

Prediction of real estate property prices in Montreal



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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

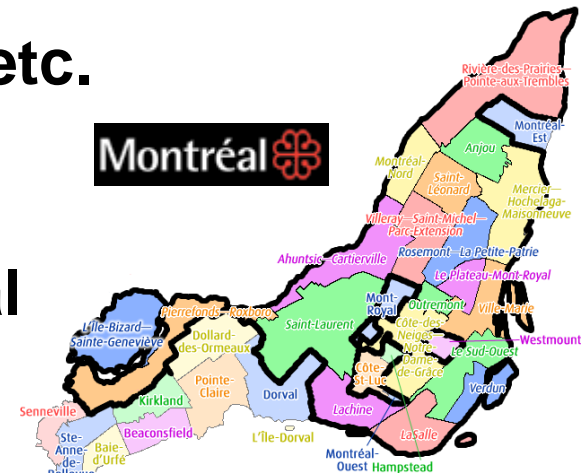
1. Property listings in Montreal from a real estate website



- **The targets:** Prices
- **The features:** Area, # Rooms, etc.

2. Bounding polygons from Montreal Open Data to incorporate additional demographics

- **The features:** Income, Crime rate, etc.



Machine learning methods

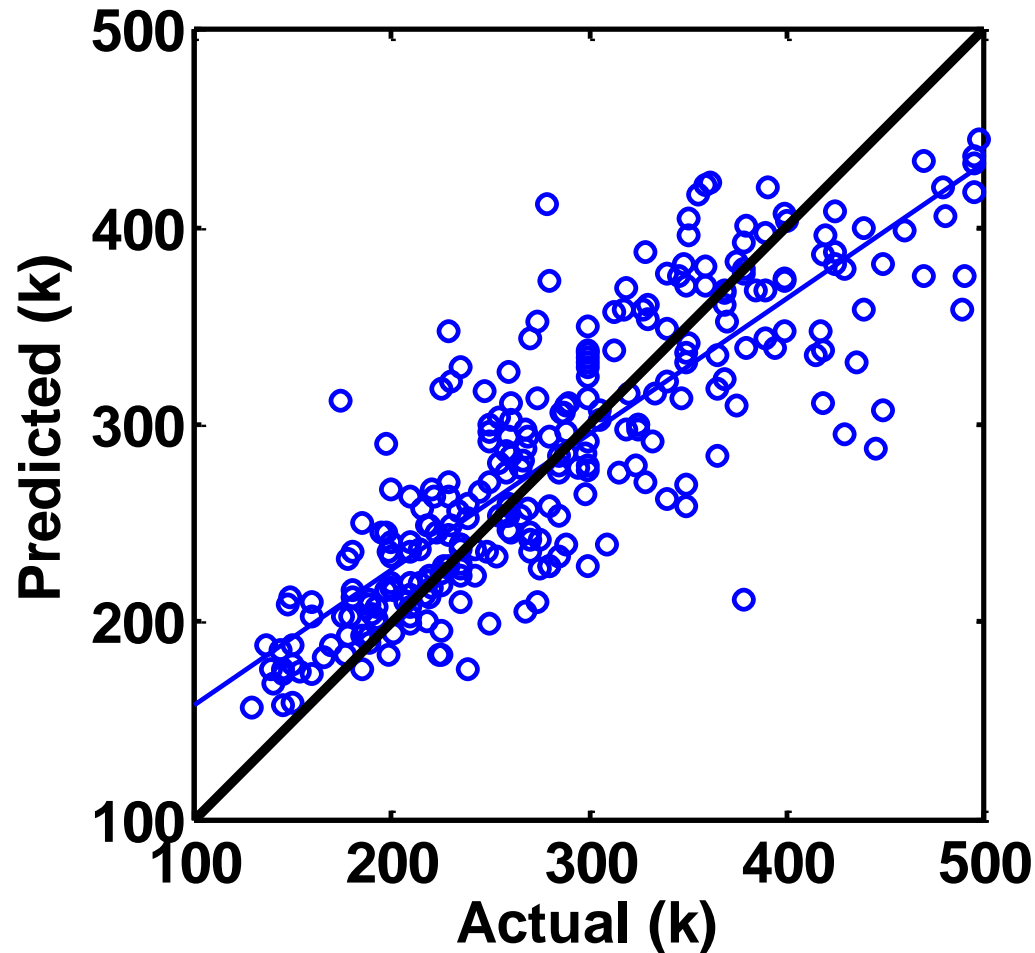
Regression of the prices

Linear regression

k-Nearest Neighbours

**Support Vector Regression
(SVR)**

Preliminary Results (SVR)



**Currently at
0.13 error**

Goal: Predict within 0.05 error. (Caplin et al. 08)

Preliminary Results (Cont'd)

TABLE 1: Variance Accounted For (VAF) of different features.

Feature	Area	# Rm	# Bedroom	# Bathroom	Pool
VAF	0.472	0.141	0.158	0.329	0.110

The living area and the number of rooms (bathrooms) account for the most of the variance in price.

Future directions

- **Incorporate demographic data based on the defined Montreal boroughs**
- **Implement additional features such as higher order terms and their interactions** (Boston housing price dataset)
- **Implement neural network for regression** (Quinlan 93)