

Package ‘predictoR’

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Type Package

Title Predictive Data Analysis System

Version 4.1.5

Description Perform a supervised data analysis on a database through a 'shiny' graphical interface. It includes methods such as K-Nearest Neighbors, Decision Trees, ADA Boosting, Extreme Gradient Boosting, Random Forest, Neural Networks, Deep Learning, Support Vector Machines and Bayesian Methods.

License GPL (>= 2)

Imports DT (>= 0.27), dplyr (>= 1.1.0), shiny (>= 1.7.4), golem (>= 0.3.5), rlang (>= 1.0.6), loadR (>= 1.0.1), config (>= 0.3.1), glmnet (>= 4.1-6), trainR (>= 2.2.0), shinyjs (>= 2.1.0), xgboost (>= 1.7.3.1), shinyAce (>= 0.4.2), echarts4r (>= 0.4.4), htmltools (>= 0.5.4), rpart.plot (>= 3.1.1), colourpicker (>= 1.1.1), shinydashboard (>= 0.7.2), shinycustomloader (>= 0.9.0), shinydashboardPlus (>= 2.0.3)

Depends R (>= 4.1)

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URL <https://promidat.website/>

BugReports <https://github.com/PROMiDAT/predictoR/issues>

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Contents

contr.dummy	2
contr.metric	3
contr.ordinal	3
data.frame.dummy	4
e_ada_evol_error	4
e_boost_importance	5
e_coeff_lambda	6
e_global_gauge	6
e_JS	7
e_posib_lambda	8
e_rf_error	9
e_rndf_importance	9
e_xgb_importance	10
predictoR	11
run_app	11
voronoi_svm_plot	12
Index	13

contr.dummy	Returns a matrix of contrasts for the train.kknn.
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Description

Returns a matrix of contrasts for the train.kknn.

Usage

```
contr.dummy(n, contrasts = TRUE)
```

Arguments

- n A vector containing levels of a factor, or the number of levels.
- contrasts A logical value indicating whether contrasts should be computed.

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
contr.dummy(5)
```

contr.metric	Returns a matrix of contrasts for the train.kknn.
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Description

Returns a matrix of contrasts for the train.kknn.

Usage

```
contr.metric(n, contrasts = TRUE)
```

Arguments

n	A vector containing levels of a factor, or the number of levels.
contrasts	A logical value indicating whether contrasts should be computed.

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
contr.metric(5)
```

contr.ordinal	Returns a matrix of contrasts for the train.kknn.
---------------	---

Description

Returns a matrix of contrasts for the train.kknn.

Usage

```
contr.ordinal(n, contrasts = TRUE)
```

Arguments

n	A vector containing levels of a factor, or the number of levels.
contrasts	A logical value indicating whether contrasts should be computed.

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
contr.ordinal(5)
```

<code>data.frame.dummy</code>	<i>Convierte toda la tabla a código dummy.</i>
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Description

Convierte toda la tabla a código dummy.

Usage

```
data.frame.dummy(DF, exclude = NULL)
```

Arguments

DF	a data.frame.
exclude	variables of data.frame exclude of conversion.

Author(s)

Diego Jimenez <diego.jimenezs@promidat.com>

Examples

```
data.frame.dummy(iris)
```

<code>e_adaevol_error</code>	<i>Error Evolution</i>
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Description

Error Evolution

Usage

```
e_adaevol_error(modelo, datos, label = "Iterations")
```

Arguments

modelo	a adabag model.
datos	a data.frame object.
label	a label plot.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
model <- trainR::train.adabag(Species~., iris, mfinal = 20, coeflearn = 'Freund')
e_ada_evol_error(model, iris)
```

e_boost_importance	<i>Var importance Random Forest</i>
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Description

Var importance Random Forest

Usage

```
e_boost_importance(modelo)
```

Arguments

modelo a adabag model.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
model <- trainR::train.adabag(Species~., iris, mfinal = 20, coeflearn = 'Freund')
e_boost_importance(model)
```

e_coeff_lambda	<i>Coefficients and lambda</i>
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Description

Plot the coefficients and selected lambda of a glmnet model.

Usage

```
e_coeff_lambda(model, cat, sel.lambda = NULL, label = "Log Lambda")
```

Arguments

model	a glmnet model.
cat	a category of the variable to be predicted.
sel.lambda	the selected lambda.
label	a character specifying the title to use on selected lambda tooltip.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
x <- model.matrix(Species ~ ., iris)[, -1]
y <- iris$Species
modelo <- glmnet::cv.glmnet(x, y, standardize = TRUE, alpha = 1, family = "multinomial")
e_coeff_lambda(modelo, 'setosa', log(modelo$lambda[1]))
```

e_global_gauge	<i>Gauge Plot</i>
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Description

Gauge Plot

Usage

```
e_global_gauge(  
  value = 100,  
  label = "Label",  
  color1 = "#B5E391",  
  color2 = "#90C468"  
)
```

Arguments

value	a number specifying the value of the graph.
label	a character specifying the title to use on legend.
color1	a color for the gauge.
color2	a shadowColor for the gauge.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
e_global_gauge(87, "Global Precision")
```

e_JS

Eval character vectors to JS code

Description

Eval character vectors to JS code

Usage

```
e_JS(...)
```

Arguments

...	character vectors to evaluate
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Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
e_JS('5 * 3')
```

e_posib_lambda

Possible lambda

Description

Possible lambda

Usage

```
e_posib_lambda(
  cv.glm,
  labels = c("Valor Superior", "Valor Inferior", "lambda")
)
```

Arguments

cv.glm a cv.glmnet model.

labels a character vector of length 3 specifying the titles to use on legend.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
x            <- model.matrix(Species~., iris)[, -1]
y            <- iris[, 'Species']
cv.glm      <- glmnet::cv.glmnet(x, y, standardize = TRUE, alpha = 1, family = 'multinomial')
e_posib_lambda(cv.glm)
```

e_rf_error	<i>Error Evolution</i>
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Description

Error Evolution

Usage

```
e_rf_error(model, label = "Trees")
```

Arguments

model	a random forest model.
label	a label plot.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
model <- traineR::train.randomForest(Species~., iris, mtry = 2, ntree = 20)
label <- "Trees"
e_rf_error(model, label)
```

e_rndf_importance	<i>Var importance Random Forest</i>
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Description

Var importance Random Forest

Usage

```
e_rndf_importance(modelo, error = "MeanDecreaseAccuracy")
```

Arguments

modelo	a random forest model.
error	a character specifying the type of importance.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
model <- traineR::train.randomForest(Species~., iris, mtry = 2, ntree = 20)
e_rndf_importance(model)
```

e_xgb_importance	<i>Var importance XGBoosting</i>
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Description

Var importance XGBoosting

Usage

```
e_xgb_importance(modelo, error = "Gain")
```

Arguments

modelo	a random forest model.
error	a character specifying the type of importance.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
model <- traineR::train.xgboost(Species ~ ., data = iris, nrounds = 20)
e_xgb_importance(model)
```

predictoR	<i>Predictive Data Analysis System</i>
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Description

Perform a supervised data analysis on a database through a 'shiny' graphical interface. It includes methods such as K-Nearest Neighbors, Decision Trees, ADA Boosting, Extreme Gradient Boosting, Random Forest, Neural Networks, Deep Learning, Support Vector Machines and Bayesian Methods.

Details

Package:	predictoR
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License:	GPL (>=2)

Author(s)

Oldemar Rodriguez Rojas
Maintainer: Oldemar Rodriguez Rojas <oldemar.rodriguez@ucr.ac.cr>

See Also

Useful links:

- <https://promidat.website/>
- Report bugs at <https://github.com/PROMiDAT/predictoR/issues>

run_app	<i>Run the Shiny Application</i>
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Description

Run the Shiny Application

Usage

```
run_app(...)
```

Arguments

... A series of options to be used inside the app.

voronoi_svm_plot	<i>Voronoi Plot SVM</i>
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Description

Voronoi Plot SVM

Usage

```
voronoi_svm_plot(datos, varpred, vars, kernel = "linear")
```

Arguments

datos	a data.frame object.
varpred	variable to predict.
vars	predictor variables.
kernel	the kernel used in training and predicting.

Value

plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
voronoi_svm_plot(iris, "Species", c("Sepal.Length", "Sepal.Width"), "linear")
```

Index

*** package**

predictoR, [11](#)

contr.dummy, [2](#)

contr.metric, [3](#)

contr.ordinal, [3](#)

data.frame.dummy, [4](#)

e_ada_evol_error, [4](#)

e_boost_importance, [5](#)

e_coeff_lambda, [6](#)

e_global_gauge, [6](#)

e_JS, [7](#)

e_posib_lambda, [8](#)

e_rf_error, [9](#)

e_rndf_importance, [9](#)

e_xgb_importance, [10](#)

predictoR, [11](#)

predictoR-package (predictoR), [11](#)

run_app, [11](#)

voronoi_svm_plot, [12](#)