

# Optimizing Real Estate Price Class Estimation: An Exploration of Machine Learning Techniques

By Lev Maznichenko, Victor Simtion, Minh Hien Tran and Anne-Catherine Walder

# Overview

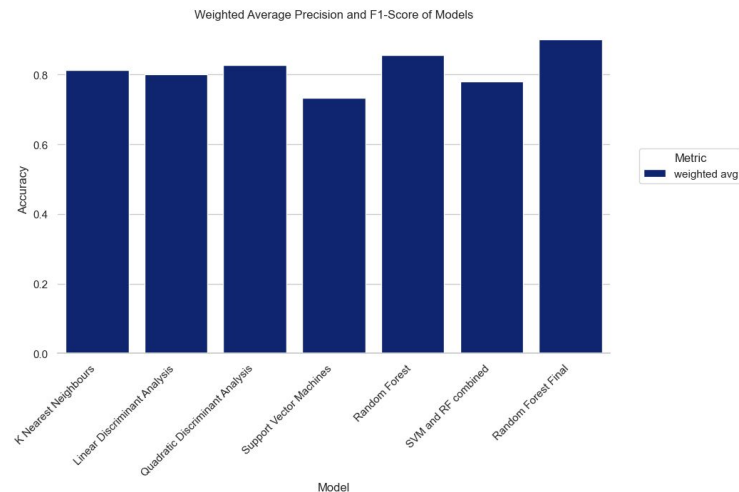
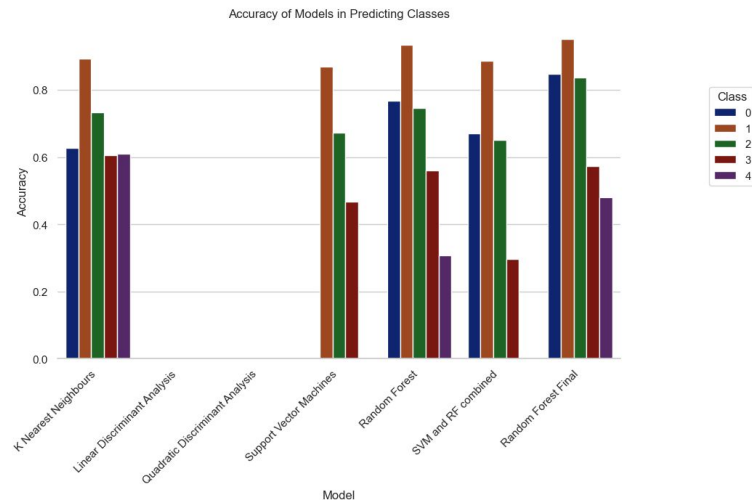
- Methods
- Discussion
- Results

# Methods

1. Exploration of four different methods
  - a. KNN
  - b. LDA/QDA
  - c. Random Forest Classifier
  - d. Support Vector Machines
2. Comparison of the methods and choice for final code
  - a. Random Forest Classifier
3. Writing of final code

# Methods

- KNN
  - Accuracy: 0.82
- LDA/QDA
  - LDA accuracy: 0.8
  - QDA accuracy: 0.83
- Random Forest Classifier
  - Accuracy: 0.85
- Support Vector Machines
  - Accuracy: 0.77
- Final Random Forest Classifier
  - Accuracy: 0.9



# Discussion

- Missing Data and Outliers
- Class Imbalances
- Elapsed Time

# Results

	precision	recall	f1-score	support
0.0	0.94	0.76	0.84	21
1.0	0.94	0.96	0.95	194
2.0	0.83	0.84	0.84	58
3.0	0.53	0.62	0.57	13
4.0	0.67	0.33	0.44	6
accuracy			0.90	292
macro avg	0.78	0.70	0.73	292
weighted avg	0.90	0.90	0.90	292

Thank you for your attention!