Package ‘tidydr’
March 16, 2022

Title Unify Dimensionality Reduction Results
Version 0.0.4
Description Dimensionality reduction (DR) is widely used in many domain for analyzing and visual-
ing high-dimensional data. ‘tidydr’ provides uniform output and is compatible with multi-
ple methods, including ‘prcomp’, ‘mds’, ‘Rtsne’. etc.
Imports ggplot2, grid, rlang, utils
Suggests knitr, rmarkdown, prettydoc
VignetteBuilder knitr
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### available_methods

*List dimensionality reduction methods currently available*

**Description**

This function shows available methods that worked for `dr()` function.

**Usage**

```r
available_methods(method = "all")
```

**Arguments**

- `method`
  - one of `"data"`, `"distance"` or `"all"` (default)

**Value**

A character vector of available DR methods

**Author(s)**

Lang Zhou and Guangchuang Yu

**Examples**

```r
available_methods()
```

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### dr

**Description**

*dimensional reduction*

**Usage**

```r
dr(data, fun, ...)
```

**Arguments**

- `data`
  - input data
- `fun`
  - function to perform dimensional reduction
- `...`
  - additional parameters passed to `fun`
dr_extract  

Details  
This function call the user-provided function ('fun') to perform dimensional reduction on the input data ('data')  

Value  
a DrResult object, which contains 'data' (original data), 'drdata' (coordination after dimensionality reduction), eigenvalue (standard deviation explained by each dimension) and stress (evaluate the effect of dimensionality reduction)  

Author(s)  
Guangchuang Yu  

Examples  
x = dr(iris[,1:4], prcomp)  
autoplot(x, aes(color=.group), metadata=iris$Species)
Description

element_line2 for drawing shorten axis lines

Usage

element_line2(
  colour = NULL,
  size = NULL,
  linetype = NULL,
  lineend = NULL,
  color = NULL,
  arrow = NULL,
  inherit.blank = FALSE,
  id,
  xlength = 0.3,
  ylength = 0.3,
  ...
)

Arguments

colour  line colour
size    line size in pts
linetype line type
lineend line end style (round, butt, square)
color   alias to colour
arrow   arrow specification, as created by 'grid::arrow()'
inherit.blank whether inherit 'element_blank'
id      1 or 2, 1 for axis.line.x.bottom and 2 for axis.line.y.left, only these two axes supported
xlength length of x axis
ylength length of y axis
...      additional parameters

Value

element_line2 object, which is a tailored element_line object

Author(s)

Guangchuang Yu
**theme_dr**

**Description**

Dimensional reduction scatter plot axis theme

**Usage**

```r
theme_dr(
  xlength = 0.3,
  ylength = 0.3,
  arrow = grid::arrow(length = unit(0.15, "inches"), type = "closed")
)
```

**Arguments**

- `xlength` length of x axis
- `ylength` length of y axis
- `arrow` arrow specification, as created by `grid::arrow()`

**Value**

a theme object with shorten axes

**Author(s)**

Guangchuang Yu

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**theme_noaxis**

**Description**

theme that remove axis

**Usage**

```r
theme_noaxis(...)```

**Arguments**

- `...` additional theme setting
**Value**

a theme object that disable axes

**Author(s)**

Guangchuang Yu
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