Prediction of real estate property prices in Montreal

Nissan Pow   **Emil Janulewicz**   **L. Dave Liu**

Prediction Questions

1. **Predict the selling price of properties**

   Motivations: Suggest appropriate
   - **Selling prices for the sellers**
   - **Buying prices for the buyers**

2. **Predict the Montreal borough that the property is most likely to belong to**

   Motivation: Suggest buying locations for buyers depending on their circumstances

Data sets

1. **Property listings in Montreal from real estate website**
   - **The <u>targets</u>: Prices**
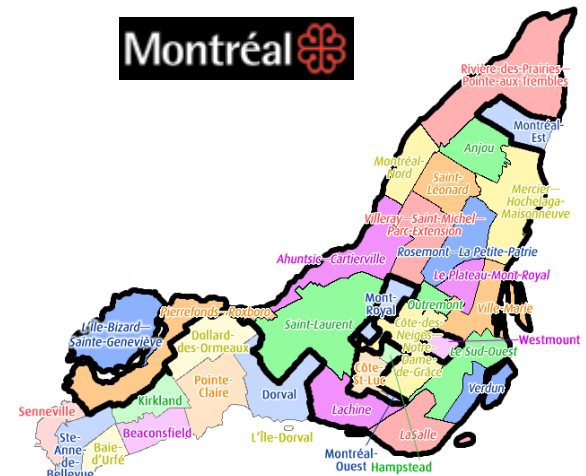   - **The <u>features</u>: Location, Size, Property type, etc.**

Additional demographics from Statistics Canada
   - **Income, Population age, Household size, etc.**

2. **Bounding polygons from Montreal Open Data**
   - **The <u>labels</u>: Montreal boroughs**
   - **The <u>features</u>: same as above**

Machine learning methods

1. **Regression** of the prices
   Linear and logistic regressions
   k-Nearest Neighbours

2. **Classification** of the boroughs
   <u>Supervised</u>:
   Logistic regressions
   k-Nearest Neighbours
   SVM
   Neural Networks

   <u>Un-supervised</u>:
   k-Means

Preliminary Results

1. **Regression analysis of the prices**
    Location accounts for variance in price

Future directions

Incorporate data from Statistics Canada based on the defined Montreal boroughs