Package: normaliseR (via r-universe)

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Type Package

Title Re-Scale Vectors and Time-Series Features

Version 0.1.2

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Maintainer Trent Henderson <then6675@uni.sydney.edu.au>

Description Provides standardized access to a range of re-scaling methods for numerical vectors and time-series features calculated within the 'theft' ecosystem.

BugReports https://github.com/hendersontrent/normaliseR/issues

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Encoding UTF-8

Depends R (>= 3.5.0)

Imports rlang, stats, dplyr, scales

Suggests knitr, markdown, rmarkdown, pkgdown, testthat (>= 3.0.0)

RoxygenNote 7.2.2

VignetteBuilder knitr

Config/testthat/edition 3

URL https://hendersontrent.github.io/normaliseR/

Repository https://hendersontrent.r-universe.dev

RemoteUrl https://github.com/hendersontrent/normaliser

RemoteRef HEAD

RemoteSha fc032ccc482d83e5f9cd3700bcc365c38cdc4e55

Contents

`maxabs_scaler` *Rescales a numeric vector using maximum absolute scaling*

Description

$z_i = \frac{x_i}{\max(\mathbf{x})}$

Usage

```
maxabs_scaler(x)
```

Arguments

`x`	`numeric` vector

Value

`numeric` vector

Author(s)

Trent Henderson

`minmax_scaler` *Rescales a numeric vector into the unit interval [0,1]*

Description

$z_i = \frac{x_i - \min(\mathbf{x})}{\max(\mathbf{x}) - \min(\mathbf{x})}$

Usage

```
minmax_scaler(x)
```

Arguments

`x`	`numeric` vector

Value

`numeric` vector

Author(s)

Trent Henderson

`normalise` *Scale each feature vector into a user-specified range for visualisation and modelling*

Description

'normalise()' and 'normalize()' are synonyms.

Usage

```
normalise(
  data,
  norm_method = c("zScore", "Sigmoid", "RobustSigmoid", "MinMax", "MaxAbs"),
  unit_int = FALSE
)

normalize(
  data,
  norm_method = c("zScore", "Sigmoid", "RobustSigmoid", "MinMax", "MaxAbs"),
  unit_int = FALSE
)
```

Arguments

`data`	either a `feature_calculations` object containing the raw feature matrix produced by `theft::calculate_features` or a `vector` of class `numeric` containing values to be rescaled
`norm_method`	`character` denoting the rescaling/normalising method to apply. Can be one of `"zScore"`, `"Sigmoid"`, `"RobustSigmoid"`, `"MinMax"`, or `"MaxAbs"`. Defaults to `"zScore"`
`unit_int`	`Boolean` whether to rescale into unit interval `[0,1]` after applying normalisation method. Defaults to `FALSE`

Value

either an object of class `feature_calculations` object or a `numeric` vector depending on the data type supplied to `data`

Author(s)

Trent Henderson

`normaliseR` *Re-Scale Vectors and Time-Series Features*

Description

Re-scale Vectors and Time-Series Features

`robustsigmoid_scaler` *Rescales a numeric vector using an outlier-robust Sigmoidal transformation*

Description

$$z_i = \left[1 + \exp\left(-\frac{x_i - \text{median}(\mathbf{x})}{\text{IQR}(\mathbf{x})/1.35}\right)\right]^{-1}$$

Usage

```
robustsigmoid_scaler(x)
```

Arguments

`x`	`numeric` vector

Value

`numeric` vector

Author(s)

Trent Henderson

References

Fulcher, Ben D., Little, Max A., and Jones, Nick S. Highly Comparative Time-Series Analysis: The Empirical Structure of Time Series and Their Methods. Journal of The Royal Society Interface 10(83), (2013).

sigmoid_scaler *Rescales a numeric vector using a Sigmoidal transformation*

Description

$z_i = \left[1 + \exp(-\frac{x_i - \mu}{\sigma})\right]^{-1}$

Usage

```
sigmoid_scaler(x)
```

Arguments

x	numeric vector

Value

numeric vector

Author(s)

Trent Henderson

zscore_scaler *Rescales a numeric vector into z-scores*

Description

$z_i = \frac{x_i - \mu}{\sigma}$

Usage

```
zscore_scaler(x)
```

Arguments

x	numeric vector

Value

numeric vector

Author(s)

Trent Henderson

Index