Package 'abodOutlier'

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Title Angle-Based Outlier Detection

Version 0.1

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Description Performs angle-based outlier detection on a given dataframe. Three methods are available, a full but slow implementation using all the data that has cubic complexity, a fully randomized one which is way more efficient and another using k-nearest neighbours. These algorithms are specially well suited for high dimensional data outlier detection.

Depends cluster, R (>= 3.1.2)

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LazyData true

Encoding UTF-8

NeedsCompilation no

Repository CRAN

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Contents

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abod *Angle-Based Outlier Factor*

Description

Computes angle-based outlier factor for each observation in the dataset

Usage

```
abod(data, method = "complete", n_sample_size = trunc(nrow(data)/10), k = 15)
```

Arguments

data	Dataframe in which to compute angle-based outlier factor.
method	Method to perform. 'complete' will use the entire dataset (cubic complexity) to compute abof. 'randomized' will use a random sample of the data of size 'n_sample_size'. 'knn' will compute abof among 'k' nearest neighbours.
n_sample_size	Number of random observations to choose in randomized method.
k	Number of nearest neighbours to choose in knn method.

Details

Please note that 'knn' has to compute an euclidean distance matrix before computing abof.

Value

Returns angle-based outlier factor for each observation. A small abof respect the others would indicate presence of an outlier.

Author(s)

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References

[1] Angle-Based Outlier Detection in High-dimensional Data. KDD 2008. Hans-Peter Kriegel, Matthias Schubert, Arthur Zimek. (http://www.dbs.ifi.lmu.de/Publikationen/Papers/KDD2008.pdf)

Examples

```
abod(faithful, method = "randomized", n_sample_size = 5)
abod(faithful, method = "knn", k = 5)
```

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abodoutlier *Angle-based outlier detection*

Description

Performs angle-based outlier detection on data. A complete, a randomized and a knn based methods are available.

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