

Package ‘srpi’

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Type Package

Title Standardized Ranking Performance Index for Model Selection

Version 0.1.0

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Description Flexible implementation of the Standardized Ranking Performance Index (sRPI) for model selection based on multiple evaluation criteria. The package combines multiple statistical measures into a single index to provide an objective and robust ranking of models across calibration, validation, and combined scenarios. It supports evaluation of statistical, machine learning, and other predictive models using user-defined performance criteria. For more details see Aschonis et al. (2019) <[doi:10.1016/j.envsoft.2019.01.005](https://doi.org/10.1016/j.envsoft.2019.01.005)> and Singh et al. (2023) <[doi:10.1016/j.ecoinf.2022.101933](https://doi.org/10.1016/j.ecoinf.2022.101933)>.

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Encoding UTF-8

LazyData true

Imports ggplot2

Depends R (>= 3.5)

RoxygenNote 7.3.3

NeedsCompilation no

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cal_example	<i>Example calibration dataset</i>
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Description

Example dataset used for sRPI calculation

Usage

```
cal_example
```

Format

A data frame with 12 rows and 5 variables

combine_srpi	<i>Combine sRPI</i>
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Description

Combine sRPI

Usage

```
combine_srpi(cal, val)
```

Arguments

cal	Calibration results
val	Validation results

Value

A data frame containing Model, calibration sRPI, validation sRPI, combined sRPI, and final ranking of models.

Examples

```
data(cal_example)
data(val_example)
criteria <- c("R2","dindex","MBE","RMSE")
type <- c("max","max","min","min")
cal_res <- srpi(cal_example, criteria, type)
val_res <- srpi(val_example, criteria, type)
combine_srpi(cal_res, val_res)
```

plot_srpi

Plot sRPI

Description

Plot sRPI

Usage

```
plot_srpi(combined, title = "sRPI Plot")
```

Arguments

combined	Data frame
title	Plot title

Value

No return value. This function generates a plot.

Examples

```
data(cal_example)
data(val_example)
criteria <- c("R2","dindex","MBE","RMSE")
type <- c("max","max","min","min")
cal_res <- srpi(cal_example, criteria, type)
val_res <- srpi(val_example, criteria, type)
combined <- combine_srpi(cal_res, val_res)
plot_srpi(combined)
```

srpi	<i>Standardized Ranking Performance Index (sRPI)</i>
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Description

Standardized Ranking Performance Index (sRPI)

Usage

```
srpi(data, criteria, type)
```

Arguments

data	Data frame
criteria	Character vector
type	Character vector

Value

A data frame

Examples

```
data(cal_example)
criteria <- c("R2", "dindex", "MBE", "RMSE")
type <- c("max", "max", "min", "min")
srpi(cal_example, criteria, type)
```

val_example	<i>Example validation dataset</i>
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Description

Example dataset used for sRPI calculation

Usage

```
val_example
```

Format

A data frame with 12 rows and 5 variables

Index

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