Package 'ggplot.multistats'

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Title Multiple Summary Statistics for Binned Stats/Geometries

Version 1.0.1

Description Provides the ggplot binning layer stat_summaries_hex(),
which functions similar to its singular form,
but allows the use of multiple statistics per bin.
Those statistics can be mapped to multiple bin aesthetics.

URL https://github.com/flying-sheep/ggplot.multistats

BugReports https://github.com/flying-sheep/ggplot.multistats/issues

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Encoding UTF-8

Imports methods, rlang, scales, hexbin, ggplot2 (>= 3.3.0)

RoxygenNote 7.2.3

NeedsCompilation no

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Repository CRAN

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draw_key_hexagon *Draw a Hexagon*

Description

The default legend key drawing function for `stat_summaries_hex`. This function can be used as `key_glyph` parameter by any layer.

Usage

```
draw_key_hexagon(data, params, size)
```

Arguments

`data`	A single row data frame containing the scaled aesthetics to display in this key
`params`	A list of additional parameters supplied to the geom.
`size`	Width and height of key in mm.

Value

A hexagonal `polygonGrob`.

See Also

The legend key drawing functions built into ggplot: `draw_key`.

Examples

```
library(ggplot2)
ggplot(iris, aes(Sepal.Length, Sepal.Width)) +
  geom_hex(key_glyph = 'hexagon') +
  guides(fill = 'legend')
```

normalize_function_list *Normalize a List of Functions*

Description

Takes a list of functions and function names (or a vector of function names) and names it. Requires all entries with functions to be named and adds names to functions that were specified as names.

Usage

```
normalize_function_list(funs)
```

Arguments

`funs`	Valid list or vector of function names and/or functions.

Value

Named list or character vector of functions.

Examples

```
normalize_function_list(c(value = 'mean'))
normalize_function_list(c('median', n = 'length'))
normalize_function_list(list('median', n = length))
normalize_function_list(list(Sum = sum, Custom = function(x) sum(nchar(as.character(x)))))
```

`stat_summaries_hex` *Multi-Stat Binning Layer*

Description

Very similar to `stat_summary_hex`, but allows for multiple stats to be captured using the `funs` parameter.

Usage

```
stat_summaries_hex(
  mapping = NULL,
  data = NULL,
  geom = "hex",
  position = "identity",
  ...,
  bins = 30,
  binwidth = NULL,
  drop = TRUE,
  funs = c(value = "mean"),
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE,
  key_glyph = NULL
)

StatSummariesHex
```

Arguments

mapping	Set of aesthetic mappings created by 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)).
geom	The geometric object to use to display the data, either as a ggproto Geom subclass or as a string naming the geom stripped of the geom_ prefix (e.g. "point" rather than "geom_point")
position	Position adjustment, either as a string naming the adjustment (e.g. "jitter" to use position_jitter), or the result of a call to a position adjustment function. Use the latter if you need to change the settings of the adjustment.
...	Other arguments passed on to layer(). These are often aesthetics, used to set an aesthetic to a fixed value, like colour = "red" or size = 3. They may also be parameters to the paired geom/stat.
bins	numeric vector giving number of bins in both vertical and horizontal directions. Set to 30 by default.
binwidth	Numeric vector giving bin width in both vertical and horizontal directions. Overrides bins if both set.
drop	drop if the output of fun is NA.
funs	A list or vector of functions and function names. See normalize_function_list for details.
na.rm	If FALSE, the default, missing values are removed with a warning. If TRUE, missing values are silently removed.
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().
key_glyph	A legend key drawing function or a string providing the function name minus the draw_key_ prefix. The default is draw_key_hexagon.

Format

An object of class StatSummariesHex (inherits from Stat, ggproto, gg) of length 4.

See Also

normalize_function_list for the funs parameter and draw_key_hexagon for the legend entry.

Examples

```
library(ggplot2)
# Define the variable used for the stats using z
ggplot_base <- ggplot(iris, aes(Sepal.Width, Sepal.Length, z = Petal.Width))
# The default is creating `after_stat(value)` containing the mean
ggplot_base + stat_summaries_hex(aes(fill = after_stat(value)), bins = 5)
# but you can specify your own stats
ggplot_base + stat_summaries_hex(
  aes(fill = after_stat(median), alpha = after_stat(n)),
  funs = c('median', n = 'length'),
  bins = 5)
```

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