Package 'utile.tables'

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Title Build Tables for Publication

Version 0.2.1

Description A collection of functions to make building customized ready-to-export tables for publication purposes easier and creating summaries of large datasets for review a breeze.

License LGPL (>= 2)

URL https://github.com/efinite/utile.tables

BugReports https://github.com/efinite/utile.tables/issues

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R topics documented:

`build_model` *Build models*

Description

Models specified terms in model data against an existing model and returns a clean, human readable table of summarizing the effects and statistics for the newly generated model. This function is meant to simplify fitting a large number of variables against a set of time-to-event data.

Usage

```
build_model(.object, ...)
```

Arguments

`.object`	An object of a supported class. See S3 methods below.
`...`	Arguments passed to the appropriate S3 method.

Value

An object of class `tbl_df` (tibble) summarizing the provided object.

See Also

`build_model.coxph`

`build_model.coxph` *Build Cox PH models*

Description

Models specified terms in model data against an existing model and returns a clean, human readable table of summarizing the effects and statistics for the newly generated model. This functions greatly simplifies fitting a large number of variables against a set of time-to-event data.

Usage

```
## S3 method for class 'coxph'
build_model(
  .object,
  ...,
  .mv = FALSE,
  .test = c("LRT", "Wald"),
  .show.test = FALSE,
  .level = 0.95,
  .percent.sign = TRUE,
  .digits = 1,
  .p.digits = 4
)
```

Arguments

`.object`	An object of class `coxph`.
`...`	One or more unquoted expressions separated by commas representing columns in the model data.frame. May be specified using `tidyselect` `helpers`.
`.mv`	A logical. Fit all terms into a single multivariable model. If left FALSE, all terms are fit in their own univariate models.
`.test`	A character. The name of a `stats::drop1` test to use with the model.
`.show.test`	A logical. Append a columns for the test and accompanying statistic used to derive the p-value.
`.level`	A double. The confidence level required.
`.percent.sign`	A logical. Paste a percent symbol after all reported frequencies.
`.digits`	An integer. The number of digits to round numbers to.
`.p.digits`	An integer. The number of p-value digits to report. Note that the p-value still rounded to the number of digits specified in `.digits`.

Value

An object of class data.frame summarizing the provided object. If the `tibble` package has been installed, a tibble will be returned.

See Also

`build_model`

Examples

```
library(survival)
library(dplyr)

data_lung <- lung %>%
  mutate_at(vars(inst, status, sex), as.factor) %>%
  mutate(status = case_when(status == 1 ~ 0, status == 2 ~ 1))
```

```
fit <- coxph(Surv(time, status) ~ 1, data = data_lung)

# Create a univariate model for each variable
fit %>% build_model(sex, age)
```

`build_row` *Build summary rows*

Description

Summarize a data into a data.frame row(s). Optional stratification and null hypothesis testing using a factor or logical.

Usage

```
build_row(x, ...)
```

Arguments

`x`	An object of a supported class. See S3 methods below.
`...`	Arguments passed to the appropriate S3 method.

Value

An object of class `tbl_df` (tibble) summarizing the provided data.

See Also

`build_row.data.frame`, `build_row.numeric`, `build_row.logical`, `build_row.factor`

`build_row.data.frame` *Summarize a data.frame or tibble*

Description

Summarize a data.frame (row counts). Optional stratification using a factor or logical with the same size as the tibble.

Usage

```
## S3 method for class 'data.frame'
build_row(
  x,
  y,
  label = "n(%)",
  show.missing = FALSE,
  show.test = FALSE,
  percent.sign = TRUE,
  digits = 1,
  ...
)
```

Arguments

x	An data.frame object. Data to summarize. Must be the same length as y (if specified).
y	A factor or logical. Optional. Data to stratify x by.
label	A character. Optional. The name of the summarized variable.
show.missing	A logical. Optional. Append an empty missing data column.
show.test	A logical. Optional. Append empty test and statistic columns.
percent.sign	A logical. Optional. Paste a percentage symbol with each frequency.
digits	An integer. Optional. Number of digits to round to.
...	Miscellaneous options.

Value

An object of class tbl_df (tibble) summarizing the provided data.

Examples

```
# Create a "count" row from a data.frame for a factor
build_row(x = datasets::mtcars, y = as.factor(datasets::mtcars$cyl))
```

---

build_row.factor *Summarize factor data*

Description

Summarize factor data in a tibble. Optional stratification and null hypothesis testing using another factor or logical.

Usage

```
## S3 method for class 'factor'
build_row(
  x,
  y = NA,
  label = "(Unlabeled column)",
  parametric = FALSE,
  na.rm = FALSE,
  append.stat = TRUE,
  show.missing = FALSE,
  show.test = FALSE,
  percent.sign = TRUE,
  digits = 1,
  p.digits = 4,
  ...
)
```

Arguments

x	A factor. Data to summarize. Must be the same length as y (if specified).
y	A factor or logical. Optional. Data to stratify x by.
label	A character. Optional. The name of the summarized variable.
parametric	A logical. Optional. Use parametric tests.
na.rm	A logical. Optional. Whether to ignore NA values in frequency calculations. If left unspecified, NA values will be given an explicit level and summarized.
append.stat	A logical. Optional. Append the summary statistic used to the label of the summarized row.
show.missing	A logical. Optional. Append summary counts of missing data.
show.test	A logical. Optional. Show the statistical test and test statistic used to determine the p-value.
percent.sign	A logical. Optional. Paste a percentage symbol with each frequency.
digits	An integer. Optional. Number of digits to round to.
p.digits	An integer. Optional. Number of p-value digits to report.
...	Miscellaneous options.

Value

An object of class tbl_df (tibble) summarizing the provided data.

See Also

build_row

Examples

```
# Create a row summarizing a factor by a factor
build_row(
 x = as.factor(mtcars$carb),
 y = as.factor(mtcars$cyl),
 label = 'Carb'
)
```

`build_row.logical` *Summarize logical data*

Description

Summarize logical data in a tibble. Optional stratification and null hypothesis testing using another factor or logical.

Usage

```
## S3 method for class 'logical'
build_row(
  x,
  y = NA,
  label = "(Unlabeled column)",
  inverse = FALSE,
  parametric = FALSE,
  na.rm = FALSE,
  append.stat = TRUE,
  show.missing = FALSE,
  show.test = FALSE,
  percent.sign = TRUE,
  digits = 1,
  p.digits = 4,
  ...
)
```

Arguments

`x`	A logical. Data to summarize. Must be the same length as `y` (if specified).
`y`	A factor or logical. Optional. Data to stratify `x` by.
`label`	A character. Optional. The name of the summarized variable.
`inverse`	A logical. Optional. Report frequencies of the `FALSE` values instead.
`parametric`	A logical. Optional. Use parametric tests.
`na.rm`	A logical. Optional. Whether to ignore NA values in frequency calculations. If left unspecified, NA values will be given an explicit level and summarized.
`append.stat`	A logical. Optional. Append the summary statistic used to the label of the summarized row.

show.missing	A logical. Optional. Append summary counts of missing data.
show.test	A logical. Optional. Show the statistical test and test statistic used to determine the p-value.
percent.sign	A logical. Optional. Paste a percentage symbol with each frequency.
digits	An integer. Optional. Number of digits to round to.
p.digits	An integer. Optional. Number of p-value digits to report.
...	Miscellaneous options.

Value

An object of class tbl_df (tibble) summarizing the provided data.

See Also

build_row

Examples

```
# Create a row summarizing a logical by a factor
build_row(
  x = as.logical(datasets::mtcars$vs),
  y = as.factor(datasets::mtcars$cyl),
  label = 'VS'
)
```

---

build_row.numeric *Summarize numeric data*

Description

Summarize numeric data in a tibble. Optional stratification and null hypothesis testing using another factor or logical.

Usage

```
## S3 method for class 'numeric'
build_row(
  x,
  y = NA,
  label = "(Unlabeled column)",
  parametric = FALSE,
  append.stat = TRUE,
  show.missing = FALSE,
  show.test = FALSE,
  percent.sign = TRUE,
  digits = 1,
  p.digits = 4,
  ...
)
```

Arguments

x	A numeric. Data to summarize. Must be the same length as y (if specified).
y	A factor or logical. Optional. Data to stratify x by.
label	A character. Optional. The name of the summarized variable.
parametric	A logical. Optional. Use parametric tests.
append.stat	A logical. Optional. Append the summary statistic used to the label of the summarized row.
show.missing	A logical. Optional. Append summary counts of missing data.
show.test	A logical. Optional. Show the statistical test and test statistic used to determine the p-value.
percent.sign	A logical. Optional. Paste a percentage symbol with each frequency.
digits	An integer. Optional. Number of digits to round to.
p.digits	An integer. Optional. Number of p-value digits to report.
...	Miscellaneous options.

Value

An object of class `tbl_df` (tibble) summarizing the provided data.

See Also

`build_row`

Examples

```
# Create a row summarizing a numeric by a factor
build_row(
 x = datasets::mtcars$mpg,
 y = as.factor(datasets::mtcars$cyl),
 label = 'MPG'
)
```

---

build_table *Build summary tables*

Description

Takes a data or model object and summarizes it into a ready to export, human-readable summary table.

Usage

```
build_table(.object, ...)
```

Arguments

.object	An object of a supported class. See S3 methods below.
...	Arguments passed to the appropriate S3 method.

Value

An object of class tbl_df (tibble) summarizing the provided object.

See Also

build_table.data.frame, build_table.coxph, build_table.lm

---

build_table.coxph *Build summary tables from coxph model objects*

Description

Takes a Cox PH model object and summarizes it into a ready to export, human-readable summary table.

Usage

```
## S3 method for class 'coxph'
build_table(
  .object,
  ...,
  .test = c("LRT", "Wald"),
  .show.test = FALSE,
  .level = 0.95,
  .percent.sign = TRUE,
  .digits = 1,
  .p.digits = 4
)
```

Arguments

.object	An object of class coxph.
...	One or more unquoted expressions separated by commas representing columns in the data.frame. May be specified using tidyselect helpers. If left empty, all terms are summarized.
.test	A character. The name of the stats::drop1 test to use with the model.
.show.test	A logical. Append a columns for the test and accompanying statistic used to derive the p-value.
.level	A double. The confidence level required.
.percent.sign	A logical. Paste a percent symbol after all reported frequencies.

.digits	An integer. The number of digits to round numbers to.
.p.digits	An integer. The number of p-value digits to report. Note that the p-value still rounded to the number of digits specified in .digits.

Value

An object of class tbl_df (tibble) summarizing the provided object.

See Also

build_table

Examples

```
library(survival)
library(dplyr)

data_lung <- lung %>%
  mutate_at(vars(inst, status, sex), as.factor) %>%
  mutate(status = case_when(status == 1 ~ 0, status == 2 ~ 1))

fit <- coxph(Surv(time, status) ~ sex + meal.cal, data = data_lung)

fit %>% build_table(Sex = sex, Calories = meal.cal, .test = 'LRT')
```

---

build_table.data.frame

Build summary tables from data.frame objects

Description

Takes a data.frame object and summarizes the columns into a ready to export, human-readable summary table. Capable of stratifying data and performing appropriate hypothesis testing.

Usage

```
## S3 method for class 'data.frame'
build_table(
  .object,
  ...,
  .by,
  .inverse = FALSE,
  .append.stat = TRUE,
  .parametric = FALSE,
  .show.missing = FALSE,
  .show.test = FALSE,
  .na.rm = TRUE,
  .percent.sign = TRUE,
```

```
  .digits = 1,
  .p.digits = 4
)
```

Arguments

.object	A data.frame.
...	One or more unquoted expressions separated by commas representing columns in the data.frame. May be specified using tidyselect helpers. If left empty, all columns are summarized.
.by	An unquoted expression. Optional. The data column to stratify the summary by.
.inverse	A logical. Optional. For logical data, report the frequency of FALSE values instead of the TRUE.
.append.stat	A logical. Optionla. Append the type of summary statistic to the column label.
.parametric	A logical. Optional. Use parametric testing.
.show.missing	A logical. Optional. Append a column listing the frequencies of missing data for each row.
.show.test	A logical. Optional. Append a column containing the test each p-value was derived from.
.na.rm	A logical. Optional. Ignore NA values when calculating frequencies for logical and factor data types.
.percent.sign	A logical. Optional. Paste a percent symbol after all reported frequencies.
.digits	An integer. Optional. The number of digits to round numbers to.
.p.digits	An integer. Optional. The number of p-value digits to report.

Value

An object of class tbl_df (tibble) summarizing the provided object.

See Also

build_table

Examples

```
# Sample data
df <- data.frame(
  strata = factor(sample(letters[1:3], 1000, replace = TRUE)),
  numeric = sample(1:100, 1000, replace = TRUE),
  numeric2 = sample(1:100, 1000, replace = TRUE),
  factor = factor(sample(1:5, 1000, replace = TRUE)),
  logical = sample(c(TRUE,FALSE), 1000, replace = TRUE)
)

# Summarize all columns
build_table(df, .by = strata)
```

```
# Summarize & rename selected columns
build_table(df, Numeric = numeric2, Factor = factor, .by = strata)
```

`build_table.lm` *Build summary tables from lm model objects*

Description

Takes a linear regression model object and summarizes it into a ready to export, human-readable summary table.

Usage

```
## S3 method for class 'lm'
build_table(
  .object,
  ...,
  .test = c("F", "Chisq"),
  .show.test = FALSE,
  .level = 0.95,
  .percent.sign = TRUE,
  .digits = 1,
  .p.digits = 4
)
```

Arguments

`.object`	An object of class `lm`.
`...`	One or more unquoted expressions separated by commas representing columns in the data.frame. May be specified using `tidyselect` `helpers`. If left empty, all terms are summarized.
`.test`	A character. The name of the `stats::drop1` test to use with the model.
`.show.test`	A logical. Append a columns for the test and accompanying statistic used to derive the p-value.
`.level`	A double. The confidence level required.
`.percent.sign`	A logical. Paste a percent symbol after all reported frequencies.
`.digits`	An integer. The number of digits to round numbers to.
`.p.digits`	An integer. The number of p-value digits to report. Note that the p-value still rounded to the number of digits specified in `.digits`.

Value

An object of class `tbl_df` (tibble) summarizing the provided object.

See Also

build_table

Examples

```
library(dplyr)

data_mtcars <- datasets::mtcars %>%
  mutate_at(vars('vs', 'am'), as.logical) %>%
  mutate_at(vars('gear', 'carb', 'cyl'), as.factor)

fit <- lm(mpg ~ vs + drat + cyl, data = data_mtcars)

fit %>% build_table()
```

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