Package 'dists'

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Type Package

Title Calculate Distances Between Objects Using a Common Interface

Version 0.1.0

Depends R (¿= 2.10)

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Description General interface for calculating distance between objects.
The package aims to provide a common interface for computing distance functions using a function called distance() with a parameter containing the name of the distance to be used (Euclidean, Jaccard, Manhattan, Cosine...). Also, it works with tibbles as input instead of matrices (dist() classic function only works with matrices). The distances are computed in C to speed up the execution.
V. B. Surya Prasath et al. (2019) ¡arXiv:1708.04321v3¿

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Imports clusterlab, dplyr, ggplot2, magrittr, tibble, tidyr

Encoding UTF-8

LazyData true

RoxygenNote 7.1.0

Suggests knitr, rmarkdown, testthat (¿= 2.1.0), covr

VignetteBuilder knitr

URL https://github.com/noeliarico/dists, http://noeliarico.github.io/dists/

R topics documented:

availableDistances *List of available distances*

Description

'availableDistance' returns a list of the available codes representing distance functions that can be used in the methods of this package.

Usage

```
availableDistances()
```

Value

character vector containing the codes of the available distances

distance *Calculate matrix of distances*

Description

'distance' returns a matrix of distances between all the objects in data using the distance function indicated in the arguments.

Usage

```
distance(data, distance = "euc")
```

Arguments

data	matrix where each row represent an object of the dataset defined by the variables in the columns. If the object is not a matrix but it has and adequate structure (i.e. it is a tibble or data.frame)it will be cast to matrix by the function.
distance	the three-letters name of the distance function chosen to calculate the distance between the objects of the dataset. Codes:

Details

can Canberra distance

che Chebyshev distance

cos Cosine distance

euc Euclidean distance

jac Jaccard distance

man Manhattan distance

mat Matusita distance

ney Neyman distance

pea Pearson distance

trd Triangular discrimination distance

Value

A matrix containing the distance between all the objects of the dataset calculating with the chosen distance function.

`distanceBetween` *Distance between two vectors*

Description

Calculate the distance between two vector of the same length using the chosen distance function.

Usage

```
distanceBetween(x, y, distance = "euc")
```

Arguments

`x`	first vector
`y`	second vector
`distance`	distance function used to calculate the distance between the vectors

Value

A positive number that is the distance between the two vectors

Examples

```
# Uses the default distance function: Euclidean distance
distanceBetween(c(1, 2, 3), c(3, 2, 1))
```

`toy_data` *Toy dataset*

Description

Toy dataset

Usage

```
toy_data
```

Format

A tibble with 15 objects and 2 features + real cluster:

V1 Numeric feature

V2 Numeric feature

V2 Cluster of the object

`toy_data1` *Toy dataset*

Description

Toy dataset

Usage

```
toy_data1
```

Format

A tibble with 5 objects and 2 features:

V1 Numeric feature

V2 Numeric feature

`toy_data2` *Toy dataset*

Description

Toy dataset

Usage

```
toy_data2
```

Format

A tibble with 5 objects and 3 features:

V1 Numeric feature

V2 Numeric feature

V3 Numeric feature

`toy_data3` *Toy dataset*

Description

Toy dataset

Usage

```
toy_data3
```

Format

A tibble with 5 objects and 4 features:

V1 Numeric feature

V2 Numeric feature

V3 Numeric feature

V4 Numeric feature

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