## Battle of Neighborhoods Seattle, Washington

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#### Objective

- Collecting Neighborhood's top trending venues using Foursquare API(Beautiful Soup, http request)
- Forming neighborhood clusters based on venue categories using unsupervised kmean clustering algorithm(sklearn)
- Identifying and understanding the similarities and dissimilarities between two chosen neighborhoods to retrieve more insights and to conclude with ease which neighborhood wins over other.

#### Python packages and Dependencies:

Pandas - Library for Data Analysis

NumPy — Library to handle data in a vectorized manner

JSON
Library to handle JSON files

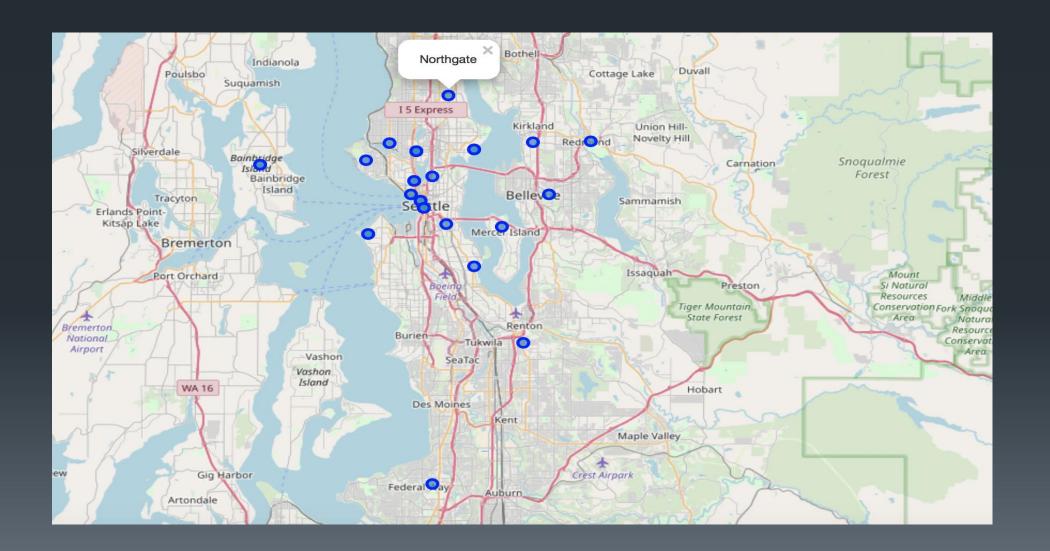
Geopy — To retrieve Location Data

Requests — Library to handle http requests

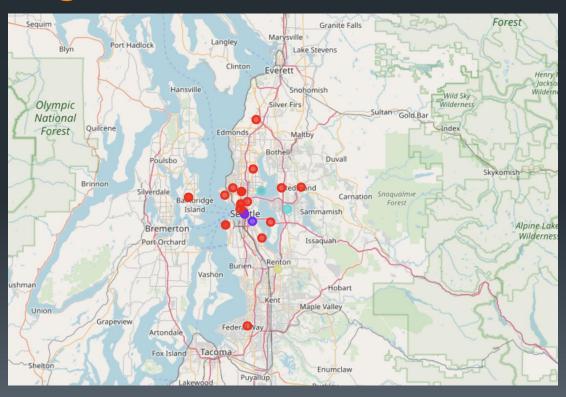
Matplotlib — Python Plotting Module

Sklearn – Python machine learning Library

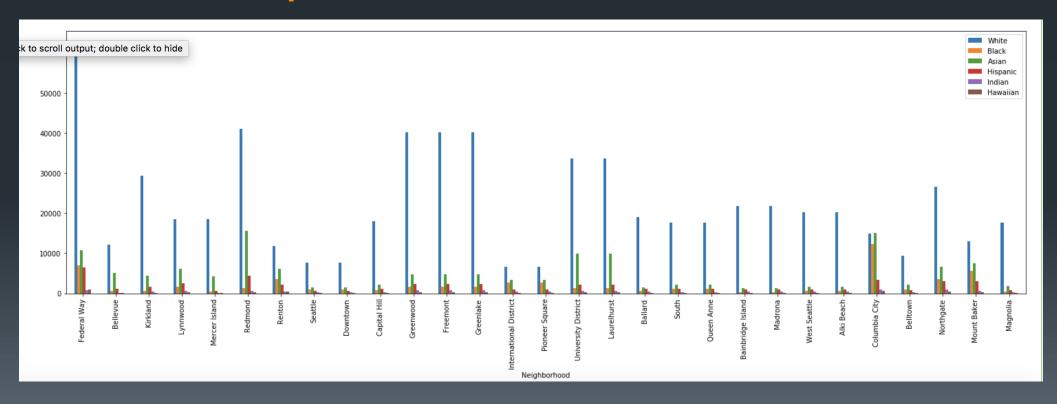
Folium — Map rendering Library



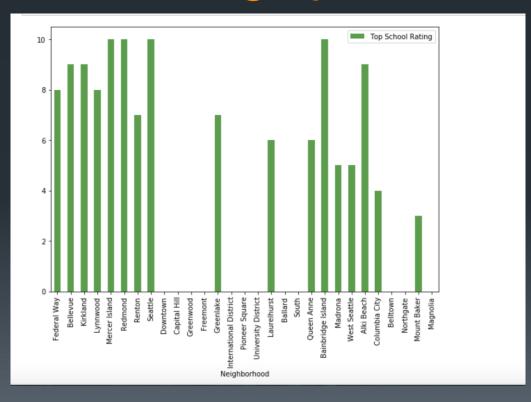
## Neighborhood clusters



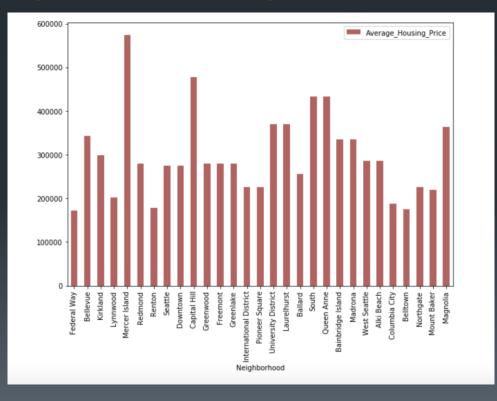
## Population distribution



## School ratings plot



## Average housing price plot



### Comparison between Neighborhoods

#### Bellevue and Kirkland

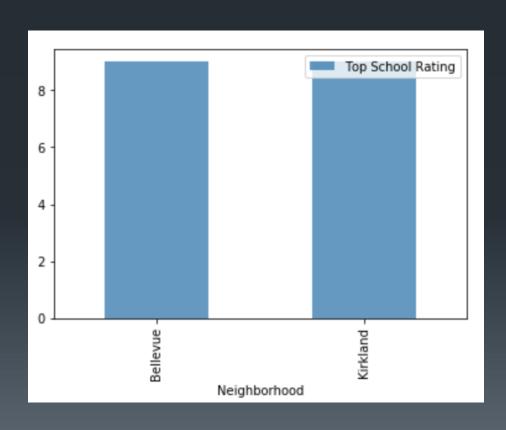
Now lets compare 2 neighborhoods to choose one that best matches our requirements as given below

- 1. More Indian Population
- 2. Higher School Rating
- 3. Reasonable Housing Price in the Range of 300k to 500k
- 4. Comfortable Neighborhoods

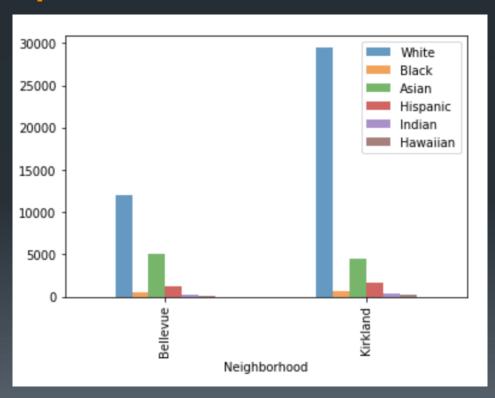
## Neighborhood Venues

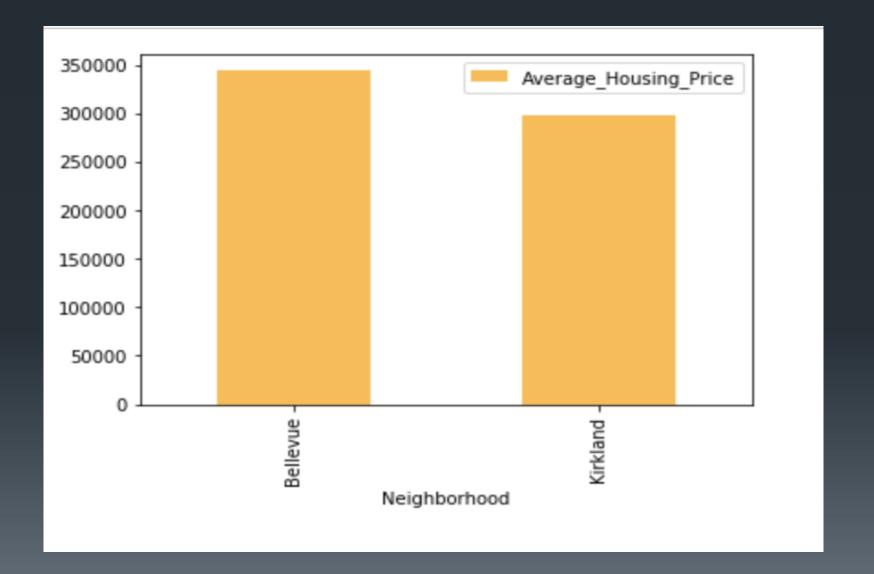
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Neighborhood	Bellevue	Kirkland
PostalCode	98005	98033
Latitude	47.615	47.6688
Longitude	-122.172	-122.192
Cluster Labels	2	0
1st Most Common Venue	Indian Restaurant	Café
2nd Most Common Venue	Vietnamese Restaurant	Baseball Field
3rd Most Common Venue	Bagel Shop	Music Venue
4th Most Common Venue	Automotive Shop	Sandwich Place
5th Most Common Venue	Mexican Restaurant	Asian Restaurant
6th Most Common Venue	Coffee Shop	Bus Stop
7th Most Common Venue	Other Repair Shop	Grocery Store
8th Most Common Venue	Fish & Chips Shop	Food & Drink Shop
9th Most Common Venue	Fish Market	Brewery
10th Most Common Venue	Filipino Restaurant	Forest

# School ratings



## Population distribution





#### conclusion

- This Analysis concludes that compared to Bellevue,
  - Kirkland has the higher number of Indian population
  - Good school rating of 9
  - Reasonable average housing price of approximately 300k
  - Top 10 common venues shows Kirkland has gotten a good neighborhood with Cafe, Restaurants, Sandwich Place, Baseball Field etc.

Hence Kirkland wins over Bellevue!

# Thanks