

Package ‘vizdraws’

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Title Visualize Draws from the Prior and Posterior Distributions

Version 2.0.0

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Description Interactive visualization for Bayesian prior and posterior distributions.

This package facilitates an animated transition between prior and posterior distributions. Additionally, it splits the distribution into bars based on the provided 'breaks,' displaying the probability for each region. If no 'breaks' are provided, it defaults to zero.

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Encoding UTF-8

URL <https://github.com/ignacio82/vizdraws/>
<https://vizdraws.martinez.fyi/>,
<https://github.com/ignacio82/vizdraws>

Imports dplyr, htmlwidgets, magrittr, stats, stringr

Suggests glue, knitr, rmarkdown

RoxygenNote 7.2.3

VignetteBuilder knitr

BugReports <https://github.com/ignacio82/vizdraws/issues>

NeedsCompilation no

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Repository CRAN

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lollipops	<i>Visualize Probabilities using a Lollipop Chart</i>
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Description

This function creates a lollipop chart to visualize probabilities.

Usage

```
lollipops(  
  data,  
  plotBackgroundColor = "white",  
  plotBackgroundOpacity = 0.8,  
  title = "Probability of an impact",  
  leftArea = "Negative",  
  rightArea = "Positive",  
  mediumText = 18,  
  bigText = 28,  
  width = NULL,  
  height = NULL,  
  elementId = NULL,  
  logoPath = NULL,  
  logoSize = 100,  
  logoLocation = c("bottom-left", "top-left", "top-right", "bottom-right"),  
  rightAreaText = "A positive impact is not necesarly a large impact.",  
  leftAreaText = "A negative impact is not necesarly a large impact."  
)
```

Arguments

data	A data frame containing the probabilities to visualize.
plotBackgroundColor	The background color of the plot.
plotBackgroundOpacity	The opacity of the plot background.
title	The title of the plot.
leftArea	The label for the left area of the plot.
rightArea	The label for the right area of the plot.
mediumText	The font size for medium text elements.
bigText	The font size for big text elements.
width	The width of the widget (optional).
height	The height of the widget (optional).
elementId	The element ID of the widget (optional).

logoPath	Logo path. Defaults to NULL.
logoSize	Logo size. Defaults to FALSE.
logoLocation	Logo location. c('bottom-right', 'top-left', 'top-right', 'bottom-left').
rightAreaText	The tooltip text for the right area of the plot.
leftAreaText	The tooltip text for the left area of the plot.

Details

The data frame should have three columns: 'name', 'value', and 'color'. The 'name' column specifies the names of the data points, while the 'value' column specifies the corresponding probabilities. The 'color' column specifies the color of each lollipop.

Value

A HTML widget object representing the lollipop chart.

Examples

```
data <- data.frame(
  Name = c("Outcome 1", "Outcome 2", "Outcome 3"),
  Prior = c(0.5, 0.5, 0.5),
  Posterior = c(0.2, 0.6, 0.9)
)
lollipops(data,
  logoPath = 'https://upload.wikimedia.org/wikipedia/commons/b/b8/YouTube_Logo_2017.svg',
  logoLocation = 'bottom-left')
```

vizdraws

vizdraws

Description

Visualize Draws from Prior or Posterior Distributions

Usage

```
vizdraws(
  prior = NULL,
  posterior = NULL,
  MME = 0,
  threshold = NULL,
  units = NULL,
  quantity = FALSE,
  tense = c("future", "past"),
  backgroundColor = "#FFFFFF",
  backgroundOpacity = 0.9,
```

```

xlab = NULL,
breaks = NULL,
break_names = NULL,
colors = NULL,
width = NULL,
height = NULL,
xlim = NULL,
font_scale = 1,
display_mode_name = FALSE,
title = "",
stop_trans = FALSE,
percentage = FALSE,
elementId = NULL,
logoPath = NULL,
logoSize = 100,
logolocation = c("bottom-right", "top-left", "top-right", "bottom-left")
)

```

Arguments

prior	(optional) Prior distribution or draws from it. Supported distributions: 'Normal', 'uniform', 'beta', and 'gamma'. Provide either this or the posterior.
posterior	(optional) Draws from the posterior distribution. Provide either this or the prior.
MME	Minimum meaningful effect. If not provided, MME is set to zero.
threshold	If the probability is greater than this threshold, a decision is considered comfortable.
units	Optional argument to specify the units of x (e.g., dollars or applications).
quantity	Defaults to FALSE. When set to true, the text will reflect predicting a quantity rather than a treatment effect.
tense	Either "future" or "past." This is the tense used in the description if quantity is set to TRUE. NULL.
backgroundColor	Defaults to '#FFFFFF'.
backgroundOpacity	Defaults to 0.9.
xlab	Defaults to NULL.
breaks	Defaults to NULL.
break_names	Defaults to NULL.
colors	Colors for the left, middle, and right areas. Defaults to c("#e41a1c", "#377eb8", "#4daf4a").
width	Width for shiny.
height	Height for shiny.
xlim	Defaults to NULL.
font_scale	Defaults to 1.

display_mode_name	Defaults to FALSE.
title	Defaults to ''.
stop_trans	Defaults to FALSE. When set to true, the initial transition stops at posterior density.
percentage	Defaults to FALSE. When set to true, the x-axis tick format will be set to percentage.
elementId	Use an explicit element ID for the widget (rather than an automatically generated one). elementID for shiny.
logoPath	Logo path. Defaults to NULL.
logoSize	Logo size. Defaults to FALSE.
logoLocation	Logo location. c('bottom-right', 'top-left', 'top-right', 'bottom-left').

Details

A function to visualize draws from either the prior or posterior distribution, facilitating interpretation and decision-making.

Value

A HTML widget object.

Examples

```
if(interactive()){
  set.seed(9782)
  library(vizdraws)
  vizdraws(prior = rnorm(100000))
}
```

vizdraws-shiny

Shiny bindings for vizdraws

Description

Output and render functions for using vizdraws within Shiny applications and interactive Rmd documents.

Usage

```
vizdrawsOutput(outputId, width = "100%", height = "100%")

rendervizdraws(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

outputId	output variable to read from
width, height	Must be a valid CSS unit (like '100%', '400px', 'auto') or a number, which will be coerced to a string and have 'px' appended.
expr	An expression that generates a vizdraws
env	The environment in which to evaluate expr.
quoted	Is expr a quoted expression (with quote())? This is useful if you want to save an expression in a variable.

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