coxphSGD

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`coxphSGD` *Stochastic Gradient Descent log-likelihood estimation in Cox proportional hazards model*

Description

Function `coxphSGD` estimates coefficients using stochastic gradient descent algorithm in Cox proportional hazards model.

Usage

```
coxphSGD(formula, data, learningRates = function(x) {
    1/x
}, beta_0 = 0, epsilon = 1e-05)
```

Arguments

`formula`	a formula object, with the response on the left of a ~ operator, and the terms on the right. The response must be a survival object as returned by the Surv function.
`data`	a list of batch data.frames in which to interpret the variables named in the `formula`. See Details.
`learningRates`	a function specifing how to define learning rates in steps of the algorithm. By default the `f(t)=1/t` is used, where `t` is the number of algorithm's step.
`beta_0`	a numeric vector (if of length 1 then will be replicated) of length equal to the number of variables after using `formula` in the `model.matrix` function
`epsilon`	a numeric value with the stop condition of the estimation algorithm.

Details

A `data` argument should be a list of data.frames, where in every batch data.frame there is the same structure and naming convention for explanatory and survival (times, censoring) variables. See Examples.

Note

If one of the conditions is fullfiled (j denotes the step number)

- $||\beta_{j+1} - \beta_j|| <$ `epsilon` parameter for any j
- $j >$ `#batches`

the estimation process is stopped.

Examples

```
library(survival)
## Not run:
coxphSGD(Surv(time, status) ~ ph.ecog + age, data = list(lung[1:50, ], lung[51:100,
    ], lung[101:150, ], lung[151:228, ]))

## End(Not run)
```