

Package ‘acro’

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Title A Tool for Semi-Automating the Statistical Disclosure Control of Research Outputs

Version 0.1.7

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Description A Tool for Semi-Automating the Statistical Disclosure Control of Research Outputs.

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Encoding UTF-8

RoxygenNote 7.3.3

SystemRequirements Python (>= 3.10)

Imports reticulate, admiraldev, png

Depends R (>= 2.10)

LazyData true

Suggests knitr, rmarkdown, spelling, testthat (>= 3.0.0)

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Language en-US

URL <https://github.com/AI-SDC/ACRO-R>

BugReports <https://github.com/AI-SDC/ACRO-R/issues>

VignetteBuilder knitr

NeedsCompilation no

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acro_add_comments	<i>Add comments to outputs</i>
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Description

Add comments to outputs

Usage

acro_add_comments(name, comment)

Arguments

- | | |
|---------|-------------------------|
| name | The name of the output. |
| comment | The comment. |

Value

No return value, called for side effects

acro_add_exception	<i>Adds an exception request to an output.</i>
--------------------	--

Description

Adds an exception request to an output.

Usage

```
acro_add_exception(name, reason)
```

Arguments

name	The name of the output.
reason	The comment.

Value

No return value, called for side effects

acro_crosstab	<i>Compute a simple cross tabulation of two (or more) factors.</i>
---------------	--

Description

Compute a simple cross tabulation of two (or more) factors.

Usage

```
acro_crosstab(index, columns, values = NULL, aggfunc = NULL)
```

Arguments

index	Values to group by in the rows.
columns	Values to group by in the columns.
values	Array of values to aggregate according to the factors. Requires aggfunc be specified.
aggfunc	If specified, requires values be specified as well.

Value

Cross tabulation of the data

acro_custom_output	<i>Adds an unsupported output to the results dictionary</i>
--------------------	---

Description

Adds an unsupported output to the results dictionary

Usage

```
acro_custom_output(filename, comment = NULL)
```

Arguments

filename	The name of the file that will be added to the list of the outputs.
comment	An optional comment.

Value

No return value, called for side effects

acro_disable_suppression	<i>Turns suppression off during a session</i>
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Description

Turns suppression off during a session

Usage

```
acro_disable_suppression()
```

Value

No return value, called for side effects

`acro_enable_suppression`*Turns suppression on during a session*

Description

Turns suppression on during a session

Usage

```
acro_enable_suppression()
```

Value

No return value, called for side effects

`acro_finalise`*Creates a results file for checking.*

Description

Creates a results file for checking.

Usage

```
acro_finalise(path, ext)
```

Arguments

<code>path</code>	Name of a folder to save outputs.
<code>ext</code>	Extension of the results file. Valid extensions are json or xlsx.

Value

No return value, called for side effects

acro_glm	<i>Fits Logit or Probit model.</i>
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Description

Fits Logit or Probit model.

Usage

```
acro_glm(formula, data, family)
```

Arguments

formula	The formula specifying the model.
data	The data for the model.
family	Decide whether to fit a logit or probit model.

Value

Regression Results Wrapper

acro_hist	<i>Histogram</i>
-----------	------------------

Description

Histogram

Usage

```
acro_hist(  
  data,  
  column,  
  breaks = 10,  
  freq = TRUE,  
  col = NULL,  
  filename = "histogram.png"  
)
```

Arguments

data	The object holding the data.
column	The column that will be used to plot the histogram.
breaks	Number of histogram bins to be used.
freq	If False, the result will contain the number of samples in each bin. If True, the result is the value of the probability density function at the bin.
col	The color of the plot.
filename	The name of the file where the plot will be saved.

Value

The histogram.

acro_init	<i>Initialise an ACRO object</i>
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Description

Initialise an ACRO object

Usage

```
acro_init(
  config = "default",
  suppress = FALSE,
  envname = acro_venv,
  use_conda = NULL
)
```

Arguments

config	Name of a yaml configuration file with safe parameters.
suppress	Whether to automatically apply suppression.
envname	Name of the Python environment to use.
use_conda	Whether to use a Conda environment. If NULL, looks for environment variable ACRO_USE_CONDA, defaults to FALSE if unset.

Value

Invisibly returns the ACRO object, which is used internally.

acro_lm	<i>Fits Ordinary Least Squares Regression</i>
---------	---

Description

Fits Ordinary Least Squares Regression

Usage

```
acro_lm(formula, data)
```

Arguments

- formula The formula specifying the model.
- data The data for the model.

Value

Regression Results Wrapper.

acro_pivot_table	<i>Pivot table</i>
------------------	--------------------

Description

Pivot table

Usage

```
acro_pivot_table(  
  data,  
  values = NULL,  
  index = NULL,  
  columns = NULL,  
  aggfunc = "mean"  
)
```

Arguments

- data The data to operate on.
- values Column to aggregate, optional.
- index If an array is passed, it must be the same length as the data. The list can contain any of the other types (except list). Keys to group by on the pivot table index. If an array is passed, it is being used as the same manner as column values.

columns	If an array is passed, it must be the same length as the data. The list can contain any of the other types (except list). Keys to group by on the pivot table column. If an array is passed, it is being used as the same manner as column values.
aggfunc	If list of strings passed, the resulting pivot table will have hierarchical columns whose top level are the function names

Value

Cross tabulation of the data.

acro_print_outputs	<i>Prints the current results dictionary.</i>
--------------------	---

Description

Prints the current results dictionary.

Usage

```
acro_print_outputs()
```

Value

No return value, called for side effects

acro_remove_output	<i>Remove outputs</i>
--------------------	-----------------------

Description

Remove outputs

Usage

```
acro_remove_output(name)
```

Arguments

name	Key specifying which output to remove, e.g., 'output_0'.
------	--

Value

No return value, called for side effects

acro_rename_output	<i>Rename outputs</i>
--------------------	-----------------------

Description

Rename outputs

Usage

```
acro_rename_output(old, new)
```

Arguments

old	The old name of the output.
new	The new name of the output.

Value

No return value, called for side effects

acro_surv_func	<i>Survival analysis</i>
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Description

Survival analysis

Usage

```
acro_surv_func(time, status, output, filename = "kaplan-meier.png")
```

Arguments

time	An array of times (censoring times or event times).
status	Status at the event time.
output	A string determine the type of output. Available options are table or plot.
filename	The name of the file where the plot will be saved.

Value

The survival table or plot.

acro_table	<i>Compute a simple cross tabulation of two (or more) factors.</i>
------------	--

Description

Compute a simple cross tabulation of two (or more) factors.

Usage

```
acro_table(index, columns, dnn = NULL, deparse.level = 0, ...)
```

Arguments

index	Values to group by in the rows.
columns	Values to group by in the columns.
dnn	The names to be given to the dimensions in the result
deparse.level	Controls how the default dnn is constructed.
...	Any other parameters.

Value

Cross tabulation of the data

lung	<i>Lung Cancer Survival Data</i>
------	----------------------------------

Description

The lung dataset contains information about lung cancer survival.

Usage

```
lung
```

Format

A data frame with columns:

inst	institutional identification
time	Survival time in months.
status	Survival status (1 = death, 0 = censored).
age	Age of the patient at the start of the study.
sex	Gender of the patient.

ph.ecog Performance status (Eastern Cooperative Oncology Group).

ph.karno 'Karnofsky' performance status.

pat.karno 'Karnofsky' performance status as assessed by the patient.

meal.cal Daily caloric intake at the start of the study.

wt.loss Weight loss in the last six months.

Examples

```
data(lung)
```

nursery_data

Nursery Database

Description

This dataset is originated from a hierarchical decision model created to evaluate applications for nursery schools.

Usage

```
nursery_data
```

Format

A data frame with columns: A data frame with 12960 rows and 9 columns:

parents Parents' occupation

has_nurs Child's nursery

form Form of the family

children Number of children

housing Housing conditions

finance Financial standing of the family

social Social conditions

health Health conditions

recommend The ranking of applications for nursery schools

Source

<https://www.openml.org/search?type=data&status=active&id=26&sort=runs>

Examples

```
data(nursery_data)
```

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