Package ‘PTERP’

October 12, 2022

Type Package
Title PTE and RP for Optimally-Transformed Surrogate
Version 1.0
Description Evaluates the strength of a surrogate marker by estimating the proportion of treatment effect explained (PTE) and relative power (RP) for the optimally-transformed version of the surrogate. Details available in Wang et al (2022) <arXiv:2209.08414>.
License GPL
Imports MASS, mvtnorm, stats, survival
NeedsCompilation no
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exampledata                     Hypothetical data for example

Description
Hypothetical data for example
Usage

data("exampledata")

Format

yob  the primary outcome
sob  the surrogate marker
aob  the treatment group indicator where 1 is treatment and 0 is control

Examples

data(exampledata)

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PTERP  Estimates PTE and RE

Description

Evaluates the strength of a surrogate marker by estimating the proportion of treatment effect explained (PTE) and relative power (RP) for the optimally-transformed version of the surrogate.

Usage

PTERP(data,ncut=c(50,100,150,200,500,1000),n.resam=500)

Arguments

data  data
ncut  relative power is calculated at a specific sample size n; this is a numeric vector of sample sizes for which the user wants the relative power, default is c(50,100,150,200,500,1000)
n.resam  number of times to resample, default is 500

Value

A list of:

- ptenew.es  Proportion of treatment effect estimate
- rp_i1  Estimate of relative power at n=i1 where i1 is the first value given in ncut
- rp_i2  Estimate of relative power at n=i2 where i2 is the second value given in ncut, etc.
- pte.se  Standard error estimate for the proportion of treatment effect explained
- rp.se.i1  Standard error estimate for the relative power at n=i1 where i1 is the first value given in ncut
- rp.se.i2  Standard error estimate for the relative power at n=i2 where i2 is the first value given in ncut, etc.
Author(s)

Xuan Wang

Examples

data(exampledata)

output = PTERP(exampledata, ncut = c(50, 100, 150, 200, 500, 1000))

# Reduce resampling
output = PTERP(exampledata, ncut = c(50, 100, 150, 200, 500, 1000), n.resam = 5)
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