Package 'ggsignif'

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Type Package

Title Significance Brackets for 'ggplot2'

Version 0.6.4

Description Enrich your 'ggplots' with group-wise comparisons.
This package provides an easy way to indicate if two groups are significantly different. Commonly this is shown by a bracket on top connecting the groups of interest which itself is annotated with the level of significance (NS, *, **, ***). The package provides a single layer (geom_signif()) that takes the groups for comparison and the test (t.test(), wilcox.text() etc.) as arguments and adds the annotation to the plot.

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URL https://const-ae.github.io/ggsignif/, https://github.com/const-ae/ggsignif

VignetteBuilder knitr

Encoding UTF-8

Language en-US

Imports ggplot2 (>= 3.3.5)

Suggests knitr, rmarkdown, testthat, vdiffr (>= 1.0.2)

RoxygenNote 7.2.1

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NeedsCompilation no

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Contents

`stat_signif` *Create significance layer*

Description

Create significance layer

Usage

```
stat_signif(
  mapping = NULL,
  data = NULL,
  position = "identity",
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE,
  comparisons = NULL,
  test = "wilcox.test",
  test.args = NULL,
  annotations = NULL,
  map_signif_level = FALSE,
  y_position = NULL,
  xmin = NULL,
  xmax = NULL,
  margin_top = 0.05,
  step_increase = 0,
  tip_length = 0.03,
  size = 0.5,
  textsize = 3.88,
  family = "",
  vjust = 0,
  parse = FALSE,
  manual = FALSE,
  orientation = NA,
  ...
)

geom_signif(
  mapping = NULL,
  data = NULL,
  stat = "signif",
  position = "identity",
```

```
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE,
  comparisons = NULL,
  test = "wilcox.test",
  test.args = NULL,
  annotations = NULL,
  map_signif_level = FALSE,
  y_position = NULL,
  xmin = NULL,
  xmax = NULL,
  margin_top = 0.05,
  step_increase = 0,
  extend_line = 0,
  tip_length = 0.03,
  size = 0.5,
  textsize = 3.88,
  family = "",
  vjust = 0,
  parse = FALSE,
  manual = FALSE,
  orientation = NA,
  ...
)
```

Arguments

mapping	Set of aesthetic mappings created by aes() or aes_(). If specified and inherit.aes = TRUE (the default), it is combined with the default mapping at the top level of the plot. You must supply mapping if there is no plot mapping.
data	The data to be displayed in this layer. There are three options: If NULL, the default, the data is inherited from the plot data as specified in the call to ggplot(). A data.frame, or other object, will override the plot data. All objects will be fortified to produce a data frame. See fortify() for which variables will be created. A function will be called with a single argument, the plot data. The return value must be a data.frame, and will be used as the layer data. A function can be created from a formula (e.g. ~ head(.x, 10)).
position	Position adjustment, either as a string, or the result of a call to a position adjustment function.
na.rm	If FALSE (the default), removes missing values with a warning. If TRUE silently removes missing values.
show.legend	logical. Should this layer be included in the legends? NA, the default, includes if any aesthetics are mapped. FALSE never includes, and TRUE always includes. It can also be a named logical vector to finely select the aesthetics to display.

inherit.aes	If FALSE, overrides the default aesthetics, rather than combining with them. This is most useful for helper functions that define both data and aesthetics and shouldn't inherit behaviour from the default plot specification, e.g. borders().
comparisons	A list of length-2 vectors. The entries in the vector are either the names of 2 values on the x-axis or the 2 integers that correspond to the index of the columns of interest.
test	the name of the statistical test that is applied to the values of the 2 columns (e.g. t.test, wilcox.test etc.). If you implement a custom test make sure that it returns a list that has an entry called p.value.
test.args	additional arguments for the test method
annotations	character vector with alternative annotations, if not null test is ignored
map_signif_level	Boolean value, if the p-value are directly written as annotation or asterisks are used instead. Alternatively one can provide a named numeric vector to create custom mappings from p-values to annotation: For example: c("***"=0.001, "**"=0.01, "*"=0.05). Alternatively, one can provide a function that takes a numeric argument (the p-value) and returns a string.
y_position	numeric vector with the y positions of the brackets
xmin, xmax	numeric vector with the positions of the left and right sides of the brackets, respectively
margin_top	numeric vector how much higher that the maximum value that bars start as fraction of total height
step_increase	numeric vector with the increase in fraction of total height for every additional comparison to minimize overlap.
tip_length	numeric vector with the fraction of total height that the bar goes down to indicate the precise column
size	change the width of the lines of the bracket
textsize	change the size of the text
family	change the font used for the text
vjust	move the text up or down relative to the bracket
parse	If TRUE, the labels will be parsed into expressions and displayed as described in ?plotmath.
manual	Boolean flag that indicates that the parameters are provided with a data.frame. This option is necessary if one wants to plot different annotations per facet.
orientation	The orientation of the layer. The default ('NA') automatically determines the orientation from the aesthetic mapping. In the rare event that this fails it can be given explicitly by setting 'orientation' to either "x" or "y"
...	other arguments passed on to layer. These are often aesthetics, used to set an aesthetic to a fixed value, like color = "red" or size = 3. They may also be parameters to the paired geom/stat.
stat	The statistical transformation to use on the data for this layer, as a string.
extend_line	Numeric that allows to shorten (negative values) or extend (positive value) the horizontal line between groups for each comparison; defaults to 0.

Examples

```
## Not run:
library(ggplot2)
library(ggsignif)

ggplot(mpg, aes(class, hwy)) +
  geom_boxplot() +
  geom_signif(comparisons = list(
    c("compact", "pickup"),
    c("subcompact", "suv")
  ))

ggplot(mpg, aes(class, hwy)) +
  geom_boxplot() +
  geom_signif(
    comparisons = list(
      c("compact", "pickup"),
      c("subcompact", "suv")
    ),
    map_signif_level = function(p) sprintf("p = %.2g", p)
  )

ggplot(mpg, aes(class, hwy)) +
  geom_boxplot() +
  geom_signif(
    annotations = c("First", "Second"),
    y_position = c(30, 40), xmin = c(4, 1), xmax = c(5, 3)
  )

## End(Not run)
```

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