

# Package: srpi (via r-universe)

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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 Aschonitis 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)>.

**License** GPL-3

**Encoding** UTF-8

**LazyData** true

**Imports** ggplot2

**Depends** R (>= 3.5)

**RoxygenNote** 7.3.3

**NeedsCompilation** no

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**Repository** <https://santosharathod.r-universe.dev>

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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

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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)
```

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plot\_srpi

*Plot sRPI*

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**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 *Standardized Ranking Performance Index (sRPI)*

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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)
```

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val\_example *Example validation dataset*

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**Description**

Example dataset used for sRPI calculation

**Usage**

```
val_example
```

**Format**

A data frame with 12 rows and 5 variables

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