Package 'recommenderlabPREA'

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Title Interface for recommenderlab to PREA

Author Derek Phanekham, Michael Hahsler

Maintainer Derek Phanekham <dphanekham@smu.edu>

Description RecommenderlabPREA is an extension of the package 'recommenderlab' that provides an interface to the recommender algorithms implemented in the java package, PREA. It uses the same objects and functions as in recommenderlab, including the recommender object and predict function.

Depends recommenderlab, rJava (>= 0.6-3), Matrix

SystemRequirements Java (>= 5.0)

URL http://R-Forge.R-project.org/projects/recommenderlab/, http://lyle.smu.edu/IDA/recommenderlab/

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recommender   *Create a PREA Recommender Model*

Description

An extension to the recommender function to work with PREA algorithms

Usage

```
Recommender(data, method="PREA_...")
## S4 method for signature 'ratingMatrix'
Recommender(data, method, parameter=NULL)
Recommender(data, method, parameter = c(...))
```

Arguments

data	rating matrix
method	a character string defining the method to use. (see details)
parameter	parameters for the recommender algorithm in a list

Details

This is the same recommender function as in 'recommenderlab', but with more methods that can be used. They are called in the same way as the methods in the base recommenderlab package. Each of these new methods are called with the prefix 'PREA_'. They include AVG, BPMF, ITEMAVG, USERAVG, NLPMF, NMF, NPCA, PMF, RANDOM, REGSVD, and SLOPEONE. Several of these methods also have their own arguments that are given as a list to the 'parameter' argument. The details of each of these methods and a list of their own arguments that can be found with details at http://prea.gatech.edu/documentation.html.

Value

An object of class 'Recommender'.

Methods

getModel signature(x = "Recommender"): retrieve the model.

predict signature(object = "Recommender"): create recommendations for the dataset

See Also

Recommender, ratingMatrix, http://prea.gatech.edu/documentation.html

Examples

```
data("MovieLense")
MovieLense100 <- MovieLense[rowCounts(MovieLense) >100, 1:50]

#create recommender with method 'PREA_PMF'
rec <- Recommender(MovieLense100, method = "PREA_PMF")

#create a recommender with method 'PREA_PMF' and setting parameters
rec <- Recommender(MovieLense100, method = "PREA_PMF",
                   parameters = c(feature_count = 100, learning_rate = 50,
                                  regularizer = 0.4, momentum = 0.8,
                                  max_iteration = 20))

## create top-N recommendations for users 1 to 10. returns lists
pre <- predict(rec, 1:10, type="topN")
pre

## predict ratings for users 1 to 10
pre <- predict(rec, 1:10, type="ratings")
pre
```

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