Package 'regressoR'

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Title Regression Data Analysis System

Type Package

Version 4.0.8

Depends R (>= 4.1)

Imports DT (>= 0.27), gbm (>= 2.2.2), pls (>= 2.8-1), dplyr (>= 1.1.0), psych (>= 2.4.6), shiny (>= 1.7.4), golem (>= 0.3.5), rlang (>= 1.0.6), glmnet (>= 4.1-6), loadeR (>= 1.1.3), shinyjs (>= 2.1.0), traineR (>= 2.2.0), shinyAce (>= 0.4.2), echarts4r (>= 0.4.4), htmltools (>= 0.5.4), rpart.plot (>= 3.1.1), shinydashboard (>= 0.7.2), shinycustomloader (>= 0.9.0), shinydashboardPlus (>= 2.0.3)

Description Perform a supervised data analysis on a database through a 'shiny' graphical interface. It includes methods such as linear regression, penalized regression, k-nearest neighbors, decision trees, ada boosting, extreme gradient boosting, random forest, neural networks, deep learning and support vector machines.

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Encoding UTF-8

URL https://promidat.website/

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

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Repository CRAN

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Contents

`as_string_c` *as_string_c*

Description

creates a string representative of a vector

Usage

```
as_string_c(vect, quote = TRUE)
```

Arguments

`vect`	a vector with values
`quote`	a logical value. If TRUE, the values on the vector will be surrounded by quotes.

Examples

```
as_string_c(c("A", "B", "C"))
as_string_c(c(5, 6, 7))
as_string_c(c(5, 6, 7), quote = FALSE)
as_string_c(iris$Species)
```

`e.rdim.rmse` *e.rdim.rmse*

Description

graph the root mean square error of cross validation according to components used.

Usage

```
e.rdim.rmse(modelo, ncomp, titles = c("RMSE", "Componente"))
```

Arguments

`modelo`	a dimension reduction model.
`ncomp`	the optimum number of components.
`titles`	labels on the chart

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

`e.rdim.vare` *plot_pred_rd*

Description

graph of variance explained in the predictors according to components used.

Usage

```
e.rdim.vare(modelo, ncomp, titles = c("Varianza Explicada", "Componente"))
```

Arguments

`modelo`	a dimension reduction model.
`ncomp`	the optimum number of components.
`titles`	labels on the chart

Value

echarts4r plot

Author(s)

Ariel Arroyo <luis.ariel.arroyo@promidat.com>

`exe` *exe*

Description

concat and execute a text in R.

Usage

```
exe(..., envir = parent.frame())
```

Arguments

`...`	one or more texts to be concatenated and executed.
`envir`	the environment in which expr is to be evaluated.

Value

the result of the execute.

Examples

```
exe("5+5")
exe("5","+","5")
exe("plot(iris$Species)")
```

`extract_code` *extract_code*

Description

gets the code of a function in text form.

Usage

```
extract_code(funcion, envir = parent.frame())
```

Arguments

`funcion`	the name of the function to be extracted.
`envir`	the environment in which expr is to be evaluated.

Examples

```
extract_code("cat")
extract_code("plot")

parse(text = extract_code("plot"))
```

`e_boost_evol_error` *Error Evolution*

Description

Error Evolution

Usage

```
e_boost_evol_error(modelo, label = "Iterations")
```

Arguments

`modelo`	a adabag model.
`label`	a label plot.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
model <- traineR::train.gbm(Sepal.Length~., data = iris,
  distribution = "gaussian", n.trees = 5, shrinkage = 0.01)
e_boost_evol_error(model, iris)
model$prmdt$n.trees
```

e_boost_importance *Var importance Adabag*

Description

Var importance Adabag

Usage

```
e_boost_importance(modelo)
```

Arguments

modelo	a adabag model.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

```
model <- traineR::train.gbm(Sepal.Length~., data = iris,
  distribution = "gaussian", n.trees = 5, shrinkage = 0.01)
e_boost_importance(model)
```

e_coeff_lambda *Coefficients and lambda*

Description

Plot the coefficients and selected lambda of a glmnet model.

Usage

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

Arguments

model	a glmnet model.
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(Sepal.Length ~ ., iris)[, -1]
y <- iris$Sepal.Length
modelo <- glmnet::cv.glmnet(x, y, standardize = TRUE, alpha = 1, family = "gaussian")
e_coeff_lambda(modelo, log(modelo$lambda[1]))
```

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e_JS *Eval character vectors to JS code*

Description

Eval character vectors to JS code

Usage

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

Arguments

...	character vectors to evaluate

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 *Error Evolution*

Description

Error Evolution

Usage

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

Arguments

modelo	a random forest model.
label	a label plot.

Value

echarts4r plot

Author(s)

Joseline Quiros <joseline.quiros@promidat.com>

Examples

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

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e_rndf_importance *Var importance Random Forest*

Description

Var importance Random Forest

Usage

```
e_rndf_importance(modelo, error = "X.IncMSE")
```

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)
```

general.indices *general.indices*

Description

calculates indices to measure accuracy of a model.

calculates indices to measure accuracy of a model.

Usage

```
general.indices(real, prediccion)
```


```
general.indices(real, prediccion)
```


Arguments

real	the real values in traning-testing.
prediccion	the prediction values in traning-testing.

Value

a list with the Correlation, Relative Error, Mean Absolute Error and Root Mean Square Error.

a list with the Correlation, Relative Error, Mean Absolute Error and Root Mean Square Error.

Examples

```
real <- rnorm(45)
prediction <- rnorm(45)
model <- "KNN"
general.indices(real, prediction)

real <- rnorm(45)
prediction <- rnorm(45)
model <- "KNN"
general.indices(real, prediction)
```

plot_real_prediction *plot_real_prediction*

Description

scatter plot between the actual value of the variable to be predicted and the prediction of the model.

Usage

```
plot_real_prediction(real, pred, titles = c("Real", "Prediccion"))
```

Arguments

real	the real values in traning-testing.
pred	the prediction values in traning-testing.
titles	Labels on the chart

Value

echarts4r plot

Author(s)

Ariel Arroyo <luis.ariel.arroyo@promidat.com>

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regressoR *Regression Data Analysis System*

Description

Perform a supervised data analysis on a database through a 'shiny' graphical interface. It includes methods such as linear regression, penalized regression, k-nearest neighbors, decision trees, ada boosting, extreme gradient boosting, random forest, neural networks, deep learning and support vector machines.

Details

Package:	regressoR
Type:	Package
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Date:	2025-03-05
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

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`run_app` *Run the Shiny Application*

Description

Run the Shiny Application

Usage

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

Arguments

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

`summary_indices` *summary_indices*

Description

summarizes a variable by returning the minimum, first quartile, third quartile and maximum value.

Usage

```
summary_indices(data)
```

Arguments

`data`	a numeric vector.

Examples

```
summary_indices(iris$Sepal.Length)
```

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