

| Algorithm                | Hyperparameter            | Type     | Lower | Upper | Trafo       |
|--------------------------|---------------------------|----------|-------|-------|-------------|
| glmnet                   |                           |          |       |       |             |
| (Elastic net)            | alpha                     | numeric  | 0     | 1     | -           |
|                          | lambda                    | numeric  | -10   | 10    | $2^x$       |
| rpart                    |                           |          |       |       |             |
| (Decision tree)          | cp                        | numeric  | 0     | 1     | -           |
|                          | maxdepth                  | integer  | 1     | 30    | -           |
|                          | minbucket                 | integer  | 1     | 60    | -           |
|                          | minsplit                  | integer  | 1     | 60    | -           |
| kknn                     |                           |          |       |       |             |
| (k-nearest neighbor)     | k                         | integer  | 1     | 30    | -           |
| svm                      |                           |          |       |       |             |
| (Support vector machine) | kernel                    | discrete | -     | -     | -           |
|                          | cost                      | numeric  | -10   | 10    | $2^x$       |
|                          | gamma                     | numeric  | -10   | 10    | $2^x$       |
|                          | degree                    | integer  | 2     | 5     | -           |
| ranger                   |                           |          |       |       |             |
| (Random forest)          | num.trees                 | integer  | 1     | 2000  | -           |
|                          | replace                   | logical  | -     | -     | -           |
|                          | sample.fraction           | numeric  | 0.1   | 1     | -           |
|                          | mtry                      | numeric  | 0     | 1     | $x \cdot p$ |
|                          | respect.unordered.factors | logical  | -     | -     | -           |
|                          | min.node.size             | numeric  | 0     | 1     | $n^x$       |
| xgboost                  |                           |          |       |       |             |
| (Gradient boosting)      | nrounds                   | integer  | 1     | 5000  | -           |
|                          | eta                       | numeric  | -10   | 0     | $2^x$       |
|                          | subsample                 | numeric  | 0.1   | 1     | -           |
|                          | booster                   | discrete | -     | -     | -           |
|                          | max_depth                 | integer  | 1     | 15    | -           |
|                          | min_child_weight          | numeric  | 0     | 7     | $2^x$       |
|                          | colsample_bytree          | numeric  | 0     | 1     | -           |
|                          | colsample_bylevel         | numeric  | 0     | 1     | -           |
|                          | lambda                    | numeric  | -10   | 10    | $2^x$       |
|                          | alpha                     | numeric  | -10   | 10    | $2^x$       |