

# Prediction of real estate property prices in Montreal



**Nissan Pow**

**Emil Janulewicz**

**L. Dave Liu**

# Prediction Question

Predict the selling price of properties

**Motivations:** Suggest appropriate

1. Selling prices for the sellers
2. Buying prices for the buyers

# Data sets

## 1. Property listings in Montreal from real estate website

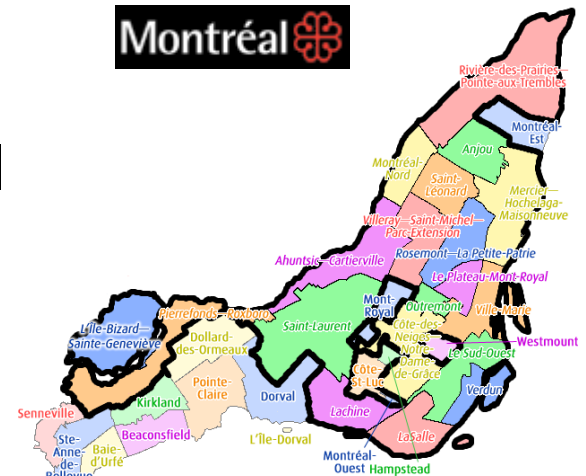
- The targets: Prices
- The features: Location, Size, Property type, etc.



## 2. Bounding polygons from Montreal Open Data

## 3. Additional demographics from Statistics Canada

- The features: Income, Population age, Crime rate, etc.



# Machine learning methods

**Regression** of the prices

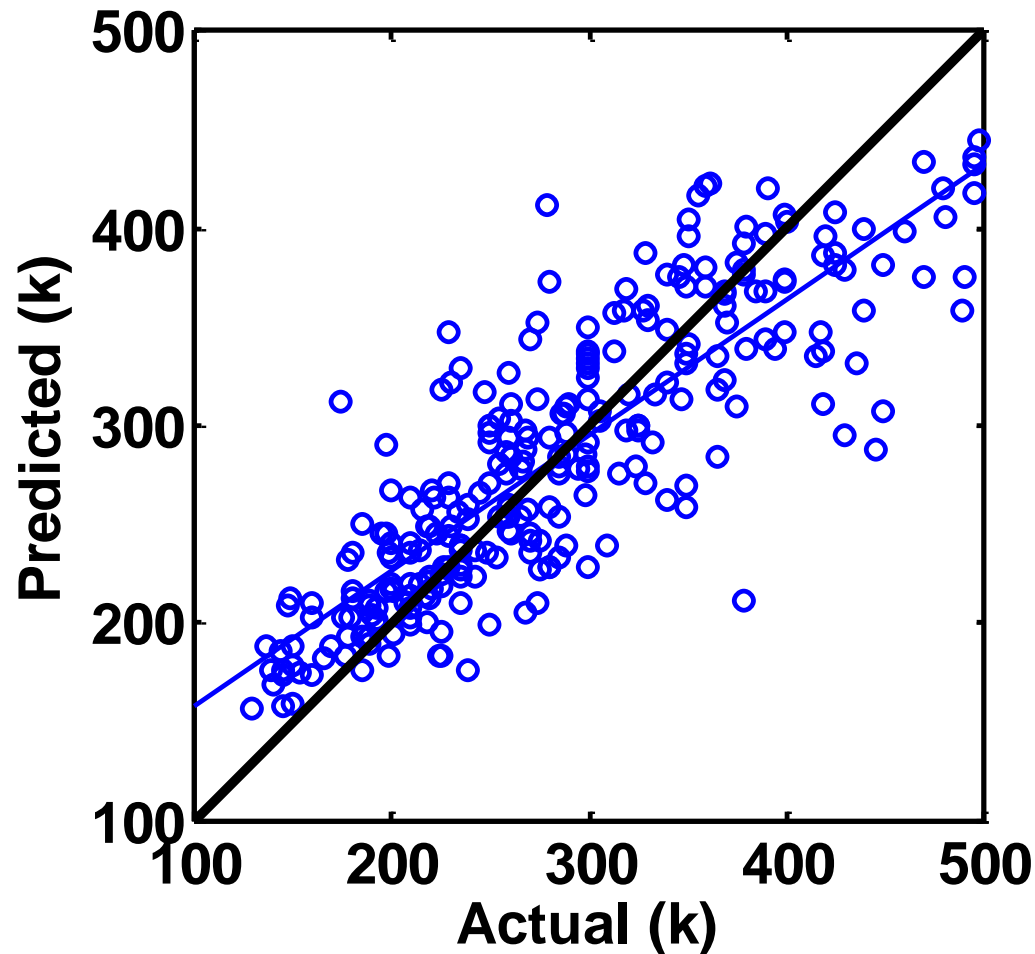
Linear and logistic regressions

Random forest

k-Nearest Neighbours

Neural Networks (Quinlan 93)

# Preliminary Results



**Currently at  
0.87 of  
actual price**

**Goal: Predict within 0.95.** (Caplin et al. 08)

# Preliminary Results

**Regression** analysis of the prices

So far, the number of rooms (bathrooms) and geographical location (being in Westmount) account for the most of the variance in price.

# Future directions

- **Incorporate data from Statistics Canada based on the defined Montreal boroughs**
- **Looking at temporal trends pending on the availability of data**
- **Implement additional features such as higher order terms and their interactions** (Boston housing price dataset)
- **Implement neural network for regression** (Quinlan 93)