Package 'rotationForest'

October 14, 2022

Type Package

Title Fit and Deploy Rotation Forest Models

Version 0.1.3

Date 2017-04-16

Imports rpart

Author Michel Ballings and Dirk Van den Poel

Maintainer Michel Ballings <michel.ballings@gmail.com>

Description Fit and deploy rotation forest models (``Rodriguez, J.J., Kuncheva,
L.I., 2006. Rotation forest: A new classifier ensemble method. IEEE Trans.
Pattern Anal. Mach. Intell. 28, 1619-
1630 <doi:10.1109/TPAMI.2006.211>'') for binary classification.
Rotation forest is an ensemble method where each base classifier (tree) is
fit on the principal components of the variables of random partitions of
the feature set.

License GPL (>= 2)

RoxygenNote 6.0.1

NeedsCompilation no

Repository CRAN

Date/Publication 2017-04-16 16:49:11 UTC

R topics documented:

1

---

predict.rotationForest

Predict method for rotationForest objects

Description

Prediction of new data using rotationForest.

Usage

```
## S3 method for class 'rotationForest'
predict(object, newdata, all = FALSE, ...)
```

Arguments

object	An object of class `rotationForest`
newdata	A data frame with the same predictors as in the training data.
all	Return the predictions per tree instead of the average.
...	Not used currently.

Value

A vector containing the response scores.

Author(s)

Michel Ballings and Dirk Van den Poel, Maintainer: `<Michel.Ballings@GMail.com>`

References

Rodriguez, J.J., Kuncheva, L.I., 2006. Rotation forest: A new classifier ensemble method. IEEE Trans. Pattern Anal. Mach. Intell. 28, 1619-1630. doi:10.1109/TPAMI.2006.211

See Also

rotationForest

Examples

```
data(iris)
y <- as.factor(ifelse(iris$Species[1:100]=="setosa",0,1))
x <- iris[1:100,-5]
rF <- rotationForest(x,y)
predict(object=rF,newdata=x)
```

rotationForest	*Binary classification with Rotation Forest (Rodriguez en Kuncheva, 2006)*

Description

`rotationForest` implements an ensemble method where each base classifier (tree) is fit on the principal components of the variables of random partitions of the feature set.

Usage

```
rotationForest(x, y, K = round(ncol(x)/3, 0), L = 10, verbose = FALSE,
  ...)
```

Arguments

x	A data frame of predictors (numeric, or integer). Categorical variables need to be transformed to indicator (dummy) variables. At minimum x requires two columns.
y	A factor containing the response vector. Only {0,1} is allowed.
K	The number of variable subsets. The default is the value K that results in three features per subset.
L	The number of base classifiers (trees using the rpart package). The default is 10.
verbose	Boolean. Should information about the subsets be printed?
...	Arguments to rpart.control. First run library(rpart).

Value

An object of class `rotationForest`, which is a list with the following elements:

models	A list of trees.
loadings	A list of loadings.
columnnames	Column names of x.

Author(s)

Michel Ballings and Dirk Van den Poel, Maintainer: <Michel.Ballings@GMail.com>

References

Rodriguez, J.J., Kuncheva, L.I., 2006. Rotation forest: A new classifier ensemble method. IEEE Trans. Pattern Anal. Mach. Intell. 28, 1619-1630. doi:10.1109/TPAMI.2006.211

See Also

predict.rotationForest

Examples

```
data(iris)
y <- as.factor(ifelse(iris$Species[1:100]=="setosa",0,1))
x <- iris[1:100,-5]
rF <- rotationForest(x,y)
predict(object=rF,newdata=x)
```

---

rotationForestNews   *Display the NEWS file*

Description

rotationForestNews shows the NEWS file of the rotationForest package.

Usage

```
rotationForestNews()
```

Author(s)

Michel Ballings and Dirk Van den Poel, Maintainer: <Michel.Ballings@GMail.com>

Examples

```
rotationForestNews()
```

Index