Package 'gamRR'

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Type Package

Title Calculate the RR for the GAM

Version 0.7.0

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Description To calculate the relative risk (RR) for the generalized additive model.

License GPL-3

Encoding UTF-8

Imports mgcv,graphics,stats,boot

LazyData true

NeedsCompilation no

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R topics documented:

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gamRR   *Calculate the RR for the GAM*

Description

To calculate the relative risk (RR) for the generalized additive model

Usage

```
gamRR(fit,ref,est,data,n.points,plot,ylim)
```

Arguments

`fit`	an object of gam()
`ref`	a vector of the independent variables at referenced level, please note that the names of the variables in 'ref' should be matched to those in the model
`est`	character, to indicate which numeric variable should be calculated the RR, please note that the name of the variable in 'est' should be matched to which in the model
`data`	the name of the data in the gam()
`n.points`	integer, the number of points of 'est' to be estimated, the default is 10
`plot`	logic, to indicate whehter to plot the rr
`ylim`	a vector of tow numeric number

Value

`data frame`	a data frame including variables of 'x', 'rr', 'u', and 'l'
`x`	the value of 'est' variable
`rr`	the RR coresponding to 'est' variable
`u`	the 95 percent upper limit of the 'rr'
`l`	the 95 percent lower limit of the 'rr'

Note

Please feel free to contact us, if you have any advice and find any bug!

Update description:

version 0.2.0: 1. checking procedure for the arguments was added. The function will stop if the number of variables in the 'ref' argument was not equal to those in the model or some variables in the 'ref' argument were not in the model.

version 0.3.0: 1. gamRR.boot() function was added.

version 0.4.0: 1. the plot styles of gamRR() and gamRR.boot() were united. 2. the independent variable with factor() or as.factor() was allowed.

version 0.5.0: 1. fix the error "object 'nxy' not found" in gamRR().

version 0.6.0: 1. fix the error if there were missing data. 2. fix the warnings of 'replace' in 'data.frame'. 3. the independent variable with offset() or log() was allowed.

version 0.7.0: 1. the independent variable with arguments was allowed, e.g., "s(x,k=3)".

more functions will be included in 'gamRR' package!

Author(s)

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See Also

[gamRR.boot](#)

Examples

```
#require("mgcv")
#dat <- gamSim(1,100,dist="poisson",scale=.25)
#fit <- gam(y~s(x0)+s(x1)+s(x2)+s(x3),family=poisson,dat,method="REML")
#plot(fit,select=2)

#gamRR(
#  fit=fit,
#  ref=c(x0=dat$x0[1],x1=dat$x1[1],x2=dat$x2[1],x3=dat$x3[1]),
#  est="x1",
#  data=dat,
#  n.points=10,
#  plot=TRUE,
#  ylim=NULL)
```

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gamRR.boot   *Calculate the RR for the GAM by using the bootstrap method*

Description

To calculate the relative risk (RR) for the generalized additive model by using the bootstrap method

Usage

```
gamRR.boot(fit,ref,est,data,n.points,n.boot,plot,ylim)
```

Arguments

fit	an object of gam()
ref	a vector of the independent variables at referenced level, please note that the names of the variables in 'ref' should be matched to those in the model
est	character, to indicate which numeric variable should be calculated the RR, please note that the name of the variable in 'est' should be matched to which in the model
data	the name of the data in the gam()
n.points	integer, the number of points of 'est' to be estimated, the default is 10
n.boot	integer, the number of times for resampling, the default is 50
plot	logic, to indicate whehter to plot the rr, the default is TRUE
ylim	a vector of tow numeric number determinging the range of y axis

Value

data frame	a data frame including variables of 'x', 'rr', 'u', and 'l'
x	the value of 'est' variable
rr	the RR coresponding to 'est' variable
u	the 95 percent upper limit of the 'rr'
l	the 95 percent lower limit of the 'rr'

Note

Please feel free to contact us, if you have any advice and find any bug!

Update description:

version 0.2.0: 1. checking procedure for the arguments was added. The function will stop if the number of variables in the 'ref' argument was not equal to those in the model or some variables in the 'ref' argument were not in the model.

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version 0.6.0: 1. fix the error if there were missing data. 2. fix the warnings of 'replace' in 'data.frame'. 3. the independent variable with offset() or log() was allowed.

version 0.7.0: 1. the independent variable with arguments was allowed, e.g., "s(x,k=3)".

more functions will be included in 'gamRR' package!

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See Also

[gamRR](#)

Examples

```
#require("mgcv")
#dat <- gamSim(1,100,dist="poisson",scale=.25)
#fit <- gam(y~s(x0)+s(x1)+s(x2)+s(x3),family=poisson,dat,method="REML")
#plot(fit,select=2)

#gamRR.boot(
# fit=fit,
# ref=c(x0=dat$x0[1],x1=dat$x1[1],x2=dat$x2[1],x3=dat$x3[1]),
# est="x1",
# data=dat,
# n.points=10,
# n.boot=10,
# plot=TRUE,
# ylim=NULL)
```

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