Find a better community around University of Toronto to live

Finding a safe, convenient community around the University of Toronto is valuable for who plans to work or study at U of T

Data Source

Toronto Police Service has public safety data portal (https://data.torontopolice.on.ca/). The data portal provides following data:

MCI (Major Crime Indicators) 2014 to 2019: include Assault, Break and Enter, Robbery data.

- 1. Theft Over 2014 to 2019: a subset of the MCI.
- 2. Robbery 2014 to 2019: a subset of the MCI.
- 3. Break and Enter 2014 and 2019: a subset of the MCX.

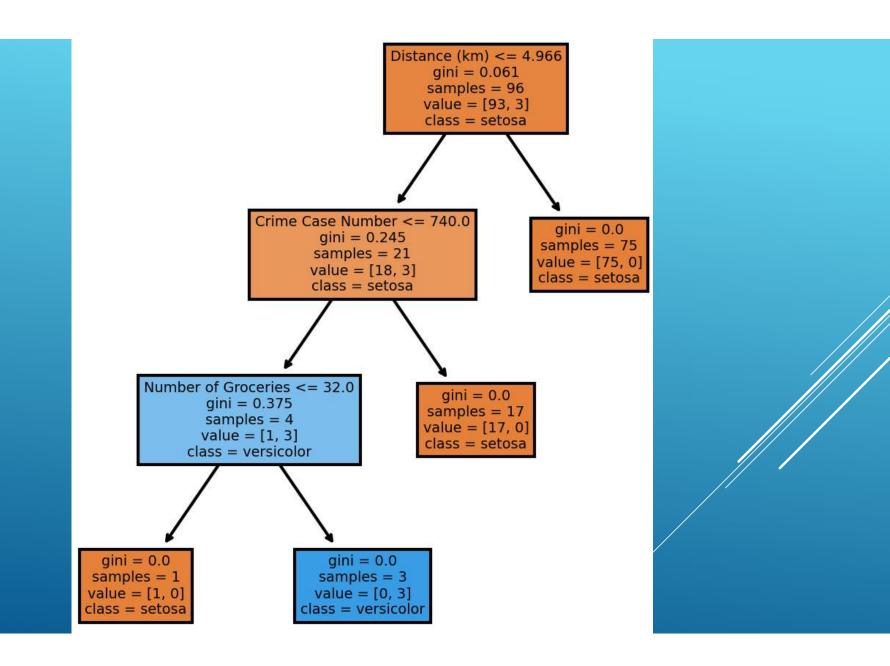
The data has reported date, latitude and longitude, neighborhood information.

Data Analysis

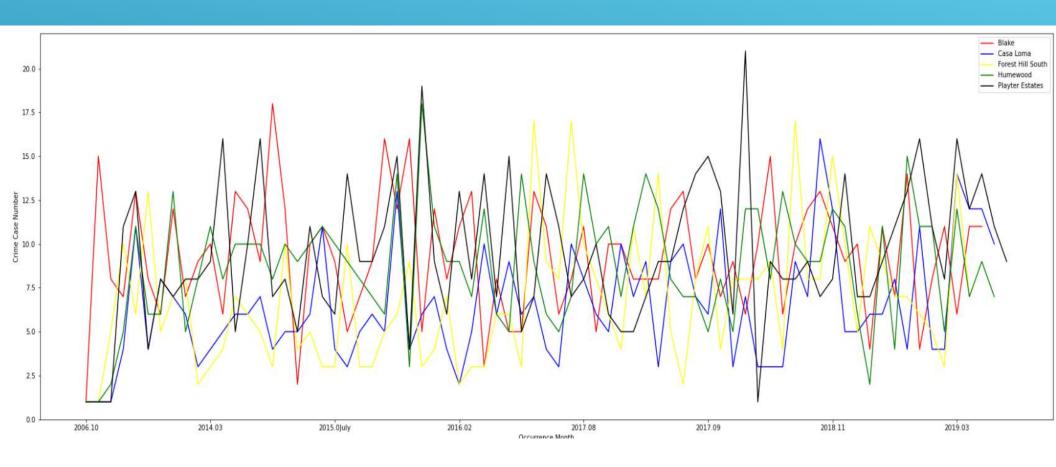
- 1. Total Crime Case Number per community
- 2. Use average of latitude/longitude of all criminal incidents as the latitude/longitude of center of the community
- 3. Find the latitude/longitude of University of Toronto.
- 4. Calculate the distance from each community to University of Toronto.
- 5. Find how many grocery stores and restaurants within 2 km from the center of each community

Machine Learning model

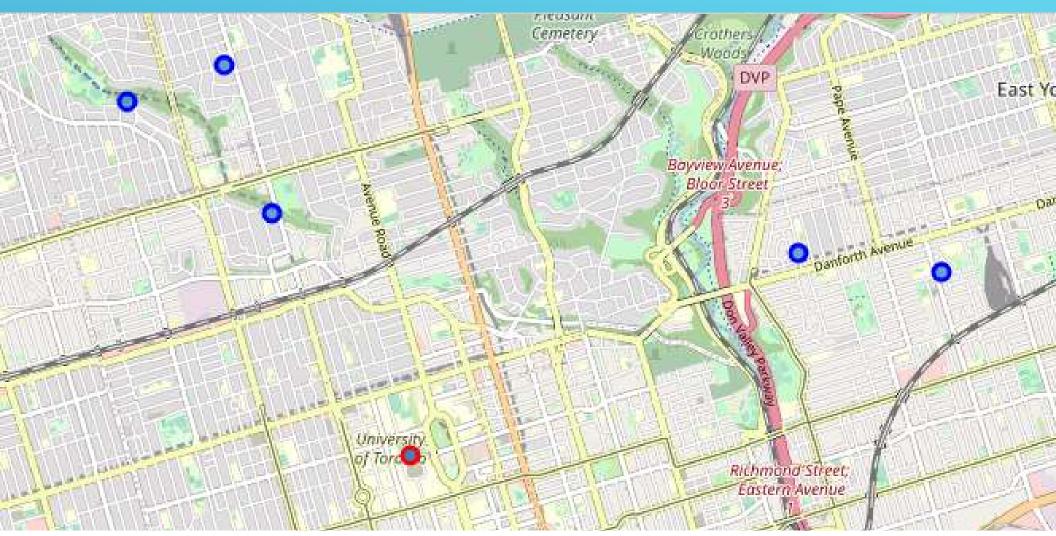
- 1. Give 4 features: distance to UofT, crime rate, number of grocery stores, number of restaurants
- 2. Give criteria to identify if a community can be chose or not
- 3. Use Decision Tree Machine Learning to detail the choosing processing.



Crime rate trending for shortlisted communities



Plot communities around UofT



Conclusion and future work

- 1. House price or rental price should be considered
- 2. The number of crime cases / population might make more sensesUse
- 3. Commuting distance is more complicated than the distance from the center of community to target place