Package 'explor'

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Type Package

Title Interactive Interfaces for Results Exploration

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Description Shiny interfaces and graphical functions for multivariate analysis results exploration.

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VignetteBuilder knitr

URL https://juba.github.io/explor/

BugReports https://github.com/juba/explor/issues

Encoding UTF-8

Imports shiny (>= 1.0), DT, dplyr (>= 1.0), tidyr (>= 1.0), ggplot2, highr, formatR, scatterD3 (>= 0.9.2), RColorBrewer

Suggests FactoMineR, ade4 (>= 1.7-13), GDAtools, MASS, quanteda, quanteda.textmodels, testthat, knitr, rmarkdown

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R topics documented:

`CA_var_plot` *Interactive CA variables plot*

Description

This function generates an HTML widget displaying the variables plot of a CA result.

Usage

```
CA_var_plot(
  res,
  xax = 1,
  yax = 2,
  lev_sup = TRUE,
  var_sup = TRUE,
  var_sup_choice = NULL,
  var_hide = "None",
  var_lab_min_contrib = 0,
  point_size = 64,
  col_var = NULL,
  symbol_var = NULL,
  size_var = NULL,
  size_range = c(10, 300),
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

Arguments

`res`	Result of prepare_results() call
`xax`	Horizontal axis number
`yax`	Vertical axis number
`lev_sup`	TRUE to display supplementary levels
`var_sup`	TRUE to display supplementary variables
`var_sup_choice`	list of supplementary variables to display
`var_hide`	elements to hide (rows or columns)

var_lab_min_contrib	Contribution threshold to display points labels
point_size	base point size
col_var	name of the variable for points color
symbol_var	name of the variable for points symbol
size_var	name of the variable for points size
size_range	points size range with format c(minimum, maximum)
zoom_callback	scatterD3 zoom callback JavaScript body
in_explor	wether the plot is to be displayed in the explor interface
...	Other arguments passed to scatterD3

---

explor *Interface for analysis results exploration*

Description

This function launches a shiny app in a web browser in order to do interactive visualisation and exploration of an analysis results.

Usage

```
explor(obj)

## S3 method for class 'CA'
explor(obj)

## S3 method for class 'textmodel_ca'
explor(obj)

## S3 method for class 'coa'
explor(obj)

## S3 method for class 'MCA'
explor(obj)

## S3 method for class 'speMCA'
explor(obj)

## S3 method for class 'mca'
explor(obj)

## S3 method for class 'acm'
explor(obj)

## S3 method for class 'PCA'
```

```
explor(obj)

## S3 method for class 'princomp'
explor(obj)

## S3 method for class 'prcomp'
explor(obj)

## S3 method for class 'pca'
explor(obj)
```

Arguments

obj	object containing analysis results

Details

If you want to display supplementary individuals or variables and you're using the dudi.coa function, you can add the coordinates of suprow and/or supcol to as supr and/or supr elements added to your dudi.coa result (See example).

If you want to display supplementary individuals or variables and you're using the dudi.acm function, you can add the coordinates of suprow and/or supcol to as supi and/or supv elements added to your dudi.acm result (See example).

If you want to display supplementary individuals or variables and you're using the dudi.pca function, you can add the coordinates of suprow and/or supcol to as supi and/or supv elements added to your dudi.pca result (See example).

Value

The function launches a shiny app in the system web browser.

Examples

```
## Not run:

require(FactoMineR)

## FactoMineR::MCA exploration
data(hobbies)
mca <- MCA(hobbies[1:1000,c(1:8,21:23)], quali.sup = 9:10,
           quanti.sup = 11, ind.sup = 1:100, graph = FALSE)
explor(mca)

## FactoMineR::PCA exploration
data(decathlon)
d <- decathlon[,1:12]
pca <- PCA(d, quanti.sup = 11:12, graph = FALSE)
explor(pca)

## End(Not run)
```

```
## Not run:

library(ade4)

data(bordeaux)
tab <- bordeaux
row_sup <- tab[5,-4]
col_sup <- tab[-5,4]
coa <- dudi.coa(tab[-5,-4], nf = 5, scannf = FALSE)
coa$supr <- suprow(coa, row_sup)
coa$supc <- supcol(coa, col_sup)
explor(coa)

## End(Not run)
## Not run:

library(ade4)
data(banque)
d <- banque[-(1:100),-(19:21)]
ind_sup <- banque[1:100, -(19:21)]
var_sup <- banque[-(1:100),19:21]
acm <- dudi.acm(d, scannf = FALSE, nf = 5)
acm$supv <- supcol(acm, dudi.acm(var_sup, scannf = FALSE, nf = 5)$tab)
colw <- acm$cw*ncol(d)
X <- acm.disjonctif(ind_sup)
X <- data.frame(t(t(X)/colw) - 1)
acm$supi <- suprow(acm, X)
explor(acm)

## End(Not run)
## Not run:

library(ade4)
data(deug)
d <- deug$tab
sup_var <- d[-(1:10), 8:9]
sup_ind <- d[1:10, -(8:9)]
pca <- dudi.pca(d[-(1:10), -(8:9)], scale = TRUE, scannf = FALSE, nf = 5)
supi <- suprow(pca, sup_ind)
pca$supi <- supi
supv <- supcol(pca, dudi.pca(sup_var, scale = TRUE, scannf = FALSE)$tab)
pca$supv <- supv
explor(pca)

## End(Not run)
```

---

ggind *Graphical representation of indivduals (rows) of a multivariate analysis*

Description

This function displays a graphical representation of the individuals (rows) of a multivariate analysis.

This function displays a graphical representation of the individuals (rows) of a multiple correspondence analysis generated by the MCA function of the FactoMineR package.

Usage

```
ggind(obj, ...)

## S3 method for class 'MCA'
ggind(
  obj,
  xax = 1,
  yax = 2,
  fac = NA,
  label = NULL,
  alpha = 0.5,
  palette = "Set1",
  ...
)
```

Arguments

obj	a multivariate analysis results object. Currently only MCA is supported
...	arguments passed to other methods
xax	number of the x axis
yax	number of the y axis
fac	an optional factor by which points are colored, and confidence ellipses drawn
label	legend title
alpha	points opacity
palette	palette for points coloring, if fac is not NULL

---

ggvar *Graphical representation of the variables (columnss) of a multivariate analysis*

Description

This function displays a graphical representation of the variables (columns) of a multivariate analysis.

This function displays a graphical representation of the variables (columns) of a multiple correspondence analysis generated by the MCA function of the FactoMineR package.

Usage

```
ggvar(obj, ...)

## S3 method for class 'MCA'
ggvar(obj, xax = 1, yax = 2, size = 4, alpha = 0.5, palette = "Set1", ...)
```

Arguments

obj	a multivariate analysis results object. Currently only MCA is supported
...	arguments passed to other methods
xax	number of the x axis
yax	number of the y axis
size	text size
alpha	points opacity
palette	palette for variables coloring

See Also

MCA

MCA_biplot *Interactive MCA biplot*

Description

This function generates an HTML widget displaying the variables plot of an MCA result.

Usage

```
MCA_biplot(
  res,
  xax = 1,
  yax = 2,
  col_var,
  ind_sup = TRUE,
  var_sup = TRUE,
  bi_lab_min_contrib = 0,
  symbol_var = NULL,
  ind_point_size = 16,
  var_point_size = 96,
  ind_opacity = 0.5,
  ind_opacity_var = NULL,
  ind_labels = FALSE,
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

Arguments

res	Result of prepare_results() call
xax	Horizontal axis number
yax	Vertical axis number
col_var	name of the variable for points color
ind_sup	TRUE to display supplementary individuals
var_sup	TRUE to display supplementary variables
bi_lab_min_contrib	Contribution threshold to display points labels
symbol_var	name of the variable for points symbol
ind_point_size	base point size for individuals
var_point_size	base point size for variable levels
ind_opacity	individuals point opacity (constant)
ind_opacity_var	individuals point opacity (variable)
ind_labels	TRUE to display individuals labels
zoom_callback	scatterD3 zoom callback JavaScript body
in_explor	wether the plot is to be displayed in the explor interface
...	Other arguments passed to scatterD3

MCA_ind_plot *Interactive MCA indivuals plot*

Description

This function generates an HTML widget displaying the individuals plot of an MCA result.

Usage

```
MCA_ind_plot(
  res,
  xax = 1,
  yax = 2,
  ind_sup = TRUE,
  ind_lab_min_contrib = 0,
  lab_var = NULL,
  col_var = NULL,
  symbol_var = NULL,
  opacity_var = NULL,
  size_var = NULL,
  size_range = c(10, 300),
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

Arguments

res	Result of prepare_results() call
xax	Horizontal axis number
yax	Vertical axis number
ind_sup	TRUE to display supplementary individuals
ind_lab_min_contrib	Contribution threshold to display points labels
lab_var	variable to be used for points names
col_var	variable to be used for points color
symbol_var	name of the variable for points symbol
opacity_var	name of the variable for points opacity
size_var	name of the variable for points size
size_range	points size range with format c(minimum, maximum)
zoom_callback	scatterD3 zoom callback JavaScript body
in_explor	wether the plot is to be displayed in the explor interface
...	Other arguments passed to scatterD3

MCA_var_plot *Interactive MCA variables plot*

Description

This function generates an HTML widget displaying the variables plot of an MCA result.

Usage

```
MCA_var_plot(
  res,
  xax = 1,
  yax = 2,
  var_sup = TRUE,
  var_sup_choice = NULL,
  var_lab_min_contrib = 0,
  point_size = 64,
  labels_prepend_var = FALSE,
  col_var = NULL,
  symbol_var = NULL,
  size_var = NULL,
  size_range = c(10, 300),
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

Arguments

res	Result of prepare_results() call
xax	Horizontal axis number
yax	Vertical axis number
var_sup	TRUE to display supplementary variables
var_sup_choice	list of supplementary variables to display
var_lab_min_contrib	Contribution threshold to display points labels
point_size	base point size
labels_prepend_var	if TRUE, prepend variable names to labels
col_var	name of the variable for points color
symbol_var	name of the variable for points symbol
size_var	name of the variable for points size
size_range	points size range with format c(minimum, maximum)
zoom_callback	scatterD3 zoom callback JavaScript body
in_explor	wether the plot is to be displayed in the explor interface
...	Other arguments passed to scatterD3

PCA_ind_plot *Interactive PCA indivuals plot*

Description

This function generates an HTML widget displaying the individuals plot of a PCA result.

Usage

```
PCA_ind_plot(
  res,
  xax = 1,
  yax = 2,
  ind_sup = TRUE,
  ind_lab_min_contrib = 0,
  col_var = NULL,
  symbol_var = NULL,
  opacity_var = NULL,
  size_var = NULL,
  size_range = c(10, 300),
  lab_var = NULL,
  zoom_callback = NULL,
  in_explor = FALSE,
  ...
)
```

Arguments

res	Result of prepare_results() call
xax	Horizontal axis number
yax	Vertical axis number
ind_sup	TRUE to display supplementary individuals
ind_lab_min_contrib	Contribution threshold to display points labels
col_var	variable to be used for points color
symbol_var	name of the variable for points symbol
opacity_var	name of the variable for points opacity
size_var	name of the variable for points size
size_range	points size range with format c(minimum, maximum)
lab_var	variable to be used for points names
zoom_callback	scatterD3 zoom callback JavaScript body
in_explor	wether the plot is to be displayed in the explor interface
...	Other arguments passed to scatterD3

PCA_var_plot *Interactive PCA variables plot*

Description

This function generates an HTML widget displaying the variables plot of a PCA result.

Usage

```
PCA_var_plot(
  res,
  xax = 1,
  yax = 2,
  var_sup = TRUE,
  var_sup_choice = NULL,
  var_lab_min_contrib = 0,
  scale_unit = FALSE,
  col_var = NULL,
  size_var = NULL,
  zoom_callback = NULL,
  in_explor = FALSE,
  xlim = NULL,
  ylim = NULL,
  ...
)
```

Arguments

res	Result of prepare_results() call
xax	Horizontal axis number
yax	Vertical axis number
var_sup	TRUE to display supplementary variables
var_sup_choice	list of supplementary variables to display
var_lab_min_contrib	Contribution threshold to display points labels
scale_unit	wether the PCA is scaled
col_var	name of the variable for points color
size_var	name of the variable for points size
zoom_callback	scatterD3 zoom callback JavaScript body
in_explor	wether the plot is to be displayed in the explor interface
xlim	custom x axis limits
ylim	custom y axis limits
...	Other arguments passed to scatterD3

---

prepare_results *Analysis results preparation*

Description

This function prepares results to be used by explor. Not to be used directly.

Usage

```
prepare_results(obj)

## S3 method for class 'CA'
prepare_results(obj)

## S3 method for class 'mca'
prepare_results(obj)

## S3 method for class 'MCA'
prepare_results(obj)

## S3 method for class 'PCA'
prepare_results(obj)

## S3 method for class 'coa'
prepare_results(obj)
```

```
## S3 method for class 'acm'
prepare_results(obj)

## S3 method for class 'pca'
prepare_results(obj)

## S3 method for class 'prcomp'
prepare_results(obj)

## S3 method for class 'princomp'
prepare_results(obj)

## S3 method for class 'speMCA'
prepare_results(obj)

## S3 method for class 'textmodel_ca'
prepare_results(obj)
```

Arguments

obj	object containing analysis results

See Also

CA

mca

MCA

PCA

CA

dudi.acm

dudi.pca

prcomp

princomp

speMCA

textmodel_ca

---

speMCA_varsup *Compute supplementary variables data for a GDAtools::speMCA result*

Description

Compute supplementary variables data for a GDAtools::speMCA result

Usage

```
speMCA_varsup(mca, df)
```

Arguments

mca	result object from speMCA.
df	data frame with the supplementary variables data. Must have the same number of rows than the data used with speMCA.

Value

A list of results suitable to be added as a ‘supv‘ element to the ‘mca‘ object.

See Also

speMCA, varsup

Index