Package ‘opart’

Type Package
Title Optimal Partitioning
Version 2019.1.0
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Description A reference implementation of standard optimal partitioning
algorithm in C using square-error loss and Poisson loss functions as described by
Toby Hocking (2016) <doi:10.1007/s11222-016-9636-3>,
It scales quadratically with number of data points in terms of time-complexity.
License GPL-3
Encoding UTF-8
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RoxygenNote 6.1.1
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URL https://github.com/as4378/opart
BugReports https://github.com/as4378/opart/issues
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data.table, covr, neuroblastoma, microbenchmark, changepoint,
Segmentor3IsBack, fpop
VignetteBuilder knitr
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R topics documented:

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opart_gaussian
compute the optimal changepoint model for a vector of real-valued data and a non-negative real-valued penalty, given the square loss (to minimize) / gaussian likelihood (to maximize)

Description
compute the optimal changepoint model for a vector of real-valued data and a non-negative real-valued penalty, given the square loss (to minimize) / gaussian likelihood (to maximize)

Usage
opart_gaussian(data, penalty)

Arguments
- data: A numerical vector for which the changepoint model is to be computed
- penalty: A non-negative real number indicating penalty parameter

Value
A vector of the optimal cost values and a vector of the optimal segment ends

Examples
```
data(neuroblastoma, package="neuroblastoma")
selectedData <- subset(neuroblastoma$profiles, profile.id=="1" & chromosome=="1")
opart::opart_gaussian(data=selectedData$logratio, penalty=1)
```

opart_poisson
compute the optimal changepoint model for a vector of real-valued data and a non-negative real-valued penalty, given the poisson loss (to minimize) / log likelihood (to maximize)

Description
compute the optimal changepoint model for a vector of real-valued data and a non-negative real-valued penalty, given the poisson loss (to minimize) / log likelihood (to maximize)

Usage
opart_poisson(data, penalty)
Arguments

- **data**: A list of numbers for which the changepoint model is to be computed
- **penalty**: A non-negative real number indicating penalty parameter

Value

An error status code with a pointer to the optimal cost values and a pointer to the optimal segment ends

Examples

```r
sample_data <- rpois(100, 10.5)
opart::opart_poisson(data=sample_data, penalty=1)
```
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