

Package ‘ggcorrplot’

May 19, 2019

Type Package

Title Visualization of a Correlation Matrix using 'ggplot2'

Version 0.1.3

Date 2019-05-19

Description The 'ggcorrplot' package can be used to visualize easily a correlation matrix using 'ggplot2'. It provides a solution for reordering the correlation matrix and displays the significance level on the plot. It also includes a function for computing a matrix of correlation p-values.

License GPL-2

LazyData TRUE

Encoding UTF-8

Depends ggplot2

Imports reshape2, stats

Suggests knitr, spelling

URL <http://www.sthda.com/english/wiki/ggcorrplot>

BugReports <https://github.com/kassambara/ggcorrplot/issues>

RoxygenNote 6.1.1

Language en-US

NeedsCompilation no

Author Alboukadel Kassambara [aut, cre]

Maintainer Alboukadel Kassambara <alboukadel.kassambara@gmail.com>

Repository CRAN

Date/Publication 2019-05-19 10:10:02 UTC

R topics documented:

ggcorrplot	2
Index	5

ggcorrplot

*Visualization of a correlation matrix using ggplot2***Description**

- `ggcorrplot()`: A graphical display of a correlation matrix using `ggplot2`.
- `cor_pmat()`: Compute a correlation matrix p-values.

Usage

```
ggcorrplot(corr, method = c("square", "circle"), type = c("full",
  "lower", "upper"), ggtheme = ggplot2::theme_minimal, title = "",
  show.legend = TRUE, legend.title = "Corr", show.diag = FALSE,
  colors = c("blue", "white", "red"), outline.color = "gray",
  hc.order = FALSE, hc.method = "complete", lab = FALSE,
  lab_col = "black", lab_size = 4, p.mat = NULL, sig.level = 0.05,
  insig = c("pch", "blank"), pch = 4, pch.col = "black",
  pch.cex = 5, tl.cex = 12, tl.col = "black", tl.srt = 45,
  digits = 2)
```

```
cor_pmat(x, ...)
```

Arguments

<code>corr</code>	the correlation matrix to visualize
<code>method</code>	character, the visualization method of correlation matrix to be used. Allowed values are "square" (default), "circle".
<code>type</code>	character, "full" (default), "lower" or "upper" display.
<code>ggtheme</code>	ggplot2 function or theme object. Default value is 'theme_minimal'. Allowed values are the official ggplot2 themes including theme_gray, theme_bw, theme_minimal, theme_classic, theme_void, Theme objects are also allowed (e.g., 'theme_classic()').
<code>title</code>	character, title of the graph.
<code>show.legend</code>	logical, if TRUE the legend is displayed.
<code>legend.title</code>	a character string for the legend title. lower triangular, upper triangular or full matrix.
<code>show.diag</code>	logical, whether display the correlation coefficients on the principal diagonal.
<code>colors</code>	a vector of 3 colors for low, mid and high correlation values.
<code>outline.color</code>	the outline color of square or circle. Default value is "gray".
<code>hc.order</code>	logical value. If TRUE, correlation matrix will be hc.ordered using hclust function.
<code>hc.method</code>	the agglomeration method to be used in hclust (see ?hclust).
<code>lab</code>	logical value. If TRUE, add correlation coefficient on the plot.

lab_col, lab_size	size and color to be used for the correlation coefficient labels. used when lab = TRUE.
p.mat	matrix of p-value. If NULL, arguments sig.level, insig, pch, pch.col, pch.cex is invalid.
sig.level	significant level, if the p-value in p-mat is bigger than sig.level, then the corresponding correlation coefficient is regarded as insignificant.
insig	character, specialized insignificant correlation coefficients, "pch" (default), "blank". If "blank", wipe away the corresponding glyphs; if "pch", add characters (see pch for details) on corresponding glyphs.
pch	add character on the glyphs of insignificant correlation coefficients (only valid when insig is "pch"). Default value is 4.
pch.col, pch.cex	the color and the cex (size) of pch (only valid when insig is "pch").
tl.cex, tl.col, tl.srt	the size, the color and the string rotation of text label (variable names).
digits	Decides the number of decimal digits to be displayed (Default: '2').
x	numeric matrix or data frame
...	other arguments to be passed to the function cor.test.

Value

- ggcorrplot(): Returns a ggplot2
- cor_pmat(): Returns a matrix containing the p-values of correlations

Examples

```
# Compute a correlation matrix
data(mtcars)
corr <- round(cor(mtcars), 1)
corr

# Compute a matrix of correlation p-values
p.mat <- cor_pmat(mtcars)
p.mat

# Visualize the correlation matrix
# -----
# method = "square" or "circle"
ggcorrplot(corr)
ggcorrplot(corr, method = "circle")

# Reordering the correlation matrix
# -----
# using hierarchical clustering
ggcorrplot(corr, hc.order = TRUE, outline.color = "white")

# Types of correlogram layout
```

```

# -----
# Get the lower triangle
ggcorrplot(corr,
  hc.order = TRUE, type = "lower",
  outline.color = "white"
)
# Get the upeper triangle
ggcorrplot(corr,
  hc.order = TRUE, type = "upper",
  outline.color = "white"
)

# Change colors and theme
# -----
# Argument colors
ggcorrplot(corr,
  hc.order = TRUE, type = "lower",
  outline.color = "white",
  ggtheme = ggplot2::theme_gray,
  colors = c("#6D9EC1", "white", "#E46726")
)

# Add correlation coefficients
# -----
# argument lab = TRUE
ggcorrplot(corr,
  hc.order = TRUE, type = "lower",
  lab = TRUE,
  ggtheme = ggplot2::theme_dark(),
)

# Add correlation significance level
# -----
# Argument p.mat
# Barring the no significant coefficient
ggcorrplot(corr,
  hc.order = TRUE,
  type = "lower", p.mat = p.mat
)
# Leave blank on no significant coefficient
ggcorrplot(corr,
  p.mat = p.mat, hc.order = TRUE,
  type = "lower", insig = "blank"
)

# Changing number of digits for correlation coefficient
# -----
ggcorrplot(corr(mtcars),
  type = "lower",
  insig = "blank",
  lab = TRUE,
  digits = 3
)

```

Index

`cor_pmat (ggcorrplot)`, 2

`ggcorrplot`, 2