Package ‘acro’

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

Version 0.1.5

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

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

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

NeedsCompilation no

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Contents

`acro_add_comments` *Add comments to outputs*

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` *Adds an exception request to an output.*

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

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` *Adds an unsupported output to the results dictionary*

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_finalise` *Creates a results file for checking.*

Description

Creates a results file for checking.

Usage

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

Arguments

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

Value

No return value, called for side effects

`acro_glm` *Fits Logit or Probit model.*

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` *Histogram*

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` *Initialise an ACRO object*

Description

Initialise an ACRO object

Usage

```
acro_init(suppress = FALSE)
```

Arguments

`suppress`	Whether to automatically apply suppression.

Value

No return value, called for side effects

`acro_lm` *Fits Ordinary Least Squares Regression*

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` *Pivot table*

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` *Prints the current results dictionary.*

Description

Prints the current results dictionary.

Usage

```
acro_print_outputs()
```

Value

No return value, called for side effects

`acro_remove_output` *Remove outputs*

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` *Rename outputs*

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` *Survival analysis*

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

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

`create_virtualenv` *Create a python virtual environment*

Description

Create a python virtual environment

Usage

```
create_virtualenv(...)
```

Arguments

`...`	Any other parameters.

Value

No return value, called for side effects

`install_acro` *Install acro*

Description

Install acro

Usage

```
install_acro(envname = "r-acro", ...)
```

Arguments

`envname`	the name of the Python virtual environment
`...`	Any other parameters.

Value

No return value, called for side effects

`lung` *Lung Cancer Survival Data*

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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