

Detailed Machine Learning Workflow Report

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ML Plan

Type: classification

Target Variable: Species

Meta of Data

Number of classes: 3

Size of majority class: 50

Size of minority class: 50

Number of features: 5

Number of numeric features: 4

Number of symbolic features: 0

Number of records: 150

Number of records with missing values: 150

Number of total missing values: 0

Data Highlight:

```
## # A tibble: 150 x 1
##   `dataStore$m1Plan$data~ $Sepal.Width $Petal.Length $Petal.Width $Species
##           <dbl>         <dbl>         <dbl>         <dbl> <chr>
## 1           5.1           3.5           1.4           0.2 setosa
## 2           4.9           3           1.4           0.2 setosa
## 3           4.7           3.2           1.3           0.2 setosa
## 4           4.6           3.1           1.5           0.2 setosa
## 5           5           3.6           1.4           0.2 setosa
## 6           5.4           3.9           1.7           0.4 setosa
## 7           4.6           3.4           1.4           0.3 setosa
## 8           5           3.4           1.5           0.2 setosa
## 9           4.4           2.9           1.4           0.2 setosa
## 10          4.9           3.1           1.5           0.1 setosa
## # ... with 140 more rows
```

ML Pipes

```
##### nnet #####
```

Machine Learning Pipeline Object

ID: nnet

Learning Algorithm: [1] "classif.nnet"

Preprocessing List: character(0)
Train, Test, Cross Validation Split: [[1]]
Resample description: holdout with 0.60 split rate.
Predict: test
Stratification: FALSE

MLR Task: ##### [[1]]

Supervised task: nnet

Type: classif

Target: Species

Observations: 150

Features:

numerics	factors	ordered	functionals
4	0	0	0

Missings: FALSE

Has weights: FALSE

Has blocking: FALSE

Has coordinates: FALSE

Classes: 3

setosa	versicolor	virginica
50	50	50

Positive class: NA

MLR Learner: ##### [[1]]

Learner classif.nnet from package nnet

Type: classif

Name: Neural Network; Short name: nnet

Class: classif.nnet

Properties: twoclass,multiclass,numerics,factors,prob,weights

Predict-Type: response

Hyperparameters: size=3

MLR Model: ##### [[1]]

Resample Result

Task: nnet

Learner: classif.nnet

Aggr perf: mmce.test.mean=0.0333333,acc.test.mean=0.966667,timetrain.test.mean=0.0300000

Runtime: 0.0668261

ksvm

Machine Learning Pipeline Object

ID: ksvm

Learning Algorithm: [1] "classif.ksvm"

Preprocessing List: character(0)

Train, Test, Cross Validation Split: [[1]]

Resample description: holdout with 0.60 split rate.

Predict: test

Stratification: FALSE

MLR Task: ##### [[1]]

Supervised task: ksvm

```

Type: classif
Target: Species
Observations: 150
Features:
  numerics    factors    ordered functionals
      4         0         0         0
Missings: FALSE
Has weights: FALSE
Has blocking: FALSE
Has coordinates: FALSE
Classes: 3
  setosa versicolor virginica
      50         50         50
Positive class: NA

```

```

##### MLR Learner: ##### [[1]]
Learner classif.ksvm from package kernlab
Type: classif
Name: Support Vector Machines; Short name: ksvm
Class: classif.ksvm
Properties: twoclass,multiclass,numerics,factors,prob,class.weights
Predict-Type: response
Hyperparameters: fit=FALSE

```

```

##### MLR Model: ##### [[1]]
Resample Result
Task: ksvm
Learner: classif.ksvm
Aggr perf: mmce.test.mean=0.0333333,acc.test.mean=0.9666667,timetrain.test.mean=0.0100000
Runtime: 0.067816

```

```

##### extraTrees #####

```

Machine Learning Pipeline Object

```

ID: extraTrees
Learning Algorithm: [1] "classif.extraTrees"
Preprocessing List: character(0)
Train, Test, Cross Validation Split: [[1]]
Resample description: holdout with 0.60 split rate.
Predict: test
Stratification: FALSE

```

```

##### MLR Task: ##### [[1]]
Supervised task: extraTrees
Type: classif
Target: Species
Observations: 150
Features:
  numerics    factors    ordered functionals
      4         0         0         0
Missings: FALSE
Has weights: FALSE

```

```

Has blocking: FALSE
Has coordinates: FALSE
Classes: 3
      setosa versicolor virginica
      50      50      50
Positive class: NA

```

```

##### MLR Learner: ##### [[1]]
Learner classif.extraTrees from package extraTrees
Type: classif
Name: Extremely Randomized Trees; Short name: extraTrees
Class: classif.extraTrees
Properties: numerics,weights,twoclass,multiclass,prob
Predict-Type: response
Hyperparameters:

```

```

##### MLR Model: ##### [[1]]
Resample Result
Task: extraTrees
Learner: classif.extraTrees
Aggr perf: mmce.test.mean=0.0500000,acc.test.mean=0.9500000,timetrain.test.mean=0.0300000
Runtime: 0.0837729

```

```

##### fnn #####

```

Machine Learning Pipeline Object

```

ID: fnn
Learning Algorithm: [1] "classif.fnn"
Preprocessing List: character(0)
Train, Test, Cross Validation Split: [[1]]
Resample description: holdout with 0.60 split rate.
Predict: test
Stratification: FALSE

```

```

##### MLR Task: ##### [[1]]
Supervised task: fnn
Type: classif
Target: Species
Observations: 150
Features:
      numerics      factors      ordered functionals
      4          0          0          0
Missings: FALSE
Has weights: FALSE
Has blocking: FALSE
Has coordinates: FALSE
Classes: 3
      setosa versicolor virginica
      50      50      50
Positive class: NA

```

```

##### MLR Learner: ##### [[1]]

```

```
Learner classif.fnn from package FNN
Type: classif
Name: Fast k-Nearest Neighbour; Short name: fnn
Class: classif.fnn
Properties: twoclass,multiclass,numerics
Predict-Type: response
Hyperparameters:
```

```
##### MLR Model: ##### [[1]]
Resample Result
Task: fnn
Learner: classif.fnn
Aggr perf: mmce.test.mean=0.0333333,acc.test.mean=0.9666667,timetrain.test.mean=0.0000000
Runtime: 0.0668199
```

References

Thiloshon Nagarajah and Guhanathan Poravi (2019). automlr: Automated Machine Learning in R. R package version 0.0.009.

R Core Team (2012). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL <http://www.R-project.org/>