

"We want to open our first store in Toronto, gain a significant market share in that neighborhood, and then expand into similar areas throughout the Toronto area"

-BestGrocery CEO

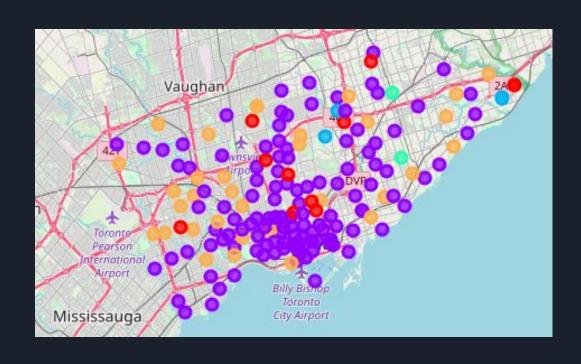
### Problem

Cluster all neighborhoods in Toronto

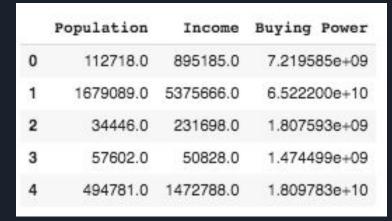
2 Rank the neighbourhoods based on buying power

3 Determine the best cluster and the best neighborhood

## Cluster - kMeans









# Cluster 1

| Neighbourhood | Population | Land<br>Area | Density | Population % | Income   | 2nd<br>Language                   | 2nd<br>Language<br>%            | Buying<br>Power |
|---------------|------------|--------------|---------|--------------|----------|-----------------------------------|---------------------------------|-----------------|
| Forest Hill   | 24056      | 4.35         | 5530    | -0.2         | 101631.0 | Russian<br>(2.4%)                 | 02.4%<br>Russian                | 2.444835e+09    |
| Old East York | 52220      | 7.94         | 6577    | -4.6         | 33172.0  | Greek<br>(4.3%)                   | 04.3%<br>Greek                  | 1.732242e+09    |
| Willowdale    | 43144      | 7.68         | 5618    | 62.3         | 39895.0  | Cantonese<br>(7.9%)               | 07.9%<br>Cantonese              | 1.721230e+09    |
| The Beaches   | 20416      | 3.57         | 5719    | 7.8          | 67536.0  | Cantonese<br>(0.7%)               | 00.7%<br>Cantonese              | 1.378815e+09    |
| Davisville    | 23727      | 3.14         | 7556    | 4.5          | 55735.0  | Persian<br>(1.5%)                 | 01.5%<br>Persian                | 1.322424e+09    |
| Riverdale     | 31007      | 3.99         | 7771    | -5.5         | 40139.0  | Cantonese<br>(6.7%)               | 06.7%<br>Cantonese              | 1.244590e+09    |
| Deer Park     | 15165      | 1.46         | 10,387  | 5.2          | 80704.0  | Russian<br>(1.1%)                 | 01.1%<br>Russian                | 1.223876e+09    |
| L'Amoreaux    | 45862      | 7.15         | 6414    | 0.9          | 26375.0  | Unspecified<br>Chinese<br>(13.9%) | 13.9%<br>Unspecified<br>Chinese | 1.209610e+09    |
| Newtonbrook   | 36046      | 8.77         | 4110    | 0.3          | 33428.0  | Russian<br>(8.8%)                 | 08.8%<br>Russian                | 1.204946e+09    |
| Leaside       | 13876      | 2.81         | 4938    | 3.0          | 82670.0  | Bulgarian<br>(0.4%)               | 00.4%<br>Bulgarian              | 1.147129e+09    |

#### Cluster 1 Top 10 neighborhoods with largest buying power in cluster 4 Buying Power Rouge Hoggs Hollow Upper Beaches Richview Sunnylea : High Park North Elia (Jane and Finch) Humber Valley Village Woburn York Mills 0.2 1.2 1.4 0.0 1.6 Buying power

# Cluster 2

| Neighbourhood            | Population | Land<br>Area | Density | Population % | Income   | 2nd<br>Language                  | 2nd<br>Language<br>%            | Buying<br>Power |
|--------------------------|------------|--------------|---------|--------------|----------|----------------------------------|---------------------------------|-----------------|
| York Mills               | 17564      | 7.29         | 2409    | 2.0          | 92099.0  | Korean<br>(4.0%)                 | 04.0%<br>Korean                 | 1.617627e+09    |
| Woburn                   | 48507      | 13.34        | 3636    | -1.5         | 26190.0  | Gujarati<br>(9.1%)               | 09.1%<br>Gujarati               | 1.270398e+09    |
| Humber Valley<br>Village | 14453      | 5.45         | 2652    | -0.1         | 80618.0  | Ukrainian<br>(3.9%)              | 03.9%<br>Ukrainian              | 1.165172e+09    |
| Elia (Jane and<br>Finch) | 48003      | 7.66         | 6267    | -10.0        | 22691.0  | Vietnamese<br>(6.9%)             | 06.9%<br>Vietnamese             | 1.089236e+09    |
| High Park North          | 22746      | 2.18         | 10,434  | -1.6         | 46437.0  | Polish<br>(3.0%)                 | 03.0%<br>Polish                 | 1.056256e+09    |
| Sunnylea                 | 17602      | 5.23         | 3366    | -1.1         | 51398.0  | Polish<br>(5.2%)                 | 05.2%<br>Polish                 | 9.047076e+08    |
| Richview                 | 26053      | 6.51         | 4002    | -4.0         | 34579.0  | Italian<br>(4.2%)                | 04.2%<br>Italian                | 9.008867e+08    |
| Upper Beaches            | 19830      | 2.92         | 6791    | 0.5          | 44346.0  | Cantonese<br>(0.7%)              | 00.7%<br>Cantonese              | 8.793812e+08    |
| Hoggs Hollow             | 3123       | 2.76         | 1132    | 2.0          | 222560.0 | Unspecified<br>Chinese<br>(2.4%) | 02.4%<br>Unspecified<br>Chinese | 6.950549e+08    |
| Rouge                    | 22724      | 28.72        | 791     | 175.0        | 29230.0  | Tamil<br>(15.6%)                 | 15.6%<br>Tamil                  | 6.642225e+08    |

## Cluster 1 vs Cluster 2

|  | Cluster 1            | Cluster 4            |
|--|----------------------|----------------------|
| Size of cluster  | 121                  | 33                   |
| Buying power<br>(top 10)   | 1.462970 <u>e+10</u> | 1.024294 <u>e+10</u> |
| Similarity of cousine (top 10)   | Not found            | Not found            |
| Number of<br>neighborhoods with<br>positive population<br>growth<br>(top 10) | 7                    | 4                    |



## Conclusion

- Cluster 1
- Forest Hill or Willowdale