

Package ‘normaliseR’

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Type Package

Title Re-Scale Vectors and Time-Series Features

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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/>

NeedsCompilation no

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Repository CRAN

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maxabs_scaler	<i>Rescales a numeric vector using maximum absolute scaling</i>
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Description

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

Usage

```
maxabs_scaler(x)
```

Arguments

x	numeric vector
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Value

numeric vector

Author(s)

Trent Henderson

minmax_scaler	<i>Rescales a numeric vector into the unit interval [0,1]</i>
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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	<i>Scale each feature vector into a user-specified range for visualisation and modelling</i>
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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 <code>theft::calculate_features</code> or a vector of class <code>numeric</code> 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	<i>Re-Scale Vectors and Time-Series Features</i>
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Description

Re-scale Vectors and Time-Series Features

robustsigmoid_scaler	<i>Rescales a numeric vector using an outlier-robust Sigmoidal transformation</i>
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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	<i>Rescales a numeric vector using a Sigmoidal transformation</i>
----------------	---

Description

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

Usage

```
sigmoid_scaler(x)
```

Arguments

x	numeric vector
---	----------------

Value

numeric vector

Author(s)

Trent Henderson

zscore_scaler	<i>Rescales a numeric vector into z-scores</i>
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Description

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

Usage

```
zscore_scaler(x)
```

Arguments

x	numeric vector
---	----------------

Value

numeric vector

Author(s)

Trent Henderson

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