Predicting Prime Italian Restaurant Locations

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Risk Mitigation

Location is Key

- A bad location is one of the biggest, if not the biggest, reason a restaurant fails

How can we pick a location that is popular to maximize foot traffic?

Can we compare those popular locations to existing Italian restaurants in those areas?

Data Acquisition and Selection

Toronto, CA Postal Codes scraped from Wikipedia.

Latitude and Longitude data obtained from Geopy Library.

Existing venue data (including location) pulled using a Foursquare API.

Methodology and Exploratory Data Analysis

Foursquare data pulled for Toronto, CA

Table 2 – Toronto Venues Count by Neighborhood

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Central Toronto	116	116	116	116	116	116
Downtown Toronto	1314	1314	1314	1314	1314	1314
East Toronto	126	126	126	126	126	126
East York	74	74	74	74	74	74
Etobicoke	70	70	70	70	70	70
Mississauga	13	13	13	13	13	13
North York	245	245	245	245	245	245
Scarborough	88	88	88	88	88	88
West Toronto	172	172	172	172	172	172
York	21	21	21	21	21	21

Methodology and Exploratory Data Analysis

49 Existing Italian Restaurants were found using Foursquare

Table 3 – Toronto Italian Restaurants from Foursquare

```
toronto_italian = toronto_venues[toronto_venues['Venue Category'] == 'Italian Restaurant']
print(toronto_italian.shape)
toronto_italian.head()
```

```
(49, 7)
```

45]:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
83	Downtown Toronto	43.650571	-79.384568	Mercatto	43.650243	-79.380820	Italian Restaurant
160	North York	43.733283	-79.419750	Francobollo	43.734557	-79.419549	Italian Restaurant
169	North York	43.733283	-79.419750	Il Fornaro	43.734073	-79.419870	Italian Restaurant
202	Downtown Toronto	43.644771	-79.373306	The Old Spaghetti Factory	43.646964	-79.374403	Italian Restaurant
245	West Toronto	43.636847	-79.428191	Caffino	43.639021	-79.425289	Italian Restaurant

Restaurants were grouped into their respective neighborhoods

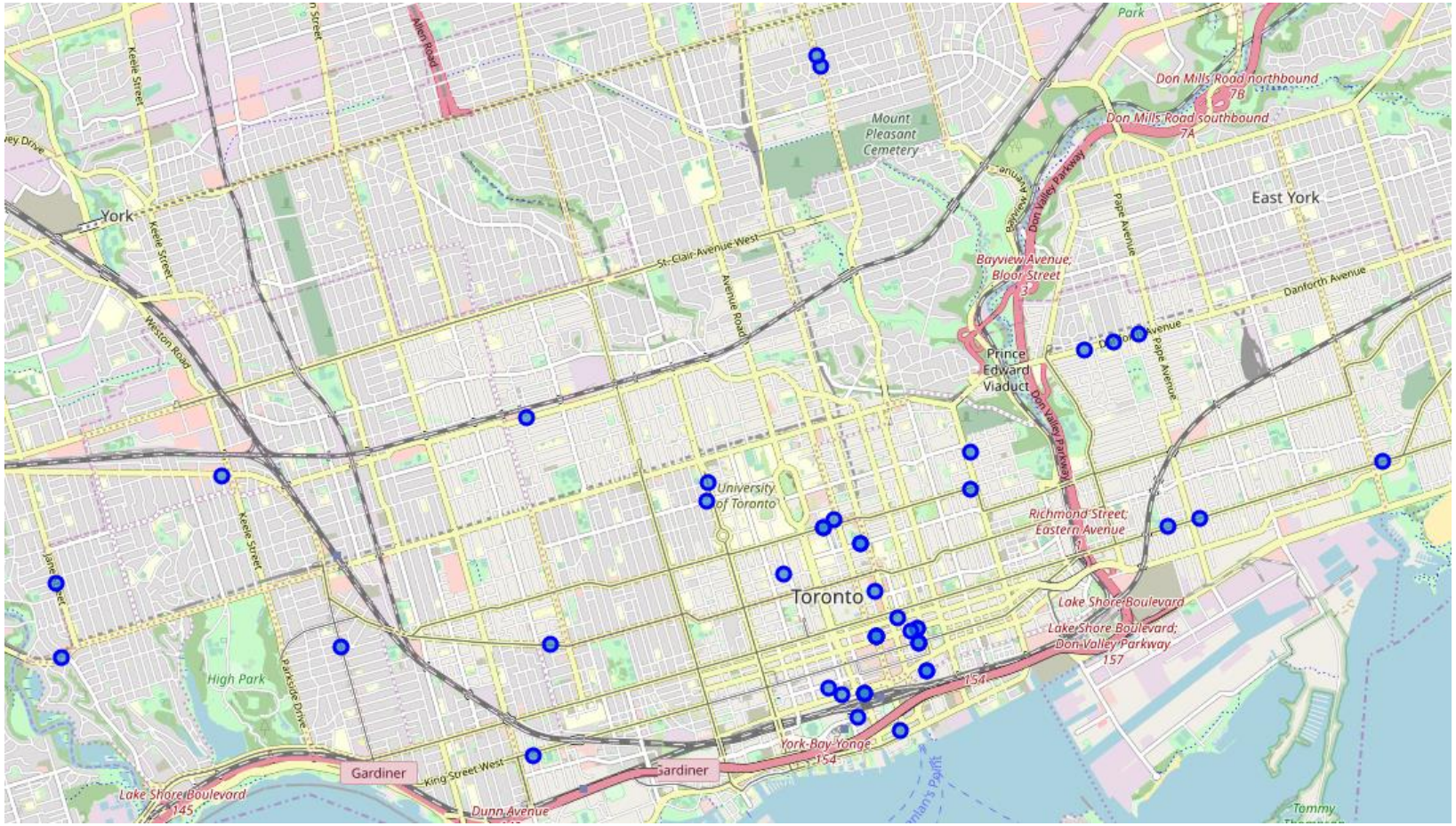
Table 4 – Toronto Italian Restaurant Counts by Neighborhood

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Central Toronto	2	2	2	2	2	2
Downtown Toronto	31	31	31	31	31	31
East Toronto	6	6	6	6	6	6
North York	3	3	3	3	3	3
Scarborough	1	1	1	1	1	1
West Toronto	6	6	6	6	6	6

Clustering Popular Toronto Hot Spots

Clusters show popular areas in Toronto with high levels of foot traffic

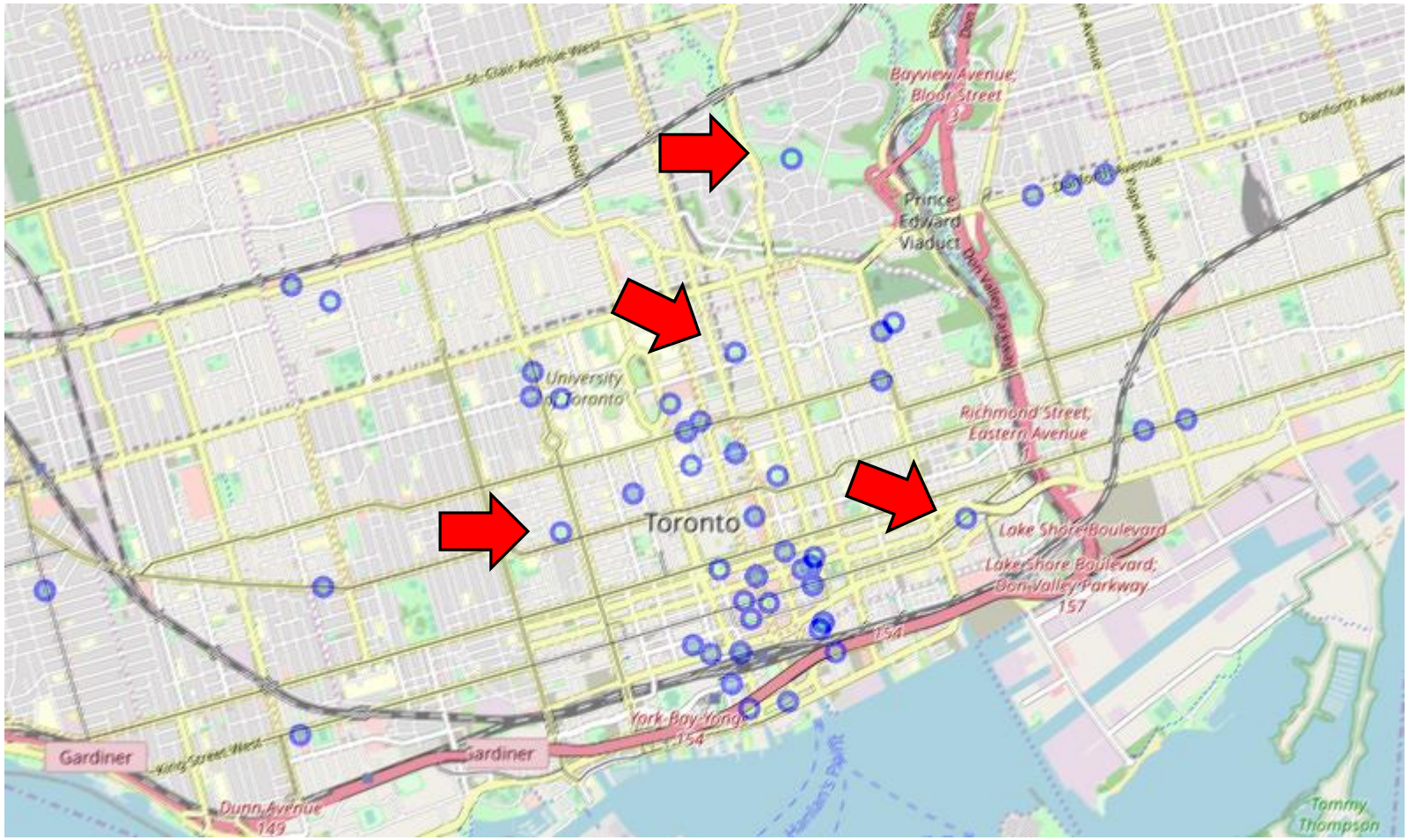
Mapping Existing Italian Restaurants



Overlapping Location Potential

By overlapping our two maps, we were able to highlight four potential locations for our customer's Italian restaurant

Two of these potential locations don't have an Italian restaurant within a city block radius or better



Discussion and Conclusion

Discussion

By mapping out the popular areas in Toronto with high levels of foot traffic, we are able to mitigate the risk of selecting a poor location for our entrepreneurial customer's Italian restaurant. Combining that information with the location of existing Italian restaurants in Toronto will further improve the entrepreneur's chance of success.

Conclusion

The decision to open a business without doing your homework up front can prove fatal from the start. Our customer came to us with a problem. By using data, we were able to find a solution for our customer and use exploratory data analysis to exceed their needs.