

Package: combinationpvalues (via r-universe)

August 27, 2024

Type Package

Title Combination of Independent P-Values

Version 0.1.4

URL <https://github.com/StatsGir1/Master2021/tree/main/R>

BugReports <https://github.com/StatsGir1/Master2021/issues>

Description Provides access to six fundamental statistics that can be used for the purpose of combination p-values. All methods used can referenced here: Heard & Rubin-Delanchy (2017) [<arXiv:1707.06897>](https://arxiv.org/abs/1707.06897).

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Depends R (>= 3.5.0)

Imports chi, utils, dplyr, spatstat.utils, stats

Encoding UTF-8

RoxygenNote 7.1.1

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

NeedsCompilation no

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Repository CRAN

Date/Publication 2021-09-03 19:00:02 UTC

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CombinedPValueMethod *CombinedPValueMethod*

Description

#' Input is the test statistic of the previous method selected and it returns the combined p-value

Usage

```
CombinedPValueMethod(x, name)
```

Arguments

x #' test statistic of method used (i.e., Tippett, Stouffer, etc.)
name #' name of method using

Value

Combined P-value

Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- TippettMethod(Output)
Combined <- CombinedPValueMethod(Final,"Tippett")
```

EdMethod *Edgington Method*

Description

#' Combination p-value method that uses Edgington statistic $\sum_{i=1}^n p_i$ where p equals p-value

Usage

```
EdMethod(x)
```

Arguments

x #' SumOfPs

Value

Combined P-value

Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- EdMethod(Output)
```

FishersMethod	<i>FishersMethod</i>
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Description

#' Combination p-value method that uses Fishers statistic Summation $i=1$ to n \log of π_i where π_i equals p-value

Usage

```
FishersMethod(x)
```

Arguments

x #' SumOfPs

Value

Combined P-value

Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- FishersMethod(Output)
```

GeorgeMethod	<i>PearsonsMethod</i>
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Description

#' Combination p-value method that uses George statistic Summation $i=1$ to n $\log(\pi_i/(1-\pi_i))$ where π_i equals p-value

Usage

```
GeorgeMethod(x)
```

Arguments

x #' SumOfPs

Value

Combined P-value

Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- GeorgeMethod(Output)
```

PearsonsMethod

PearsonsMethod

Description

#' Combination p-value method that uses Pearson statistic $-\sum_{i=1}^n \log(1-p_i)$ where p equals p value

Usage

PearsonsMethod(x)

Arguments

x #' InfinitePs

Value

Combined P-value

Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- PearsonsMethod(Output)
```

StoufferMethod	<i>StoufferMethod</i>
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Description

#' Combination p-value method that uses Stouffer statistic Summation $i=1$ to n inverse CDF of $N(0,1)(p_i)$ where p equals p-value

Usage

```
StoufferMethod(x)
```

Arguments

```
x          #' SumOfPs
```

Value

Combined P-value

Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- StoufferMethod(Output)
```

SumOfPs	<i>SumOfPs</i>
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Description

Converts a list of p-values into a list, $n=2,3,\dots,k$

Usage

```
SumOfPs(x, ...)
```

Arguments

```
x          #' Input n p-values n = 2,3,...,k
...        #'list of p values
```

Value

List of p-values

Examples

```
Output <- SumOfPs(0.1,0.3,.7)
```

`TippettMethod`*TippettMethod*

Description

#' Combination p-value method that uses Tippett statistic $\min(p_1, \dots, p_n)$, $n = 2, 3, \dots, k$ where p equals p-value

Usage

```
TippettMethod(x)
```

Arguments

```
x          #' SumOfPs
```

Value

Combined P-value

Examples

```
Output <- SumOfPs(0.1, 0.3, .7)
Final <- TippettMethod(Output)
```

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