Capstone Project
Data Science

Coursera: by IBM
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Overview

- **Introduction**
- **Business problem**
- **Data**
- **Methodology**
- **Result**
- **Discussion**
- **conclusion**

Introduction

DexTR, a technology company based in San Francisco:

They makes:GPUs, system chip for smartphone and vehicle navigation processors,
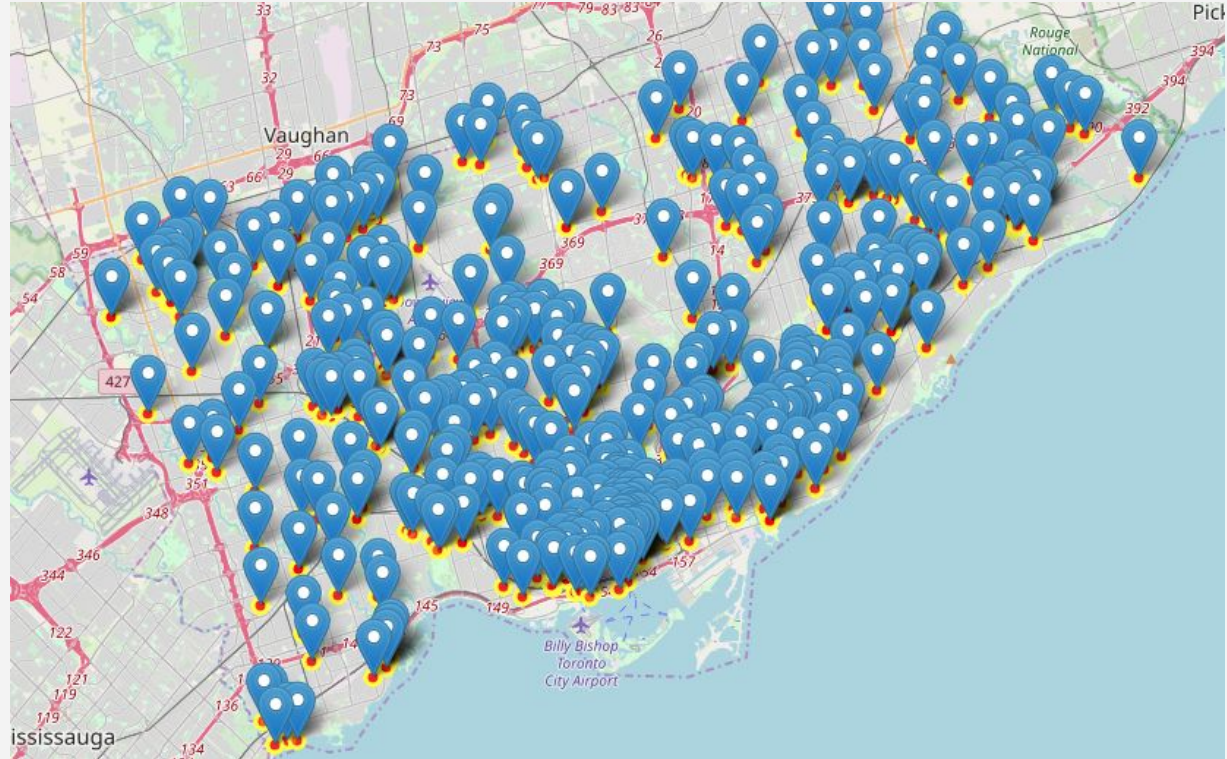
- In search of next north america office location
- Toronto, Canada is the winner

Business problem

- Where in Toronto should DexTR next office be?

Criteria & guiding measures

- Neighborhood score
- Accessibility and public transit
- Venues
- Crime

Data Acquisition and wrangling

The following links are data source:

Public safty data portal
http://data.torontopolice.on.ca/datasets/98f7dde610b54b9081dfca80be453ac9_0

Foursquare API: https://api.foursquare.com/v2/venues/explore

Toronto Nieghborhoods data:
https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

Methodology

CSV files

- Toronto neighborhood data
- Public safety data

Json file:

- Foursquare API data

Methodology

- Data transformed to pandas dataframe
- Cleaned by dropping missing values
- Normalized data

Methodology

- Geocoder API : Accuracy of geolocation

- Folium: Visualization

- One hot encoding: Categorical variables conversion

Results

	PostCode	Neighborhood
Borough		
Central Toronto	17	17
Downtown Toronto	37	37
East Toronto	7	7
East York	6	6
Etobicoke	44	44
Mississauga	1	1
North York	38	38
Queen's Park	1	1
Scarborough	37	37
West Toronto	13	13
York	9	9

Result

- Downtown Toronto is the winner

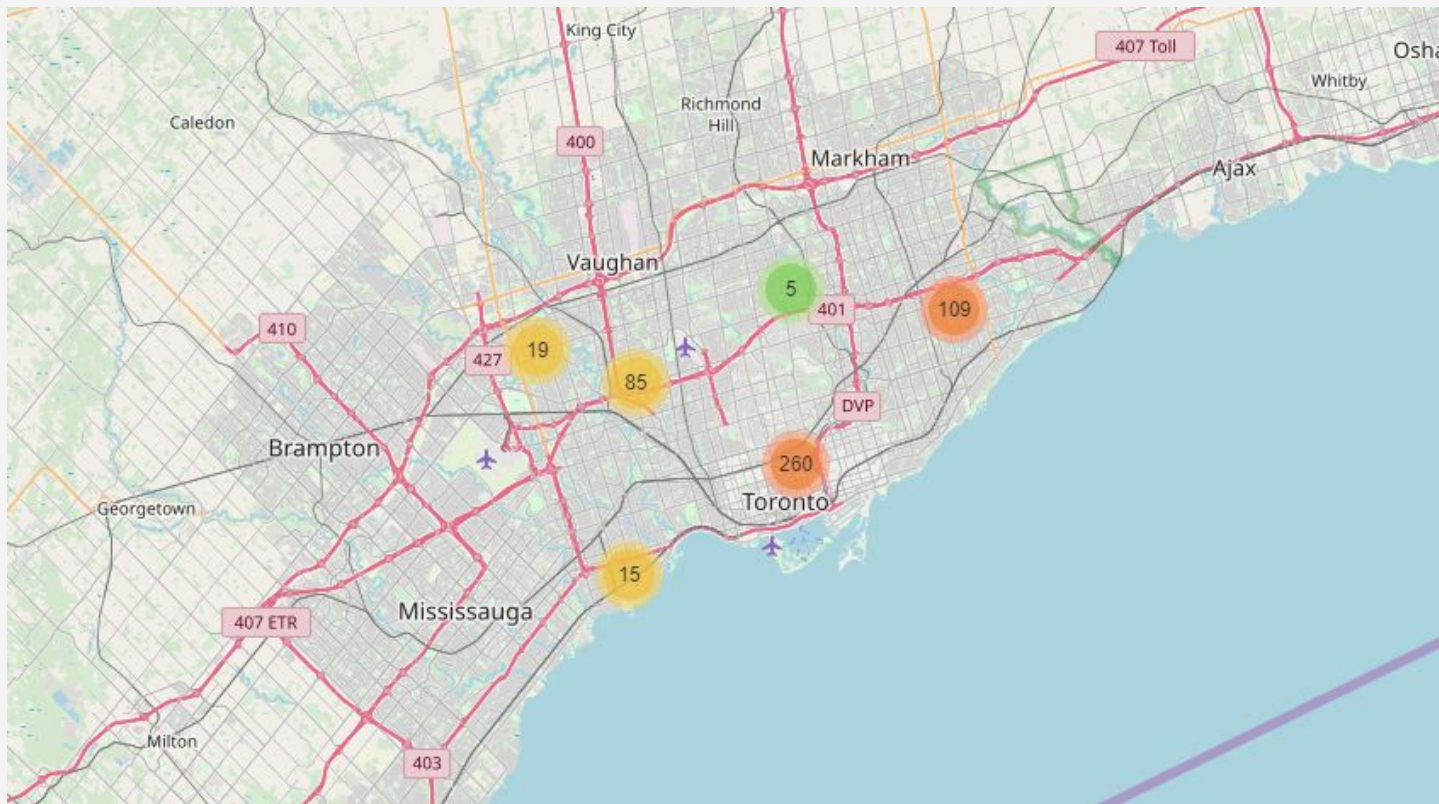# Result

Walk/bike/transit score

Downtown Toronto

- Walk score: 71
- Transit score: 78
- Bike Score: 61

Toronto overall score:

- Walk score: 71
- Transit score: 78
- Bike Score: 61

Result

Crime in downtown

Result

Crime in downtown per neighborhood

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Neighbourhood	MCI	occurrencedayofyear
Eringate-Centennial_West Deane (11)	3	3
Lambton Baby Point (114)	48	48
Yonge-St.Clair (97)	57	57
Broadview North (57)	58	58
Princess-Rosethorn (10)	63	63
Markland Wood (12)	64	64
Centennial Scarborough (133)	66	66
Yonge-Eglinton (100)	70	70
Caledonia-Fairbank (109)	70	70
Danforth East York (59)	71	71

Discussion

Pro
- Great transit system
- Prime location
- Work life balance for employees

Con
- Population density
- May be expensive

Conclusion

- Great location for businesses

- Young professionals love city center

- Very accessible

- Awesome venues nearby