**MODULES**

**Predictive Modeling:**

In order to find a decent model to predict sales we performed an extensive search of various machine learning models available in R, in particular of those accessible through the caret wrapper. In the end, however, models from the h2o package yielded the best results for the task. In particular, deep learning neural networks h2o.deeplearning and gradient boosting regression trees h2o.gbm performed particularly well. An ensemble of various such models, constructed in h2oEnsemble.R forms the basis of our submission. Here, we used only the 12 most important predictors to avoid over-fitting. To include some features we may have missed with this rather small sub set of predictors we supplemented the ensemble with a deep learning neural net using 23 predictors.

Following algorithms are used:

1. Linear Regression Model
2. Ridge Regression Model
3. Decision Tree Model
4. Random Forest Model