

Package: fRLR (via r-universe)

September 7, 2024

Type Package

Title Fit Repeated Linear Regressions

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

Version 1.3.0

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

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URL <https://github.com/szcf-weiya/fRLR>,
<https://stats.hohoweiya.xyz/regression/2017/09/26/An-R-Package-Fit-Repeated-Linear-Regressions/>

Imports Rcpp (>= 0.12.12)

LinkingTo Rcpp

RoxygenNote 7.2.3

Encoding UTF-8

Suggests knitr, rmarkdown, testthat (>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

Repository <https://szcf-weiya.r-universe.dev>

RemoteUrl <https://github.com/szcf-weiya/frlr>

RemoteRef HEAD

RemoteSha aae6f5d5addc096137f3e5ec8627914ad92ad69a

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f1r1	<i>Fit Repeated Linear Regressions with One Variable</i>
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Description

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

Usage

```
f1r1(R_X, R_Y, R_COV, num_threads = -1L)
```

Arguments

R_X	the observation matrix
R_Y	the response
R_COV	common variables
num_threads	number of threads for openmp. If it is -1 (default), it will use all possible threads.

Value

the fitting results for each regression.

Examples

```
set.seed(123)
X = matrix(rnorm(50), 10, 5)
Y = rnorm(10)
COV = matrix(rnorm(40), 10, 4)
f1r1(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, num_threads = -1L)
```

Arguments

<code>R_X</code>	the observation matrix
<code>R_idx1</code>	the first identical feature
<code>R_idx2</code>	the second identical feature
<code>R_Y</code>	the response variable
<code>R_COV</code>	common variables
<code>num_threads</code>	number of threads for openmp. If it is -1 (default), it will use all possible threads.

Value

the fitting results for each regression.

Examples

```
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(X, idx1, idx2, Y, COV)
```

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