

Package ‘ordPanel’

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Type Package

Title Ordered Panel

Version 0.1.1

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Description The ordered panel methodology (Zezulinski et al 2025 <[doi:10.1159/000545366](https://doi.org/10.1159/000545366)>) provides a structured framework for identifying and organizing sets of biomarkers, such as genetic variants, that distinguish between positive and negative subjects in a study when only a training cohort is available. This approach is particularly useful in situations where an independent validation cohort does not yet exist, rendering conventional performance metrics such as the receiver operating characteristic (ROC) curve and area under the ROC curve (AUC) inappropriate or potentially misleading. The methodology emphasizes transparent construction and evaluation of ordered signatures of biomarkers, allowing investigators to examine operating characteristics without establishing predictive performance.

License GPL-2

Encoding UTF-8

Language en-US

RoxygenNote 7.3.3

LazyData true

LazyDataCompression xz

URL <https://github.com/tingtingzhan/ordPanel>,
<https://tingtingzhan-ordpanel.netlify.app>

Depends R (>= 4.5.0)

Imports cli, flextable, ggplot2, methods, consort, patchwork, scales

Suggests testthat (>= 3.0.0)

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NeedsCompilation no

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ordPanel-package	<i>ordPanel: Ordered Panel</i>
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Description

The ordered panel methodology (Zezulinski et al 2025 [doi:10.1159/000545366](https://doi.org/10.1159/000545366)) provides a structured framework for identifying and organizing sets of biomarkers, such as genetic variants, that distinguish between positive and negative subjects in a study when only a training cohort is available. This approach is particularly useful in situations where an independent validation cohort does not yet exist, rendering conventional performance metrics such as the receiver operating characteristic (ROC) curve and area under the ROC curve (AUC) inappropriate or potentially misleading. The methodology emphasizes transparent construction and evaluation of ordered signatures of biomarkers, allowing investigators to examine operating characteristics without establishing predictive performance.

Author(s)

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See Also

Useful links:

- <https://github.com/tingtingzhan/ordPanel>
- <https://tingtingzhan-ordpanel.netlify.app>

autoplot.panellist Visualize [panellist](#) using Package [Rhrefhttps://CRAN.R-project.org/package=ggplot2](https://CRAN.R-project.org/package=ggplot2) **ggplot2**

Description

Visualize [panellist](#) using Package **ggplot2**

Usage

```
## S3 method for class 'panellist'
autoplot(object, ...)

## S3 method for class 'panellist'
autolayer(object, which = c("oc", "roc"), ...)
```

Arguments

object [panellist](#)
 ... additional parameters, currently no use
 which [character](#) scalar, 'oc' (default value) or (faux) 'roc'

Value

The S3 method `autoplot.panellist()` returns a [ggplot](#) object.

panel S4 Class [panel](#)

Description

S4 Class [panel](#)

Usage

```
panel(m1 = zezulinski1, m0 = zezulinski0)
```

Arguments

m1, m0 see detailed explanations in Section **Slots**.

- If both m1 and m0 are missing, then random [logical matrix](#)-es will be generated;
- If one-and-only-one of m1 and m0 is missing, then the function `panel()` will [stop](#).

Value

The function `panel()` returns an R object of S4 class `panel`.

Slots

`m1, m0` `logical matrix`-es, true and false positives, respectively. In other words, the variants tested positive in the positive and negative subjects (patients), respectively. Rows are different variants. Columns are different subjects. The `rownames` of `m0` and `m1` must be the same.

`id` `list` of `character vectors`

`ordered` `logical` scalar, whether this is an ordered `panel`

`label` (optional) `character` scalar, a human-friendly description of the `panel`

`consort` (optional) `data.frame` to create a `consort_plot`

panellist

panellist

Description

To combine multiple `panels`.

Usage

```
panellist(...)
```

Arguments

... one or more `panels`

Value

The function `panellist()` returns an S3 object of `panellist`, which inherits from the classes `listof` and `list`.

pkg_data *Data Sets in Package ordPanel*

Description

Data sets used as examples in package **ordPanel**.

Usage

```
zezulinski1
```

```
zezulinski0
```

Format

An object of class `matrix` (inherits from `array`) with 12877 rows and 50 columns.

An object of class `matrix` (inherits from `array`) with 12877 rows and 31 columns.

References

[doi:10.1159/000545366](https://doi.org/10.1159/000545366)

plot.panel *Flow-Chart of Ordered panel*

Description

To create a flow-chart for the creation of an ordered [panel](#).

Usage

```
## S3 method for class 'panel'  
plot(x, ...)
```

Arguments

x	an ordered panel
...	additional parameters of the function consort_plot , except for data, orders and side_box

Value

The function `plot.panel()` returns

- an R object of class `'consort'` (returned from the function [consort_plot](#)), if the input [panel](#) has a non-default `@consort` slot;
- an `invisible` NULL-value, if the input [panel](#) has a default `@consort` slot.

plot.panellist *Flow-Charts of Ordered panellist*

Description

To create flow-charts for the creation of an ordered [panellist](#).

Usage

```
## S3 method for class 'panellist'
plot(x, ...)
```

Arguments

x an ordered [panellist](#)
 ... additional parameters for the function [wrap_plots](#), **not** for the function [plot.panel\(\)](#)

Value

The function [plot.panellist\(\)](#) returns

- a [patchwork](#), (returned from the function [wrap_plots](#)), if the input [panellist](#) has at least one [panel](#) with a non-default `@consort` slot;
- an [invisible](#) NULL-value, if all [panels](#) in the input [panellist](#) have a default `@consort` slot.

show,panel-method *Show panel*

Description

Show [panel](#)

Usage

```
## S4 method for signature 'panel'
show(object)
```

Arguments

object [panel](#)

Value

The [show](#) method of [panel](#) class does not have a returned value.

sort_by.panel	<i>Sort panel by Given Criterion</i>
---------------	--

Description

To sort a [panel](#) by some given criterion.

Usage

```
## S3 method for class 'panel'  
sort_by(x, y, ...)
```

Arguments

x	panel
y	one-sided formula
...	additional parameters of order

Value

The S3 method [sort_by.panel\(\)](#) returns an **ordered** [panel](#).

subset.panel	<i>Select a subset of panel</i>
--------------	---

Description

Select a [subset](#) of [panel](#)

Usage

```
## S3 method for class 'panel'  
subset(x, subset, append.label = FALSE, ...)
```

Arguments

x	panel
subset	R language object
append.label	logical scalar (default value FALSE), whether to append the subset-criterion to x@label
...	additional parameters, currently not in use

Value

The S3 method [subset.panel\(\)](#) returns an R object of S4 class [panel](#).

sum1	<i>Number of True & False Positives</i>
------	---

Description

Number of True & False Positives

Usage

sum1(x)

sum0(x)

cumsum1(x)

cumsum0(x)

Arguments

x [panel](#)

Value

The functions [sum1\(\)](#) and [sum0\(\)](#) return a [integer vector](#).

The functions [cumsum1\(\)](#) and [cumsum0\(\)](#) return a non-decreasing [integer vector](#).

[.panel]	<i>Extract Rows of panel</i>
----------	--

Description

Extract Rows of [panel](#)

Usage

```
## S3 method for class 'panel'
x[i, ...]
```

Arguments

x [panel](#)
 i [logical vector](#), row indices
 ... additional parameters, currently not in use

Value

The S3 method [\[.panel\(\)\]](#) returns a [panel](#).

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