Package 'WeibullR.plotly'

July 17, 2025

Type Package

Title Interactive Weibull Probability Plots

Version 0.3.1

Description Build interactive Weibull Probability
Plots with 'WeibullR' by David Silkworth and Jurgen Symynck (2022)
<https://CRAN.R-project.org/package=WeibullR>, an R package for
Weibull analysis, and 'plotly' by Carson Sievert (2020) <https://plotly-r.com>,
an interactive web-based graphing library.

URL https://paulgovan.github.io/WeibullR.plotly/,
https://github.com/paulgovan/WeibullR.plotly

BugReports https://github.com/paulgovan/WeibullR.plotly/issues

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Imports plotly, ReliaGrowR, WeibullR

Suggests knitr, rmarkdown, spelling, testthat (>= 3.0.0),
WeibullR.learnr, WeibullR.shiny

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Author Paul Govan [aut, cre, cph] (ORCID:
<https://orcid.org/0000-0002-1821-8492>)

Maintainer Paul Govan <paul.govan2@gmail.com>

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Contents

`plotly_contour` *Interactive Contour Plot*

Description

This function creates an interactive contour plot for one or more ‘wblr‘ objects, each assumed to have confidence contours generated via ‘method.conf = ’lrb’‘. The function overlays all contours in a single plot and displays their respective MLE point estimates.

Usage

```
plotly_contour(
  wblr_obj,
  main = "Contour Plot",
  xlab = "Eta",
  ylab = "Beta",
  showGrid = TRUE,
  cols = NULL,
  gridCol = "lightgray",
  signif = 3
)
```

Arguments

`wblr_obj`	A single ‘wblr‘ object or a list of ‘wblr‘ objects.
`main`	Main title for the plot.
`xlab`	X-axis label (typically Eta or Sigmalog).
`ylab`	Y-axis label (typically Beta or Mulog).
`showGrid`	Logical; whether to show grid lines (default TRUE).
`cols`	Optional vector of colors for each contour/estimate pair. If not provided, colors are chosen from a default palette.
`gridCol`	Color of the grid lines (default ’lightgray’).
`signif`	Number of significant digits to display for estimates and contour coordinates.

Value

A ‘plotly‘ object representing the interactive contour plot.

Examples

```
library(WeibullR)
library(WeibullR.plotly)

failures1 <- c(30, 49, 82, 90, 96)
failures2 <- c(20, 40, 60, 80, 100)
obj1 <- wblr.conf(wblr.fit(wblr(failures1), method.fit = 'mle'), method.conf = 'lrb')
obj2 <- wblr.conf(wblr.fit(wblr(failures2), method.fit = 'mle'), method.conf = 'lrb')
plotly_contour(list(obj1, obj2), main = "Overlayed Contours")
```

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plotly_duane *Interactive Duane Plot.*

Description

This function creates an interactive Duane plot for a duane object.

Usage

```
plotly_duane(
  duane_obj,
  showGrid = TRUE,
  main = "Duane Plot",
  xlab = "Cumulative Time",
  ylab = "Cumulative MTBF",
  pointCol = "black",
  fitCol = "black",
  gridCol = "lightgray"
)
```

Arguments

duane_obj	An object of class 'duane'.
showGrid	Show grid (TRUE) or hide grid (FALSE).
main	Main title.
xlab	X-axis label.
ylab	Y-axis label.
pointCol	Color of the point values.
fitCol	Color of the model fit.
gridCol	Color of the grid.

Value

The function returns no value.

Examples

```
library(ReliaGrowR)
times<-c(100, 200, 300, 400, 500)
failures<-c(1, 2, 1, 3, 2)
fit<-duane_plot(times, failures)
plotly_duane(fit)
```

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plotly_rga *Interactive Reliability Growth Plot.*

Description

This function creates an interactive reliability growth plot for an rga object.

Usage

```
plotly_rga(
  rga_obj,
  showConf = TRUE,
  showGrid = TRUE,
  main = "Reliability Growth Plot",
  xlab = "Cumulative Time",
  ylab = "Cumulative Failures",
  pointCol = "black",
  fitCol = "black",
  confCol = "black",
  gridCol = "lightgray",
  breakCol = "black"
)
```

Arguments

rga_obj	An object of class 'rga'.
showConf	Show the confidence bounds (TRUE) or not (FALSE).
showGrid	Show grid (TRUE) or hide grid (FALSE).
main	Main title.
xlab	X-axis label.
ylab	Y-axis label.
pointCol	Color of the point values.
fitCol	Color of the model fit.
confCol	Color of the confidence bounds.
gridCol	Color of the grid.
breakCol	Color of the breakpoints.

Value

The function returns no value.

Examples

```
library(ReliaGrowR)
times<-c(100, 200, 300, 400, 500)
failures<-c(1, 2, 1, 3, 2)
rga<-rga(times, failures)
plotly_rga(rga)
```

`plotly_wblr` *Interactive Probability Plot.*

Description

This function creates an interactive probability plot for a wblr object.

Usage

```
plotly_wblr(
  wblr_obj,
  susp = NULL,
  showConf = TRUE,
  showSusp = TRUE,
  showRes = TRUE,
  showGrid = TRUE,
  main = "Probability Plot",
  xlab = "Time to Failure",
  ylab = "Probability",
  probCol = "black",
  fitCol = "black",
  confCol = "black",
  intCol = "black",
  gridCol = "lightgray",
  signif = 3
)
```

Arguments

`wblr_obj`	An object of class 'wblr'.
`susp`	An optional numeric vector of suspension data.
`showConf`	Show the confidence bounds (TRUE) or not (FALSE).
`showSusp`	Show the suspensions plot (TRUE) or not (FALSE).
`showRes`	Show the results table (TRUE) or not (FALSE).
`showGrid`	Show grid (TRUE) or hide grid (FALSE).

main	Main title.
xlab	X-axis label.
ylab	Y-axis label.
probCol	Color of the probability values.
fitCol	Color of the model fit.
confCol	Color of the confidence bounds.
intCol	Color of the intervals for interval censored models.
gridCol	Color of the grid.
signif	Significant digits of results

Value

The function returns no value.

Examples

```
library(WeibullR)
library(WeibullR.plotly)
failures<-c(30, 49, 82, 90, 96)
obj<-wblr.conf(wblr.fit(wblr(failures)))
plotly_wblr(obj)
```

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