Package 'batteryreduction'

October 12, 2022

Type Package

Title An R Package for Data Reduction by Battery Reduction

Version 0.1.1

Depends R (>= 3.0.2)

Imports stats, pracma

Date 2015-10-08

Maintainer Chunqiao Luo <chunqiaoluo@gmail.com>

Description Battery reduction is a method used in data reduction. It uses Gram-Schmidt orthogonal rotations to find out a subset of variables best representing the original set of variables.

License GPL

NeedsCompilation no

Author Chunqiao Luo [aut, cre],
Ralph D'Agostino [aut] (This package is derived from Battery Reduction
Macro at http://www.lexjansen.com/nesug/nesug92/NESUG92090.pdf)

Repository CRAN

Date/Publication 2015-12-23 06:53:04

R topics documented:

---

batteryreduction *A function for data reduction*

Description

Battery reduction is a method used in data reduction. It uses Gram-Schmidt orthogonal rotations to find out a subset of variables best representing the original set of variables.

Usage

```
batteryreduction(vars, numfact, data)
```

Arguments

vars	a vector of variable names
numfact	numeric, number of variables to be selected
data	a dataframe

Value

If numfact=1, reda matrix and selected variable are returned. If numfact>=2, reda matrix, rota matrix, and selected variables are returned.

References

D'Agostino, R. B., & Zhang, Z. (1992). Data/variable reduction by principal components, battery reduction and variable clustering. MATRIX, 7(60), 06.

Hans Werner Borchers (2015). pracma: Practical Numerical Math Functions. R package version 1.8.6. http://CRAN.R-project.org/package=pracma

Examples

```
## Generate an example dataset
set.seed(1234)
data<-data.frame(x1=rnorm(n=100, mean=14, sd=7),
x2=rnorm(n=100, mean=3, sd=1),
x3=rpois(n=100, lambda=1),
x4=rpois(n=100, lambda=10),
x5=rgamma(n=100, shape=1),
x6=rgamma(n=100, shape=10))
## Demonstrate batteryreduction
vars<-c('x1','x2','x3','x4','x5','x6')
numfact<-3
batteryreduction(vars, numfact, data)
```

Index