

Project work

The goal of the project work is to forecast real estate rents by means of different characteristics of an apartment and surrounding location factors. Three files are available for this purpose:

- *training_data*: This data set contains all data for the analysis and model estimations. The variable to be predicted is "rent_full".
- *X_test*: This record contains only the properties, but not the rent. Using the best model based on the training data set, you have to forecast the rent for the listings in *X_test*.
- *Y_test_example*: In addition to the project work, you have to provide the rent forecasts for all listings in *X_test*. The file should correspond to the format of *Y_test_example*. DO NOT CHANGE THE LISTING ID ("key") AVAILABLE IN *X_test* and submit the rental forecasts with the associated IDs.

Requirements

- Descriptive analysis of the outcome variable (real estate rent) and the predictors
- Visual/tabular representation of the descriptive results
- Explanation of the procedure and results
- Development of various forecasting models: In total, at least 4 different methods must be applied and compared with each other. Cross Validation must be applied to at least 2 of 4 models.
- The methods that are used must be explained briefly
- Evaluation of the models
- Application of the best model to the *X_test* data set and delivery of the forecasts according to *Y_test_example*
- On 01.12.2023 each group presents the results in a 10-15min presentation (all group members)
- The final report then has to be submitted by 31.12.2023. Students are allowed to adjust their models and methodology based on feedback they receive for their presentation.

Scope: Minimum 5 pages including visualizations and tables, maximum 20 pages including visualizations and tables

Language paper: German or English

Language presentation: English

Deadline for the predictions: 29.11.2023 midnight

Deadline for the final report: 31.12.2023 midnight