

# Capstone Project - The Battle of Neighborhoods

# Introduction

- ▶ Project to find best location to start a Yoga Studio
- ▶ Designing this project to help the entrepreneur to find the most suitable location in Toronto

# DATA Acquisition and cleaning

- List of neighborhoods in Toronto, Canada
- Latitude and Longitude of these neighborhoods
- Venue data related to existing Yoga Studios. This will help us find neighborhoods that are more suitable to open a Yoga Studio

# Methodolgy

- The scrapping of Toronto neighborhoods via Wikipedia
- Getting Latitude and Longitude data of these neighborhoods via Geocoder package
- Using Foursquare API to get venue data related to these neighborhoods
- Performing the clustering method by using k-means clustering
- Clustered the neighborhoods in Toronto into 5 clusters based on their frequency

A detailed map of the Greater Toronto Area (GTA) showing bus routes and stations. The map includes major highways (401, 404, 403, 407, 409, 410, 416, 418, 419, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500) and local roads. Bus routes are indicated by red lines with numbers. Stations are marked with red and blue dots. The map also shows the locations of Downsview Airport, Billy Bishop Toronto City Airport, and the surrounding municipalities of Vaughan, Mississauga, and Brampton.

## Result (Cont'd)

- The results from k-means clustering show that we can categorize Toronto neighborhoods into 5 clusters based on how many Yoga Studio in each neighborhood
- Cluster 0: Neighborhoods with good no Yoga Studio.
- Cluster 1: Neighborhoods with more number of Yoga Studios.
- Cluster 2: Neighborhoods with less number of Yoga Studios.
- Cluster 3: Neighborhoods with less number of Yoga Studios.
- Cluster 4: Neighborhoods with less number of Yoga Studios.
- The results are visualized in the map with Cluster 0, Cluster 2, Cluster 3, Cluster 4.

# Conclusion

- Most of the Yoga studios are present in cluster 1
- No yoga studio is present in cluster 0 making it best location to start. Places include Berczy Park, Brockton, Parkdale Village, Exhibition Place, Harbourfront East, Union Station, Toronto Islands.
- Fewer number is present in cluster 2,3 & 4. Places include North Toronto West, Lawrence Park, Stn A PO Boxes, Business reply mail Processing Centre. These locations can also be considered.

Thank you