



Finding Rare Points of Interest in Toronto

Final Report of the IBM Coursera
Data Science Capstone Project

Problem Statement

Location Data Providers such as Foursquare provide (by default) information on the most popular places only.

There is a need to provide information on the most unique places, not necessarily ranked according to the popular standard.



Data

Data was sourced from the following:

- Wikipedia
- IBM
- Foursquare

For Foursquare, the following Venues API endpoints were used:

- Explore endpoint
- Likes endpoint
- Lists endpoint
- Photos endpoint
- Tips endpoint



Methodology

The data was first extracted using functions based on the example lab exercises.

Correlation and linear regression were applied to explore the results.

The dataframe was then queried to find the least popular categories, and only the venues with the most number of likes were saved as the Top 10 Venues.



Results

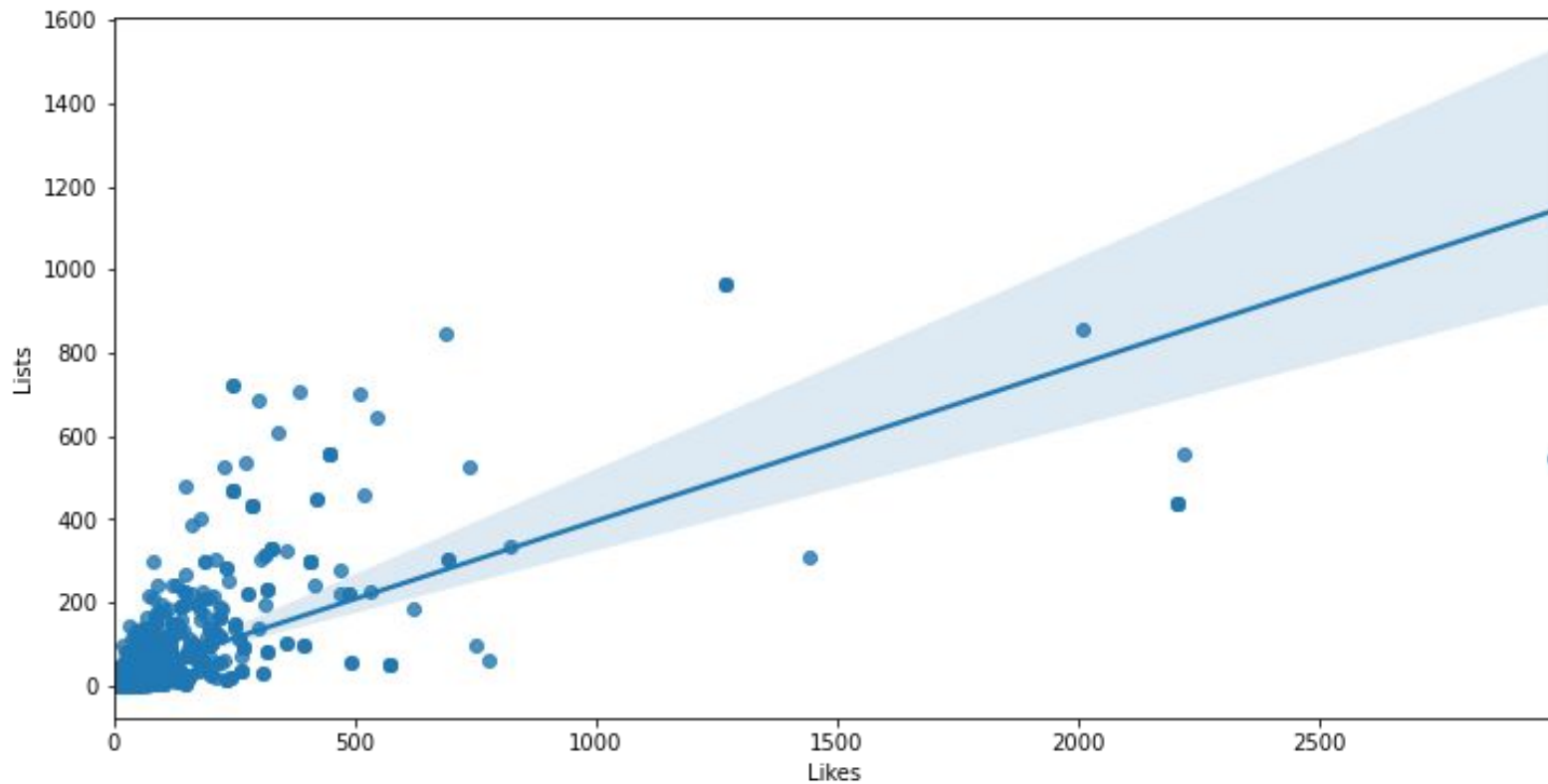
Correlation and linear regression were applied on Likes and List count, with an R of 0.68.

It was also discovered that there were already 70 categories with only one venue.

The 70 rows were queried to find the venues with the highest number of likes. The sorted rows would form the top 10 unique venues.



Results – Regression Line



Results – Top 10

These are the top 10 venues with the highest likes, but in categories where they were the only venue listed.

| | Venue | Venue Category | Likes |
|---|---|---------------------------------|-------|
| 0 | Billy Bishop Toronto City Airport (YTZ) | Airport | 751 |
| 1 | The Distillery Historic District | Historic Site | 545 |
| 2 | RS - Real Sports | Sports Bar | 531 |
| 3 | SOMA chocolatemaker | Chocolate Shop | 180 |
| 4 | Sugar Beach | Beach | 153 |
| 5 | The County General | Southern / Soul Food Restaurant | 124 |
| 6 | Otto's Berlin Döner | Doner Restaurant | 121 |
| 7 | Dim Sum King Seafood Restaurant | Dim Sum Restaurant | 96 |
| 8 | Athletic Centre | College Gym | 62 |
| 9 | Lamport Stadium | Stadium | 57 |

Top Unique Venue #1

Venue Name: Billy Bishop Toronto City Airport

Category: Airport

Tip: *"My favourite airport. Tiny but with a very nice lounge (Porter airlines). Service back and forth to mainland via ferryboat (and bus to Union Station).. The view as you fly in/land is amazing."*



Top Unique Venue #2

Venue Name: The Distillery Historic District

Category: Historic Site

Tip: *“North America's largest and most well preserved collection of Victorian industrial architecture is also brimming with creativity; the pedestrian only village is home to over 20 art studios & galleries”*



Top Unique Venue #3

Venue Name: RS - Real Sports

Category: Sports Bar

Tip: *"Have been coming here for about 5yrs. Beer is mostly corporate, but they do support locals, with some guest taps too. 30+ kinds of beer. Superb atmosphere, amazing sports venue. Pizza nachos are GREAT"*



Top Unique Venue #4

Venue Name: SOMA chocolatemaker

Category: Chocolate Shop

Tip: *"International Award Winning Chocolate maker. I adore the Balsamic Vinegar truffle and the Pop Rocks Truffle is too fun. Their gelato is full of great Ontario flavours."*



Top Unique Venue #5

Venue Name: Sugar Beach

Category: Beach

Tip: *"Relaxing location not far from distillery. Lots of chairs and umbrellas to sit and enjoy the lake views"*



Top Unique Venue #6

Venue Name: The County General

Category: Southern / Soul Food Restaurant

Tip: *"The staple in my dining adventures, I've eaten at the County 1-2 times per week for the last two years. The cocktails are magnificent. Come with a friend and get one of the 'for two' dishes."*



Top Unique Venue #7

Venue Name: Otto's Berlin Döner

Category: Doner Restaurant

Tip: *"What a place to grab a quick meal! Great location plus it has a vibe. The food is tasty and beers are excellent. Read the full review: <http://torontoism.com/toronto-restaurant-reviews/otto-berlin-doner>"*



Top Unique Venue #8

Venue Name: Dim Sum King
Seafood Restaurant

Category: Dim Sum Restaurant

Tip: *"Great place for dim sum in Chinatown, everything tasted fresh though the spring rolls had a strange after taste. Not bad, just strange. Many food options, traditional wheel carts for bringing the food"*



Top Unique Venue #9

Venue Name: Athletic Centre

Category: College Gym

Tip: *"Busiest weight room times: Mon-Fri 5:30pm-7:30pm, sat-Sun 3:30pm-5:00pm. Note: weight room has women's only hours Tues & Fri 5pm-6pm"*

**NO IMAGE FOUND ON
FOURSQUARE!**

Top Unique Venue #10

Venue Name: Lamport Stadium

Category: Stadium

Tip: *"This venue is a short walk from Exhibition Station GO Rail, and a short walk from the King West and Lakeshore/Exhibition streetcar routes. It is also served by the 63 Ossington bus."*



Discussion

The moderate correlation between a venue's number of likes and its list count was not conclusive enough to use for determining the top unique venues, therefore only the likes count was used.

For the unique categories, it was discovered that some of the categories with only one venue are actually variants of other popular venues. These could be cleaned up to only one category (for example, "Restaurant").

More insights could be gained if the "stats" endpoint of the Foursquare Venue API were used. Nevertheless, the resulting list is unique enough to satisfy the goal of this project

Conclusion

The aim of this project was to provide a list of unique venues out of the hundreds of venues in Toronto.

The project used the Foursquare API extensively, and used some machine learning algorithms to find the best variables for determining the uniqueness of a venue. I

n the end, the project mostly required some data wrangling with Pandas to extract only those highly-rated venues in categories with only one venue each.

The result is an eclectic list of venues including an airport, chocolate shop, and even a beach.

End

Thank you for reading!

Images courtesy of
[Foursquare.com](https://www.foursquare.com) and [Pexels.com](https://www.pexels.com).

