to visualize different neighborhoods in Honolulu
- ▶ Mapped using Python's Folium package

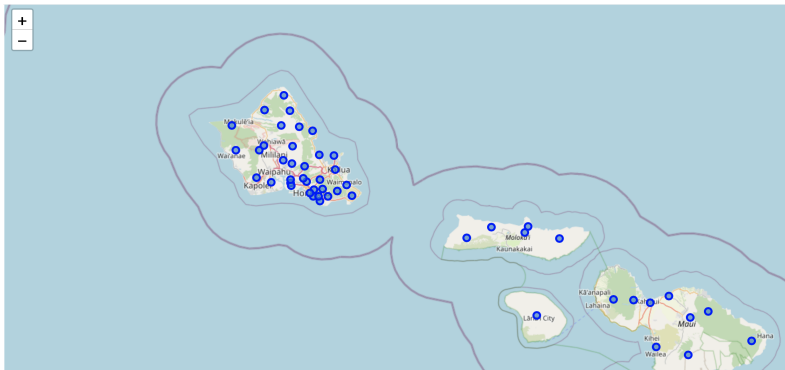
## 2. K-means Clustering

- ▶ Data on the frequency of venues of different types in each ZIP code is compiled
- ▶ Venue frequency rankings are constructed for each ZIP code and used to cluster areas with similar venue profiles

# Results

Clear clustering of ZIP codes in the south center part of the island, which is the most densely populated

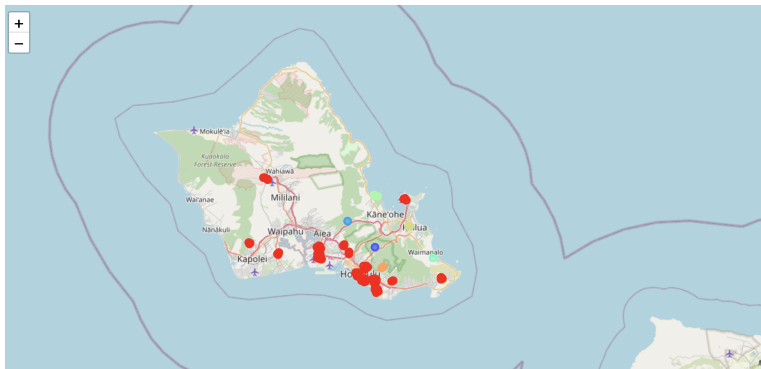
Figure: ZIP Codes in Honolulu, Hawaii



# Results

K-means clustering model also shows a cluster of areas with similar types of venues in the south center part of the island, in the downtown area

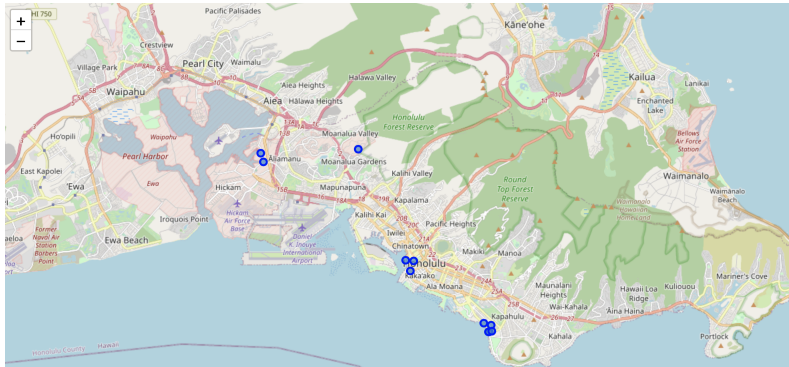
Figure: ZIP Codes in Honolulu, Hawaii



# Discussion

Visualization of the neighborhoods with the highest frequency of coffee shops shows two distinct clusters where there could be a pre-existing customer base.

Figure: ZIP Codes in Honolulu, Hawaii





# Conclusion

- ▶ Two locations that would be ideal areas for a new coffee shop
- ▶ Both are in highly-trafficked downtown areas
- ▶ Both areas also have clusters of other dining and retail venues, that provides a good environment for high volumes of customers and a vibrant neighborhood