# Package 'normaliseR'

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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

**License** MIT + file LICENSE

**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

**Author** Trent Henderson [cre, aut]

**Repository** CRAN

**Date/Publication** 2024-02-29 11:50:02 UTC

## Contents

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

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## Description

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

## Usage

```
maxabs_scaler(x)
```

## Arguments

| | |
|---|---|
| `x` | `numeric` vector |

## Value

`numeric` vector

## Author(s)

Trent Henderson

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

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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 *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

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