Package: surrosurvROC (via r-universe)

October 20, 2026

Type Package

Title Surrogate Survival ROC

Version 0.1.0

Author Yunro Chung [cre]

Maintainer Yunro Chung <yunro.chung@asu.edu>

Description Nonparametric and semiparametric estimations of the time-dependent ROC curve for an incomplete failure time data with surrogate failure time endpoints.

Depends R (>= 3.5.0), survival

License GPL (>= 2)

Encoding UTF-8

LazyData true

NeedsCompilation no

Repository https://zea23i651096531.r-universe.dev

Date/Publication 2018-08-30 15:20:03 UTC

RemoteUrl https://github.com/cran/surrosurvROC

RemoteRef HEAD

RemoteSha 89a24e1d2a03e3fdec2dd9fa1d4e06384d6d1a98

Contents

surrosurvROC-package 2
surrosurvROC 2

Index **4**

surrosurvROC-package *Surrogate Survival ROC*

Description

Nonparametric and semiparametric estimations of the time-dependent ROC curve for an incomplete failure time data with surrogate failure time endpoints.

Details

Package:	isoph
Type:	Package
Version:	0.1.0
Date:	2018-08-17
License:	GPL (>= 2)

Author(s)

Yunro Chung [cre]

Maintainer: Yunro Chung <yunro.chung@asu.edu>

References

Yunro Chung and Yingye Zheng, Improving efficiency of evaluating prognostic accuracy of biomarkers for incomplete failure-time data with surrogate outcome (in progress)

surrosurvROC *Surrogate Survival ROC*

Description

Nonparametric and semiparametric estimations of the time-dependent ROC curve for an incomplete failure time data with surrogate failure time endpoints

Usage

```
surrosurvROC(DATA, method, pred.time, wt=NULL, span=NULL, b.rep=200)
```

Arguments

DATA	data frame, consisting of Marker: Predictior or marekr value; Survival time; Status: Event indicator (1: event; 0: censoring); STime: Surroagte survival Time; SStatus: Surrogate event indicator (1: event; 0: censoring)
method	"KNN"" for nonparametric model using nearest neighborhood kernel; "COX"" for semiparametric proportional hazard model
pred.time	Prediction time of the ROC curve
wt	Weight, such as inverse probablity weighting
span	Smoothing bandwidth parameter for KNN
b.rep	Number of bootstrap

Details

It provides a more efficient time-dependent ROC curve for an incomplete failure time data, when surrogate failure time endpoints are additionally observed for all subjects.

Author(s)

Yunro Chung [cre]

References

Yunro Chung and Yingye Zheng, Evaluating Prognostic Accuracy of Biomarkers for Incomplete and Right-Censored Data with Surrogate Outcome (in progress)

Examples

```
DATA=data.frame(
  Time=   c(1,2,5,3,9,NA,8,9,10,NA,NA,NA,6,4,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA),
  Status= c(1,1,0,0,1,NA,1,1,0, NA,NA,NA,0,0,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA),
  STime=  c(3,2,4,2,8,5,8,7,11,1,8,9,3,5,2,5,10,3,5,8,5,2,4,6,7),
  SStatus=c(1,0,1,0,1,1,1,0,0,1,1,1,1,0,1,1,0,0,1,0,1,0,1,0,0),
  Marker= c(1,5,1,2,3,1,2,3,4,5,9,8,5,7,3,4,2,5,3,4,7,5,9,3,8)
)

#COX at year 3
RES1=surrosurvROC(DATA, method="COX", pred.time=3)
print(RES1)

#KNN at year 3
nobs=sum(!is.na(DATA$Time))
span=0.25*nobs^(-0.20)
RES2=surrosurvROC(DATA, method="KNN",pred.time=3,span=span)
print(RES2)
```

Index

∗ **biomarkers, inverse probability weighing, bootstrap**
surrosurvROC, 2
surrosurvROC-package, 2

surrosurvROC, 2
surrosurvROC-package, 2