

Package ‘baggedcv’

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Type Package

Title Bagged Cross-Validation for Kernel Density Bandwidth Selection

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Description Bagged cross-validation for bandwidth selection in kernel density estimation (Hall and Marron (1987) <doi:10.1007/BF00363516>). This bandwidth selector can achieve greater statistical precision than standard cross-validation while being computationally fast.

License GPL-3

Encoding UTF-8

Imports parallel, foreach, doParallel, mclust, kedd, stats

RoxygenNote 6.1.1

NeedsCompilation no

Repository CRAN

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bagcv	<i>Bagged CV bandwidth selector</i>
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Description

Bagged CV bandwidth selector

Usage

```
bagcv(x, r, s, h0, h1, nb = r, ncores = parallel::detectCores())
```

Arguments

x	Vector. Sample.
r	Positive integer. Size of the subsamples.
s	Positive integer. Number of subsamples.
h0	Positive real number. Range over which to minimize, left bound.
h1	Positive real number. Range over which to minimize, right bound.
nb	Positive integer. Number of bins to use in the <code>bw.ucv</code> function.
ncores	Positive integer. Number of cores with which to parallelize the computations.

Details

Bagged cross-validation bandwidth for kernel density estimation.

Value

Bagged CV bandwidth.

Examples

```
set.seed(1)
x <- rnorm(10^6)
bagcv(x, 5000, 100, 0.01, 1, 5000, 2)
```

mopt

Estimation of the optimal subsample size for bagged CV

Description

Estimation of the optimal subsample size for bagged CV

Usage

```
mopt(x, N, r = 1000, s = 100, ncores = parallel::detectCores())
```

Arguments

x	Vector. Sample.
N	Positive integer. Number of subsamples for the bagged bandwidth.
r	Positive integer. Size of the subsamples.
s	Positive integer. Number of subsamples.
ncores	Positive integer. Number of cores with which to parallelize the computations.

Details

Estimates the optimal size of the subsamples for the bagged CV bandwidth selector.

Value

Estimate of the optimal subsample size.

Examples

```
set.seed(1)
x <- rt(10^5, 5)
mopt(x, 500, 500, 10, 2)
```