Package ‘rcane’

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plotLoss: Plot loss vs iteration graph

Description
Plot the result of loss function vs number of iterations.

Usage
plotLoss(object)

## S3 method for class 'rlm'
plotLoss(object, ...)

## Default S3 method:
plotLoss(object, ...)

Arguments
- object: an object of class rlm
- ...: other arguments

Methods (by class)
- rlm: Plot loss vs iteration of rlm object
- default: Plot loss vs iteration

RCANE

Description
RCANE

Gradient descent is a first-order iterative optimization algorithm for finding the minimum of a function. bgd (Batch Gradient Descent) - Batch Gradient Descent updates the parameters by computing loss function of the entire dataset. sgd (Stochastic Gradient Descent) - Stochastic Gradient Descent updates the parameters by computing loss function for each record in the dataset. cd (Coordinate Descent) - Coordinate Descent updates the parameter by minimizing the loss function along each coordinate axis. mini-bgd (Mini Batch Gradient Descent) - Mini Batch Gradient Descent divides the data into batches and updates the parameters by computing the loss function for each batch.

Usage
rlm(formula, data, method = "sgd", alpha = 0.1, max.iter = 1000, precision = 1e-04, boldDriver = FALSE, AdaGrad = FALSE, ...)
Arguments

- **formula**: an object of class "formula" (or one that can be coerced to that class): a symbolic description of the model to be fitted.
- **data**: an optional data frame, list or environment (or object coercible by as.data.frame to a data frame) containing the variables in the model. If not found in data, the variables are taken from environment(formula), typically the environment from which lm is called.
- **method**: the method to be used. Possible values include "bgd", "sgd", "cd" and "mini-bgd".
- **alpha**: the learning rate - typically this would be set to the optimum value
- **max.iter**: the maximum number of iterations - in case of delayed convergence, the function would terminate after max.iter iterations
- **precision**: the precision of the result
- **boldDriver**: set TRUE to use bold driver for method='bgd'
- **AdaGrad**: set TRUE to use AdaGrad for method='sgd'
- **...**: additional arguments to be passed to the low level regression fitting functions.

Details

rlm is an interface for the optimization functions written in the rcane project.

Examples

```r
library(datasets)
rlm(mpg ~ disp, data = mtcars, alpha = 0.00001)
```

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**rlm.summaries**  
Accessing rlm Model Fits

Description

All these functions are methods for class "rlm" objects.

Usage

```r
## S3 method for class 'rlm'
coef(object, ...)

## S3 method for class 'rlm'
fitted(object, ...)

## S3 method for class 'rlm'
formula(x, ...)
```
## S3 method for class 'rlmmodel'
predict(object, newdata, ...)

## S3 method for class 'rlmmodel'
print(x, ...)

## S3 method for class 'rlm'
resid(object, ...)

### Arguments

- **object, x**: an object of class rlm
- **...**: further arguments passed to or from other methods.
- **newdata**: An optional data frame in which to look for variables with which to predict. If omitted, the fitted values are used.
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