Package ‘sccr’

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Type Package

Title The Self-Consistent, Competing Risks (SC-CR) Algorithms

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Author Peter Adamic, Alicja Wolny-Dominiak

Maintainer Alicja Wolny-Dominiak<woali@ue.katowice.pl>

Description The SC-SR Algorithm is used to calculate fully non-parametric and self-consistent estimators of the cause-specific failure probabilities in the presence of interval-censoring and possible making of the failure cause in a competing risks environment. In the version 2.0 the function creating the probability matrix from double-censored data is added.

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License GPL-2

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The Self-Consistent, Competing Risks (SC-CR) Algorithms

Description
The SC-SR Algorithm is used to calculate the cause-deleted life expectancy improvement for left and right censored data. In the version 2.0 the function creating the probability matrix from double-censored data is added.

Author(s)
Peter Adamic, Alicja Wolny-Dominiak
Maintainer: <alicja.wolny-dominiak@ue.katowice.pl>

References


alpha

The alpha matrix

Description
The matrix corresponding I_(ijy) function

Usage
alpha(data, tau)

Arguments
- data: input matrix of probabilities
- tau: the vector of time points corresponding to columns in input matrix
censoredMatrix

References

Examples
data(censoredMatrix)
res <- inputM(censoredMatrix)
alpha(res$input, res$tau)

---
censoredMatrix  The double-censored data

Description
A data frame with 8 observations on the following 5 variables.

Format
- L  a numeric vector
- R  a numeric vector
- C1 a numeric vector
- C2 a numeric vector
- C3 a numeric vector

Examples
data(censoredMatrix)
str(censoredMatrix)

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inputM  The probability matrix creator

Description
The function creating the probability matrix and tau time vector from the double-censored data.

Arguments
data  censored data

Value
- input  the probability matrix
- tau   time tau
Author(s)
Alicja Wolny-Dominiak, Peter Adamic

Examples
```r
data(censoredMatrix)
res <- inputM(censoredMatrix)
res$input
res$tau
```

**Description**
This package describes an algorithm for producing fully non-parametric and self-consistent estimators of the cause-specific failure probabilities in the presence of interval-censoring and possible masking of the failure cause in a competing risks environment. It is a generalization of Turnbull’s (1976) classic univariate algorithm. The algorithm was published in Adamic et al. (2010) and Adamic & Caron (2014).

**Usage**
```r
survCompeting(data, tau, n, nc, epsilon)
```

**Arguments**
- `data` input matrix of probabilities
- `tau` the vector of time points corresponding to columns in input matrix
- `n` the number of intervals in the dataset corresponding to rows in input matrix
- `nc` the number of causes (competing risks)
- `epsilon` small predetermined value > 0

**Value**
- `Yj` estimated number at risk at time tau_j
- `djc` estimated number of events occurring at time tau_j by cause c
- `pjc` estimated probability for risk at time tau_j by cause c
- `djList` the list of d_j for every cause c
- `pjList` the list of p_j for every cause c
- `pjListold` the list of p_j for every cause c in the (iter - 1) iteration
- `iter` the number of iterations in the algorithm
Author(s)

Peter Adamic, Alicja Wolny-Dominiak

References


Examples

data(censoredMatrix)
df <- inputM(censoredMatrix)
res <- survCompeting(df$input, df$tau, 8, 3, 0.01)
res

#summary
round(res$Yj, 2)
round(res$djc, 2)
round(res$pjc, 2)
res$iter
sum(unlist(res$pjList))
sum(unlist(res$pjListold))
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