Lab 5: Prediction Challenge

Machine Learning for Economists, University of Cologne
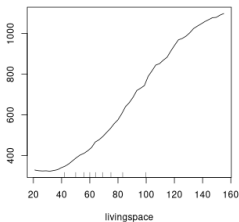
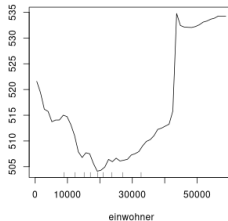January 8, 2021

Model Approach

- additional variables used:
  - German federal states to differentiate between rents in East vs. West Germany
  - number of inhabitants to differentiate between rents in rural vs. urban areas
- method: Random Forest with hyperparameters determined by grid search
- procedure of hyperparamter tuning:
  - do a k-fold Cross-Validation for each hyperparameter combination
  - calculate the average RMSE
  - pick combination that minimizes the average RMSE
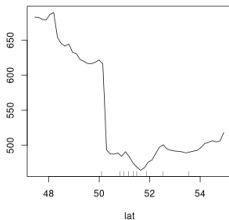
Estimated Model - Partial Dependences
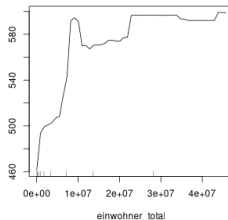

Partial Dependence on livingspace

Partial Dependence on einwohner

Partial Dependence on lat

Partial Dependence on einwohner_total

Variable Importance