Package 'fRLR'

January 8, 2019

Type Package

Title Fit Repeated Linear Regressions

SystemRequirements GNU Scientific Library (GSL). Note: users should have GSL installed.

Version 1.1

Date 2019-01-07

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Description When fitting a set of linear regressions which have some same variables, we can separate the matrix and reduce the computation cost. This package aims to fit a set of repeated linear regressions faster. More details can be found in this blog Lijun Wang (2017) <https://stats.hohoweiya.xyz/2017/09/26/An-R-Package-Fit-Repeated-Linear-Regressions/>.

License GPL (>= 2)

URL https://stats.hohoweiya.xyz/2017/09/26/An-R-Package-Fit-Repeated-Linear-Regressions/

Imports Rcpp (>= 0.12.12)

LinkingTo Rcpp

NeedsCompilation yes

Repository CRAN

Date/Publication 2019-01-08 08:20:10 UTC

R topics documented:

fRLR-package *A short title line describing what the package does*

Description

A more detailed description of what the package does. A length of about one to five lines is recommended.

Details

This section should provide a more detailed overview of how to use the package, including the most important functions.

Author(s)

Your Name, email optional.

Maintainer: Your Name <your@email.com>

References

This optional section can contain literature or other references for background information.

See Also

Optional links to other man pages

Examples

```
  ## Not run:
     ## Optional simple examples of the most important functions
     ## These can be in \dontrun{} and \donttest{} blocks.

## End(Not run)
```

frlr *Fit Repeated Linear Regressions with the Product of Two Variables*

Description

Fit a set of linear regressions which differ only in the product of two variables.

Usage

```
frlr(R_X, R_Y, R_COV)
```

Arguments

R_X	the observation matrix
R_Y	the response
R_COV	common variables

Value

the fitting results for each regression.

Author(s)

Lijun Wang

References

https://stats.hohoweiya.xyz//regression/2017/09/26/An-R-Package-Fit-Repeated-Linear-Regressions/

Examples

```
library(fRLR)
set.seed(123)
X = matrix(rnorm(50), 10, 5)
Y = rnorm(10)
COV = matrix(rnorm(40), 10, 4)
frlr(X, Y, COV)
```

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frlr1 *Fit Repeated Linear Regressions with One Variable*

Description

Fit a set of linear regressions which differ only in one variable.

Usage

```
frlr1(R_X, R_Y, R_COV)
```

Arguments

R_X	the observation matrix
R_Y	the response
R_COV	common variables

Value

the fitting results for each regression.

Author(s)

Lijun Wang

References

https://stats.hohoweiya.xyz//regression/2017/09/26/An-R-Package-Fit-Repeated-Linear-Regressions/

Examples

```
library(fRLR)
set.seed(123)
X = matrix(rnorm(50), 10, 5)
Y = rnorm(10)
COV = matrix(rnorm(40), 10, 4)
frlr1(X, Y, COV)
```

---

frlr2 *Fit Repeated Linear Regressions with Two Variables*

Description

Fit a set of linear regressions which differ only in two variables.

Usage

```
frlr2(R_X, R_idx1, R_idx2, R_Y, R_COV)
```

Arguments

R_X	the observation matrix
R_idx1	the first identical feature
R_idx2	the second identical feature
R_Y	the response variable
R_COV	common variables

Value

the fitting results for each regression.

Author(s)

Lijun Wang

References

https://stats.hohoweiya.xyz//regression/2017/09/26/An-R-Package-Fit-Repeated-Linear-Regressions/

Examples

```
library(fRLR)
set.seed(123)
X = matrix(rnorm(50), 10, 5)
Y = rnorm(10)
COV = matrix(rnorm(40), 10, 4)
idx1 = c(1, 2, 3, 4, 1, 1, 1, 2, 2, 3)
idx2 = c(2, 3, 4, 5, 3, 4, 5, 4, 5, 5)
frlr2(t(X), idx1, idx2, Y, t(COV))
```

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