Introduction to Learning and Intelligent Systems – Spring 2015

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1 Project Regression – Team "awesome"

1.1 Classifiers

We used a number of different classifiers, like k-nn, svm, randomforest and extratree.

In the end, we achieved the best results with the extratree-classifier, using the features as they are provided, without even scaling them. We used a grid-search to find the best parameters for "max_features", "min_samples_split" and "max_depth".

The following parameters for the ExtraTree Classifier turned out to perform best: criterion="entropy" max_features=108 min_samples_split=4 n_estimators=421

We found out, that the max_features and the n_estimators need to be high where as max_depth should be rather low, to avoid overfitting of the classifier.

1.2 Features

We used all the provided features without changing them and added for the first 9 features also their polynomials up to degree 3. This lead to a much higher amout of features (273 instead of 53) and to a much longer evaluation time but unfortunately not a big improvement of the predictions.