Package 'rsegfit'

September 7, 2017

Type Package

Title An r package for segfit

Version 0.1

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Description An r interface to segfit algorithm

Depends R (>= 2.15.0)

License GPL (>= 2)

NeedsCompilation yes

RoxygenNote 6.0.1

R topics documented:

`fitted.segfit` *Extract the fitted values from a segfit object*

Description

Extract the fitted values from a segfit object

Usage

```
## S3 method for class 'segfit'
fitted(sf, concat = TRUE)
```

Arguments

sf	The segfit object
concat	Whether the fitted values of different segments will be concatenated.

Details

Extract the fitted values from a segfit object

Value

If concat==TRUE, the fitted values of different segments will be concatenated into one vector. Otherwise, the returned value will be a list of fitted values of each segment.

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plot.segfit *Plot a segfit object*

Description

Plot a segfit object

Usage

```
## S3 method for class 'segfit'
plot(x, y = "", col.data = "black", col.seg = "red",
  legend.pos = "topleft")
```

Arguments

x	If x is a segfit object, input y is ignored.
y	A segfit object, If not provided, x must be a segfit object.
col.data	color of data
col.seg	color of segments
legend.pos	legend positions

Details

Plot a segfit object

residuals.segfit *Extract the residuals from a segfit object*

Description

Extract the residuals from a segfit object

Usage

```
## S3 method for class 'segfit'
residuals(sf, concat = TRUE)
```

Arguments

sf	The segfit object
concat	Whether the residuals of different segments will be concatenated.

Details

Extract the residuals from a segfit object

Value

If concat==TRUE, the residuals of different segments will be concatenated into one vector. Otherwise, the returned value will be a list of residuals of each segment.

segfit *segfit a sequence*

Description

Do segmentation on "data"

Usage

```
segfit(data, smp = 2.3, lb = -6, ub = 6, maxiter = 1000, factr = 5000,
  pgtol = 1e-04)
```

Arguments

data	The series to be segfitted
smp	The smaller, the more segments will be found
lb	lower bound of parameter b of each segment
ub	upper bound of parameter b of each segment
maxiter	maximum iteration in optimisation
factr	maximum function evalution
pgtol	tolerance used in optimisation

Details

"Segment and fit" a sequence. Each sequence will be described by y=a*x^b+c where x=1:seg.length (order==0) or x = seg.length:1 (order==1). The segmentation is to minimise the sum of mse of each segments plus smp*numSegment.

Value

A "segfit" object. It contains the params of all the segments. For each segment, it contains the head index (hi), tail index (ei), parameter a (a) parameter b (b), parameter c (c), fitting order (order), fitted values (fit), and fitting residuals (residual). It also has a attribute "data" for the original data

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`summary.segfit` *Summarise a segfit object*

Description

Summarise a segfit object

Usage

```
## S3 method for class 'segfit'
summary(sf)
```

Arguments

`sf`	The segfit object to summarise

Details

Summarise a segfit object

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