Package ‘tidydr’

March 8, 2023

Title Unify Dimensionality Reduction Results
Version 0.0.5
Description Dimensionality reduction (DR) is widely used in many domain for analyzing and visualizing high-dimensional data. ‘tidydr’ provides uniform output and is compatible with multiple methods, including 'prcomp', 'mds', 'Rtsne'. etc.

Imports ggfun, ggplot2, grid, rlang, utils
Suggests knitr, rmarkdown, prettydoc, SingleCellExperiment, SummarizedExperiment

VignetteBuilder knitr
ByteCompile true
License Artistic-2.0
URL https://github.com/YuLab-SMU/tidydr/
BugReports https://github.com/YuLab-SMU/tidydr/issues
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available_methods  
List dimensionality reduction methods currently available

Description
This function shows available methods that worked for \texttt{dr()} function.

Usage
\texttt{available\_methods(method = \textasciitilde all\textasciitilde)}

Arguments
\begin{itemize}
  \item \texttt{method} one of \texttt{\`data\textquoteleft}, \texttt{\`distance\textquoteleft} or \texttt{\`all\textquoteleft} (default)
\end{itemize}

Value
A character vector of available DR methods

Author(s)
Lang Zhou and Guangchuang Yu

Examples
\texttt{available\_methods()}

\texttt{dr} \hfill \texttt{dr}

Description
dimensional reduction

Usage
\texttt{dr(data, fun, \ldots)}

Arguments
\begin{itemize}
  \item \texttt{data} input data
  \item \texttt{fun} function to perform dimensional reduction
  \item \ldots additional parameters passed to \texttt{\`fun\textquoteleft}}
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

dr_extract generic

Usage

dr_extract(result)

Arguments

result DrResult object

Value

a list that contains components to construct a 'DrResult' object.

Author(s)

Guangchuang Yu
element_line2

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'
ids     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

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

theme_noaxis

Description

theme that remove axis

Usage

theme_noaxis(...) 

Arguments

  ...  additional theme setting
Value

a theme object that disable axes

Author(s)

Guangchuang Yu
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