Package 'jskm'

June 12, 2025

Title Kaplan-Meier Plot with 'ggplot2'

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Description The function 'jskm()' creates publication quality Kaplan-Meier plot with at risk tables below. 'svyjskm()' provides plot for weighted Kaplan-Meier estimator.

Depends R (>= 3.4.0)

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Encoding UTF-8

Imports ggplot2, ggpubr, survival, survey, scales, patchwork, cmprsk, stats

RoxygenNote 7.3.2

URL https://github.com/jinseob2kim/jskm, https://jinseob2kim.github.io/jskm/

BugReports https://github.com/jinseob2kim/jstable/issues

Suggests testthat, knitr, rmarkdown

VignetteBuilder knitr

NeedsCompilation no

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Contents

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jskm *Creates a Kaplan-Meier plot for survfit object.*

Description

Creates a Kaplan-Meier plot with at risk tables below for survfit object.

Usage

```
jskm(
  sfit,
  table = FALSE,
  table.censor = FALSE,
  xlabs = "Time-to-event",
  ylabs = NULL,
  xlims = c(0, max(sfit$time)),
  ylims = c(0, 1),
  surv.scale = c("default", "percent"),
  ystratalabs = NULL,
  ystrataname = "Strata",
  timeby = signif(max(sfit$time)/7, 1),
  main = "",
  pval = FALSE,
  pval.size = 5,
  pval.coord = c(NULL, NULL),
  pval.testname = T,
  marks = TRUE,
  shape = 3,
  med = FALSE,
  legend = TRUE,
  legendposition = c(0.85, 0.8),
  ci = FALSE,
  subs = NULL,
  label.nrisk = "Numbers at risk",
  size.label.nrisk = 10,
  linecols = "Set1",
  dashed = FALSE,
  cumhaz = F,
  cluster.option = "None",
  cluster.var = NULL,
  data = NULL,
  cut.landmark = NULL,
  showpercent = F,
  status.cmprsk = NULL,
  linewidth = 0.75,
  theme = NULL,
```

```
  nejm.infigure.ratiow = 0.6,
  nejm.infigure.ratioh = 0.5,
  nejm.infigure.ylim = c(0, 1),
  surv.by = NULL,
  nejm.surv.by = NULL,
  hr = FALSE,
  hr.size = 5,
  hr.coord = c(NULL, NULL),
  hr.testname = F,
  ...
)
```

Arguments

sfit	a survfit object
table	logical: Create a table graphic below the K-M plot, indicating at-risk numbers?
table.censor	logical: Add numbers of censored in table graphic
xlabs	x-axis label
ylabs	y-axis label
xlims	numeric: list of min and max for x-axis. Default = c(0,max(sfit$time))
ylims	numeric: list of min and max for y-axis. Default = c(0,1)
surv.scale	scale transformation of survival curves. Allowed values are "default" or "percent".
ystratalabs	character list. A list of names for each strata. Default = names(sfit$strata)
ystrataname	The legend name. Default = "Strata"
timeby	numeric: control the granularity along the time-axis; defaults to 7 time-points. Default = signif(max(sfit$time)/7, 1)
main	plot title
pval	logical: add the pvalue to the plot?
pval.size	numeric value specifying the p-value text size. Default is 5.
pval.coord	numeric vector, of length 2, specifying the x and y coordinates of the p-value. Default values are NULL
pval.testname	logical: add '(Log-rank)' text to p-value. Default = F
marks	logical: should censoring marks be added?
shape	what shape should the censoring marks be, default is a vertical line
med	should a median line be added to the plot? Default = F
legend	logical. should a legend be added to the plot?
legendposition	numeric. x, y position of the legend if plotted. Default=c(0.85,0.8)
ci	logical. Should confidence intervals be plotted. Default = FALSE
subs	= NULL,
label.nrisk	Numbers at risk label. Default = "Numbers at risk"

`size.label.nrisk`
: Font size of label.nrisk. Default = 10

`linecols`
: Character or Character vector. Colour brewer pallettes too colour lines. Default ="Set1", "black" for black with dashed line, character vector for the customization of line colors.

`dashed`
: logical. Should a variety of linetypes be used to identify lines. Default = FALSE

`cumhaz`
: Show cumulative incidence function, Default: F

`cluster.option`
: Cluster option for p value, Option: "None", "cluster", "frailty", Default: "None"

`cluster.var`
: Cluster variable

`data`
: select specific data - for reactive input, Default = NULL

`cut.landmark`
: cut-off for landmark analysis, Default = NULL

`showpercent`
: Shows the percentages on the right side.

`status.cmprsk`
: Status value when competing risk analysis, Default = 2nd level of status variable

`linewidth`
: Line witdh, Default = 0.75

`theme`
: Theme of the plot, Default = NULL, "nejm" for NEJMOA style, "jama" for JAMA style

`nejm.infigure.ratiow`
: Ratio of infigure width to total width, Default = 0.6

`nejm.infigure.ratioh`
: Ratio of infigure height to total height, Default = 0.5

`nejm.infigure.ylim`
: y-axis limit of infigure, Default = c(0,1)

`surv.by`
: breaks unit in y-axis, default = NULL(ggplot default)

`nejm.surv.by`
: breaks unit in y-axis in nejm figure, default = NULL(ggplot default)

`hr`
: logical: add the hazard ratio to the plot?

`hr.size`
: numeric value specifying the HR text size. Default is 5.

`hr.coord`
: numeric vector, of length 2, specifying the x and y coordinates of the p-value. Default values are NULL

`hr.testname`
: logical: add '(Log-rank)' text to p-value. Default = F

`...`
: PARAM_DESCRIPTION

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Author(s)

Jinseob Kim, but heavily modified version of a script created by Michael Way. https://github.com/michaelway/ggkm/ I have packaged this function, added functions to namespace and included a range of new parameters.

Examples

```
library(survival)
data(colon)
fit <- survfit(Surv(time, status) ~ rx, data = colon)
jskm(fit, timeby = 500)
```

`svyjskm` *Creates a Weighted Kaplan-Meier plot - svykm.object in survey package*

Description

Creates a Weighted Kaplan-Meier plot - svykm.object in survey package

Usage

```
svyjskm(
  sfit,
  theme = NULL,
  xlabs = "Time-to-event",
  ylabs = "Survival probability",
  xlims = NULL,
  ylims = c(0, 1),
  ystratalabs = NULL,
  ystrataname = NULL,
  surv.scale = c("default", "percent"),
  timeby = NULL,
  main = "",
  pval = FALSE,
  pval.size = 4,
  pval.coord = c(NULL, NULL),
  pval.testname = F,
  marks = FALSE,
  hr = FALSE,
  hr.size = 2,
  hr.coord = c(NULL, NULL),
  med = FALSE,
  legend = TRUE,
  legendposition = c(0.85, 0.8),
  ci = NULL,
  linecols = "Set1",
  dashed = FALSE,
  cumhaz = F,
  design = NULL,
  subs = NULL,
  table = F,
  table.censor = F,
```

```
  label.nrisk = "Numbers at risk",
  size.label.nrisk = 10,
  cut.landmark = NULL,
  showpercent = F,
  linewidth = 0.75,
  nejm.infigure.ratiow = 0.6,
  nejm.infigure.ratioh = 0.5,
  nejm.infigure.ylim = c(0, 1),
  surv.by = NULL,
  nejm.surv.by = NULL,
  ...
)
```

Arguments

sfit	a svykm object
theme	Theme of the plot, Default = NULL, "nejm" for NEJMOA style, "jama" for JAMA style
xlabs	x-axis label, Default: 'Time-to-event'
ylabs	y-axis label.
xlims	numeric: list of min and max for x-axis. Default: NULL
ylims	numeric: list of min and max for y-axis. Default: c(0, 1)
ystratalabs	character list. A list of names for each strata. Default: NULL
ystrataname	The legend name. Default: 'Strata'
surv.scale	scale transformation of survival curves. Allowed values are "default" or "percent".
timeby	numeric: control the granularity along the time-axis; defaults to 7 time-points.
main	plot title, Default: ''
pval	logical: add the pvalue to the plot?, Default: FALSE
pval.size	numeric value specifying the p-value text size. Default is 4.
pval.coord	numeric vector, of length 2, specifying the x and y coordinates of the p-value. Default values are NULL
pval.testname	logical: add '(Log-rank)' text to p-value. Default = F
marks	logical: should censoring marks be added?
hr	logical: add the Hazard Ratio to the plot?, Default: FALSE
hr.size	numeric value specifying the Hazard Ratio text size. Default is 2.
hr.coord	numeric vector, of length 2, specifying the x and y coordinates of the Hazard Ratio. Default values are NULL
med	should a median line be added to the plot? Default = F
legend	logical. should a legend be added to the plot?
legendposition	numeric. x, y position of the legend if plotted. Default=c(0.85,0.8)
ci	logical. Should confidence intervals be plotted. Default = NULL

linecols	Character or Character vector. Colour brewer pallettes too colour lines. Default ="Set1", "black" for black with dashed line, character vector for the customization of line colors.
dashed	logical. Should a variety of linetypes be used to identify lines. Default: FALSE
cumhaz	Show cumulaive incidence function, Default: F
design	Data design for reactive design data , Default: NULL
subs	= NULL,
table	logical: Create a table graphic below the K-M plot, indicating at-risk numbers?
table.censor	logical: Add numbers of censored in table graphic
label.nrisk	Numbers at risk label. Default = "Numbers at risk"
size.label.nrisk	Font size of label.nrisk. Default = 10
cut.landmark	cut-off for landmark analysis, Default = NULL
showpercent	Shows the percentages on the right side.
linewidth	Line witdh, Default = 0.75
nejm.infigure.ratiow	Ratio of infigure width to total width, Default = 0.6
nejm.infigure.ratioh	Ratio of infigure height to total height, Default = 0.5
nejm.infigure.ylim	y-axis limit of infigure, Default = c(0,1)
surv.by	breaks unit in y-axis, default = NULL(ggplot default)
nejm.surv.by	breaks unit in y-axis in nejm figure, default = NULL(ggplot default)
...	PARAM_DESCRIPTION

Details

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Value

plot

Examples

```
library(survey)
data(pbc, package = "survival")
pbc$randomized <- with(pbc, !is.na(trt) & trt > 0)
biasmodel <- glm(randomized ~ age * edema, data = pbc)
pbc$randprob <- fitted(biasmodel)
dpbc <- svydesign(id = ~1, prob = ~randprob, strata = ~edema, data = subset(pbc, randomized))
s1 <- svykm(Surv(time, status > 0) ~ sex, design = dpbc)
svyjskm(s1)
```

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