Package ‘cytofan’

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cytofan

cytofan: An implementation of Fan plots in ggplot2.

Description


do_fan

Compute summary statistics for stat_fan

Description

Extracts the limits of the Ntiles of a distribution for use in the stat_fan function

Usage

do_fan(x, step = 0.01)

Arguments

x the value to summarize
step the number of bins to break the data into, based on the quantile function

Value

a data.frame containing

- ymin: the lower limit of the quantile
- ymax: the upper limit of the quantile
- id: an identifier for the quantile
- percent: the fill colour to use in geom_fan

Examples

FanEuStockMarkets <- lapply(colnames(EuStockMarkets), function(id) {
  res <- do_fan(EuStockMarkets[, id])
  res$id <- id
  return(res)
})
FanEuStockMarkets <- do.call(rbind, FanEuStockMarkets)
**geom_fan**  
Fan plots for trend and population visualizations

**Description**
Visualise the distribution of continuous variables by dividing each variables into a fixed number of bins and returning the bin limits. In fan plots (`geom_fan`) bins are grouped over all variables and colored after their distance from the center bin, which corresponds to the median. The center bin corresponds to the strongest shade of `colorbase`, while other bins get decreasing shades.

**Usage**
```
geom_fan(mapping = NULL, data = NULL, position = "identity",  
    na.rm = FALSE, show.legend = NA, inherit.aes = TRUE, step = 0.01,  
    colorbase = "Oranges", ...)  
```
```
stat_fan(mapping = NULL, data = NULL, geom = NULL,  
    position = "identity", na.rm = FALSE, show.legend = NA,  
    inherit.aes = TRUE, step = 0.01, ...)  
```

**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.
- **position** Position adjustment, either as a string, or the result of a call to a position adjustment function.
- **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()`.
- **step** the number of quantiles to use to compute bins
colorbase  the colors to use to draw the ribbon. defaults to RColorBrewer ‘Oranges’. See `brewer.pal` for details.

...  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.

geom  The geometric object to use display the data

Details

‘stat_fan’ is suitable only for continuous y data. Moreover, if you have less than ‘1/step’ points you might need to adjust the ‘step’ parameter.

Computed variables

- `ymin`  the lower limit of the quantile
- `ymax`  the upper limit of the quantile
- `id`  an identifier for the quantile
- `percent`  the fill color to use in `geom_fan`

Examples

```r
# reformat dataset from short-wide to tall-skinny
EuStockMarkets_ts <- lapply(colnames(EuStockMarkets),function(id) {
  data.frame(id=id,value=as.numeric(EuStockMarkets[,id]))
})
EuStockMarkets_ts <- do.call('rbind',EuStockMarkets_ts)

# plot the distribution of the different stock markets
ggplot(EuStockMarkets_ts,aes(x=id,y=value))+
  geom_fan()

# Change the step
ggplot(EuStockMarkets_ts,aes(x=id,y=value))+
  geom_fan(step=0.05)

# change the default color
ggplot(EuStockMarkets_ts,aes(x=id,y=value))+
  geom_fan(colorbase='Greens')

# any valid RColorBrewer palette will work
ggplot(EuStockMarkets_ts,aes(x=id,y=value))+
  geom_fan(colorbase='RdYlGn')
```

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