

# The Battle of Neighborhoods

*(Columbus , OH) aka Cbus*

***Github :***

[https://github.com/Rookey4ever/-Coursera\\_Capstone/blob/master/Capstone\\_Project\\_Battle\\_of\\_Neighborhoods\\_Cbusipynb.ipynb](https://github.com/Rookey4ever/-Coursera_Capstone/blob/master/Capstone_Project_Battle_of_Neighborhoods_Cbusipynb.ipynb)

# Introduction / Business Problem

**To analyze different neighborhoods in Columbus, Ohio area and leverage Foursquare api to understand the most popular venues in each neighborhood.**

# Data Description

The data was sourced from two different sources.

1. <http://columbusneighborhoods.org/explore-central-ohio/> - for neighborhoods of columbus
2. <https://www.latlong.net/> for Latitude and Longitude details of the neighborhoods

# Data Prep

- There was no easy way to scrape the first data set and combine with the Lat and Long. Hence, I had to curate the initial dataset manually
- The curated data set was converted to a pandas dataframe. Sample below :

```
[ ] cbus_df.head( )
```

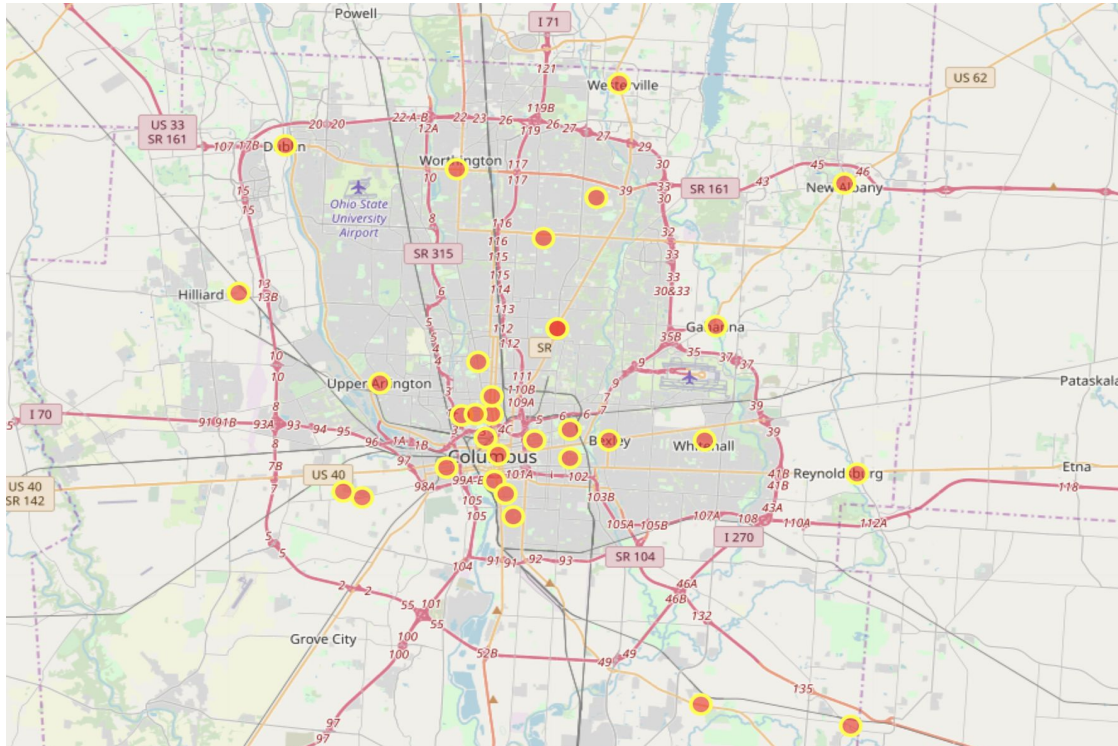


	<b>Neighborhood</b>	<b>Lat</b>	<b>Long</b>
<b>0</b>	Bexley	39.969238	-82.936867
<b>1</b>	Brewery District	39.951569	-82.999921
<b>2</b>	Canal Winchester	39.842819	-82.805649
<b>3</b>	Clintonville	44.620739	-88.761971
<b>4</b>	Downtown Columbus	39.962703	-82.997899

- The dataframe consists of Lat and Long for 38 different Columbus Neighborhoods

# Data Viz

- Leveraged Folium to create the map below, red dots representing neighborhoods



# Foursquare API

- Foursquare API was leveraged to explore the most popular venues in each neighborhoods.
- Limit was set to 30 and radius was 500m

```
[ ] print(cbus_venues.shape)
    cbus_venues.head(,)
```

↳ (525, 7)

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Bexley	39.969238	-82.936867	Commonwealth Park	39.972574	-82.937848	Park
1	Bexley	39.969238	-82.936867	Wolf Park	39.969814	-82.931324	Park
2	Brewery District	39.951569	-82.999921	Arepazo Tapas Bar Grill	39.951473	-82.998798	Latin American Restaurant
3	Brewery District	39.951569	-82.999921	Shadowbox Live	39.951449	-83.001091	Theater
4	Brewery District	39.951569	-82.999921	Rockmill Tavern	39.951322	-83.000425	Brewery

# Analyze Neighborhoods : Top 10 Venues

- Based on the Foursquare results top 10 neighborhoods was obtained for each neighborhood

Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0 Bexley	Park	Yoga Studio	Department Store	Farmers Market	Fabric Shop	Event Space	Donut Shop	Dive Bar	Discount Store	Diner
1 Brewery District	Coffee Shop	Bakery	Bar	American Restaurant	Brewery	Theater	Beer Bar	Breakfast Spot	Restaurant	Italian Restaurant
2 Canal Winchester	Bank	American Restaurant	Pool	Brewery	Snack Place	Café	Bakery	Fast Food Restaurant	Historic Site	History Museum
3 Clintonville	Automotive Shop	Video Store	Sandwich Place	Bar	Fast Food Restaurant	Coffee Shop	Convenience Store	American Restaurant	Convention Center	Farmers Market
4 Downtown Columbus	Coffee Shop	Hotel	Breakfast Spot	Theater	Italian Restaurant	Event Space	Latin American Restaurant	Salad Place	Business Service	Irish Pub
5 Dublin	Pizza Place	Café	Italian Restaurant	Yoga Studio	Brewery	Ice Cream Shop	Steakhouse	Irish Pub	Southern / Soul Food Restaurant	Boutique
6 Eastmoor	Fast Food Restaurant	Chinese Restaurant	Discount Store	Mexican Restaurant	ATM	Gas Station	Convention Center	Cosmetics Shop	Cuban Restaurant	Dance Studio
7 Franklin Park	Park	Construction & Landscaping	Fried Chicken Joint	Baseball Field	Tennis Court	Athletics & Sports	Discount Store	Farmers Market	Fabric Shop	Event Space
8 Franklinton	Gas Station	Diner	Pizza Place	Food Service	Discount Store	Furniture / Home Store	Coffee Shop	Cuban Restaurant	Dance Studio	Deli / Bodega
9 Gahanna	Ice Cream Shop	Breakfast Spot	Bar	Clothing Store	Italian Restaurant	Fast Food Restaurant	Sandwich Place	Cajun / Creole Restaurant	Memorial Site	Mexican Restaurant
10 German Village	Coffee Shop	American Restaurant	Bakery	German Restaurant	ATM	Salon / Barbershop	Beer Bar	Ice Cream Shop	Indie Theater	Brewery

# Conclusion & Next Steps

- If anyone is looking to move to Columbus. This analysis can be helpful in determining which neighborhood is ideal based on one's interest.
- This analysis can be expanded in many ways. Below are some ideas
  - Cluster similar neighborhoods together ( My Github code contains this already )
  - Collect Crime and Housing price data . These two will be interesting dimensions to be added to these neighborhoods.