Package 'vizdraws'

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Title Visualize Draws from the Prior and Posterior Distributions

Version 2.0.0

Date 2024-01-10

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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R topics documented:

`lollipops` *Visualize Probabilities using a Lollipop Chart*

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')
```

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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))
}
```

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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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