THE BATTLE OF NEIGHBORHOODS – A COMPARATIVE STUDY OF THE EARLIER FIVE LOWER-TIER CONSTITUENT MUNICIPALITIES OF TORONTO
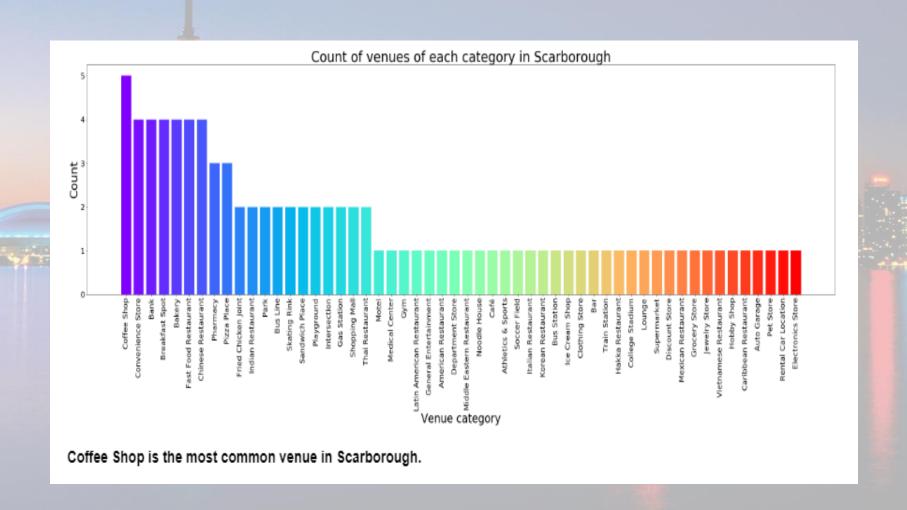
Presented as a Capstone Project

By

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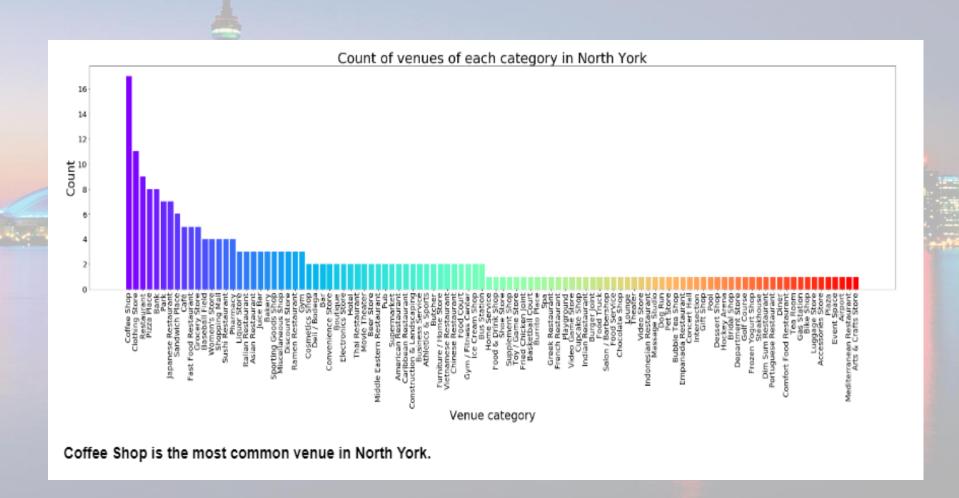Jamshedpur, India

PROBLEM STATEMENT

The presented capstone project aims at furnishing a comparative study of the earlier five lower-tier constituent municipalities of Toronto, namely, East York, Etobicoke, North York, Scarborough and York to analyze the business prospects in each one.
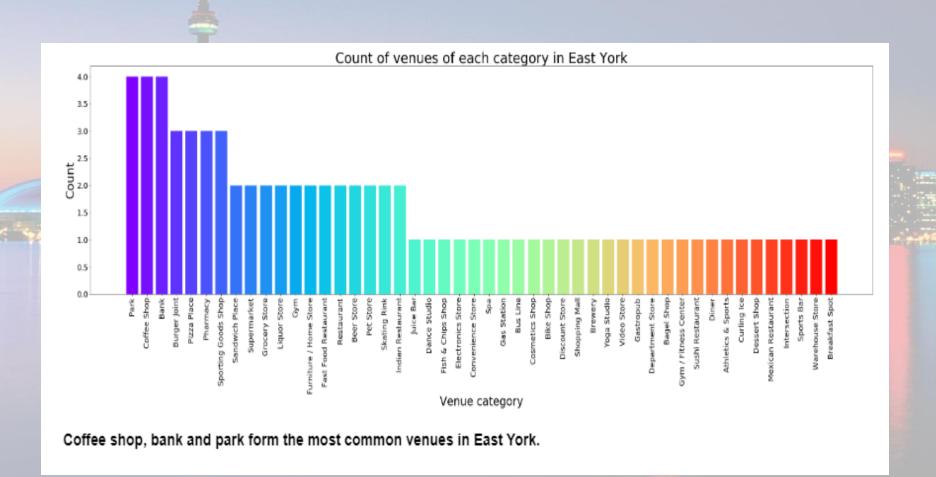
RESULTS OBTAINED

BAR GRAPH FOR SCARBOROUGH

Coffee Shop is the most common venue in Scarborough.

BAR GRAPH FOR NORTH YORK
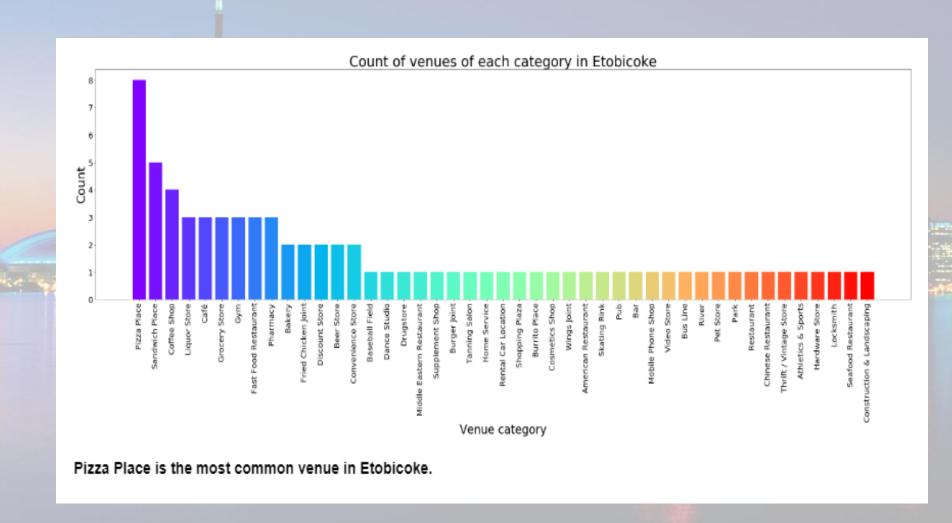
Coffee Shop is the most common venue in North York.

BAR GRAPH FOR EAST YORK

Count of venues of each category in East York
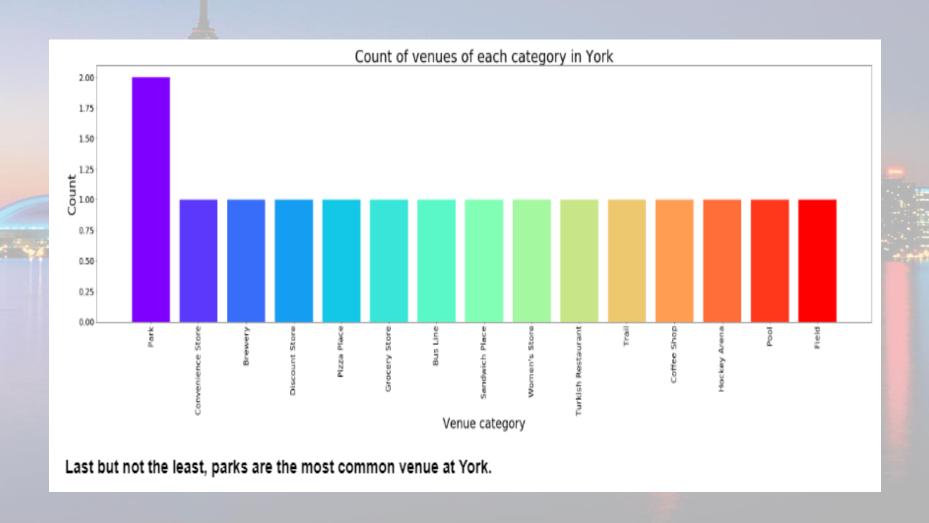
Coffee shop, bank and park form the most common venues in East York.

BAR GRAPH FOR ETOBICOKE

Count of venues of each category in Etobicoke

Pizza Place is the most common venue in Etobicoke.

BAR GRAPH FOR YORK

Count of venues of each category in York

Last but not the least, parks are the most common venue at York.

RESULTS FROM MACHINE LEARNING

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In [140]: yhat = neigh.predict(X_test)
          jss_knn = jaccard_similarity_score(y_test , yhat)
          f1_knn = f1_score(y_test, yhat, average = 'weighted')
          print("Jaccard Similarity Index for K-Nearest Neighbors : ",jss_knn)
          print("F1 Score for K-Nearest Neighbors : ",f1_knn)

          Jaccard Similarity Index for K-Nearest Neighbors :  0.8571428571428571
          F1 Score for K-Nearest Neighbors :  0.8492063492063492
```

Values for:

Jaccard Similarity Index : 0.857

F1 Score : 0.849

CONCLUSION

It can be seen that York is not much developed with regards to business avenues, while North York is the most developed one in that case. In many of the boroughs, coffee shops topped the list by being the most common venue category. Our KNN Machine Learning algorithm worked pretty well in predicting the borough.

Thank You