Package ‘R2Addhaz’

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Type Package

Title R2 Measure of Explained Variation under the Additive Hazards Model

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Description \( R^2 \) measure of explained variation under the semiparametric additive hazards model is estimated. The measure can be used as a measure of predictive capability and therefore it can be adopted in model selection process. Rava, D. and Xu, R. (2020) <arXiv:2003.09460>.

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Encoding UTF-8

LazyData true

RdMacros Rdpack

Imports aghaz, pracma, zoo, caTools, survival, Rdpack (>= 0.7)

NeedsCompilation no

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R2addhaz

Estimate R^2 for additive hazards model

Description
The function computes R^2 measure of explained variation under the semiparametric additive hazards model.

Usage
R2addhaz(data)

Arguments
data a data.frame with survival data. The first column needs to be the censored failure time. The second column needs to be the event indicator, 1 if the event is observed, 0 if it is censored. The other columns are covariates.

Details
The semiparametric hazards model

\[ \lambda(t|Z) = \lambda_0(t) + \beta Z \]

is fitted to the data. The R^2 measure of explained variation is then computed.

Value
R R^2 measure of explained variation.

Author(s)
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References

Examples
Z=runif(100,0,sqrt(3)) #generate covariates
u=runif(100,0,1)
t=-log(u)/as.vector((1+Z)) #generate failure time
status=rep(1,100) #censoring indicator
sd<-as.data.frame(cbind(t,status,Z)) #data frame of survival data
R2addhaz(sd)
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