Package 'radiant.design'

April 5, 2018

Type Package

Title Design Menu for Radiant: Business Analytics using R and Shiny

Version 0.9.2

Date 2018-3-30

Description The Radiant Design menu includes interfaces for design of experiments, sampling, and sample size calculation. The application extends the functionality in radiant.data.

Depends R (>= 3.3.0),
radiant.data (>= 0.9.2),
mvtnorm

Imports dplyr (>= 0.7.4),
shiny (>= 1.0.5),
AlgDesign (>= 1.1.7.3),
rstudioapi (>= 0.7),
import (>= 1.1.0),
polycor,
methods

Suggests testthat (>= 2.0.0)

URL https://github.com/radiant-rstats/radiant.design, https://radiant-rstats.github.io/docs

BugReports https://github.com/radiant-rstats/radiant.design/issues

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LazyData true

Encoding UTF-8

RoxygenNote 6.0.1

R topics documented:

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doe *Create (partial) factorial design*

Description

Create (partial) factorial design

Usage

```
doe(factors, int = "", trials = NA, seed = NA)
```

Arguments

factors	Categorical variables used as input for design
int	Vector of interaction terms to consider when generating design
trials	Number of trial to create. If NA then all feasible designs will be considered until a design with perfect D-efficiency is found
seed	Random seed to use as the starting point

Details

See https://radiant-rstats.github.io/docs/design/doe.html for an example in Radiant

Value

A list with all variables defined in the function as an object of class doe

See Also

summary.doe to summarize results

Examples

```
"price; $10; $13; $16\nfood; popcorn; gourmet; no food" %>% doe
```

radiant.design *radiant.design*

Description

radiant.design

Launch radiant.design in the default browser

Usage

```
radiant.design()
```

Details

See https://radiant-rstats.github.io/docs for documentation and tutorials

Examples

```
## Not run:
radiant.design()

## End(Not run)
```

radiant.design_viewer *Launch radiant.design in the Rstudio viewer*

Description

Launch radiant.design in the Rstudio viewer

Usage

```
radiant.design_viewer()
```

Details

See https://radiant-rstats.github.io/docs for documentation and tutorials

Examples

```
## Not run:
radiant.design_viewer()

## End(Not run)
```

radiant.design_window *Launch radiant.design in an Rstudio window*

Description

Launch radiant.design in an Rstudio window

Usage

```
radiant.design_window()
```

Details

See https://radiant-rstats.github.io/docs for documentation and tutorials

Examples

```
## Not run:
radiant.design_window()

## End(Not run)
```

rndnames *100 random names*

Description

100 random names

Usage

```
data(rndnames)
```

Format

A data frame with 100 rows and 2 variables

Details

A list of 100 random names generated by listofrandomnames.com. Description provided in attr(rndnames,"description")

`sample_size` *Sample size calculation*

Description

Sample size calculation

Usage

```
sample_size(type, err_mean = 2, sd_mean = 10, err_prop = 0.1,
  p_prop = 0.5, conf_lev = 1.96, incidence = 1, response = 1,
  pop_correction = "no", pop_size = 1e+06)
```

Arguments

`type`	Choose "mean" or "proportion"
`err_mean`	Acceptable Error for Mean
`sd_mean`	Standard deviation for Mean
`err_prop`	Acceptable Error for Proportion
`p_prop`	Initial proportion estimate for Proportion
`conf_lev`	Confidence level
`incidence`	Incidence rate (i.e., fraction of valid respondents)
`response`	Response rate
`pop_correction`	Apply correction for population size ("yes","no")
`pop_size`	Population size

Details

See https://radiant-rstats.github.io/docs/design/sample_size.html for an example in Radiant

Value

A list of variables defined in sample_size as an object of class sample_size

See Also

`summary.sample_size` to summarize results

Examples

```
result <- sample_size(type = "mean", err_mean = 2, sd_mean = 10)
```

`sample_size_comp` *Sample size calculation for comparisons*

Description

Sample size calculation for comparisons

Usage

```
sample_size_comp(type, n = NULL, p1 = NULL, p2 = NULL, delta = NULL,
  sd = NULL, conf_lev = NULL, power = NULL, ratio = 1,
  alternative = "two.sided")
```

Arguments

`type`	Choose "mean" or "proportion"
`n`	Sample size
`p1`	Proportion 1 (only used when "proportion" is selected)
`p2`	Proportion 2 (only used when "proportion" is selected)
`delta`	Difference in means between two groups (only used when "mean" is selected)
`sd`	Standard deviation (only used when "mean" is selected)
`conf_lev`	Confidence level
`power`	Power
`ratio`	Sampling ratio (n1 / n2)
`alternative`	Two or one sided test

Details

See https://radiant-rstats.github.io/docs/design/sample_size_comp.html for an example in Radiant

Value

A list of variables defined in sample_size_comp as an object of class sample_size_comp

See Also

`summary.sample_size_comp` to summarize results

sampling *Simple random sampling*

Description

Simple random sampling

Usage

```
sampling(dataset, var, sample_size, seed = NA, data_filter = "")
```

Arguments

dataset	Dataset name (string). This can be a dataframe in the global environment or an element in an r_data list from Radiant
var	The variable to sample from
sample_size	Number of units to select
seed	Random seed to use as the starting point
data_filter	Expression entered in, e.g., Data > View to filter the dataset in Radiant. The expression should be a string (e.g., "price > 10000")

Details

See https://radiant-rstats.github.io/docs/design/sampling.html for an example in Radiant

Value

A list of variables defined in sampling as an object of class sampling

See Also

summary.sampling to summarize results

Examples

```
result <- sampling("rndnames","Names",10)
```

summary.doe *Summary method for doe function*

Description

Summary method for doe function

Usage

```
## S3 method for class 'doe'
summary(object, eff = TRUE, part = TRUE, full = TRUE,
  dec = 3, ...)
```

Arguments

object	Return value from doe
eff	If TRUE print efficiency output
part	If TRUE print partial factorial
full	If TRUE print full factorial
dec	Number of decimals to show
...	further arguments passed to or from other methods.

Details

See https://radiant-rstats.github.io/docs/design/doe.html for an example in Radiant

See Also

doe to calculate results

Examples

```
"price; $10; $13; $16\nfood; popcorn; gourmet; no food" %>% doe %>% summary
```

summary.sample_size *Summary method for the sample_size function*

Description

Summary method for the sample_size function

Usage

```
## S3 method for class 'sample_size'
summary(object, ...)
```

Arguments

object	Return value from sample_size
...	further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/design/sample_size.html for an example in Radiant

See Also

sample_size to generate the results

Examples

```
result <- sample_size(type = "mean", err_mean = 2, sd_mean = 10)
summary(result)
```

---

summary.sample_size_comp

Summary method for the sample_size_comp function

Description

Summary method for the sample_size_comp function

Usage

```
## S3 method for class 'sample_size_comp'
summary(object, ...)
```

Arguments

object	Return value from sample_size_comp
...	further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/design/sample_size_comp.html for an example in Radiant

See Also

sample_size_comp to generate the results

summary.sampling *Summary method for the sampling function*

Description

Summary method for the sampling function

Usage

```
## S3 method for class 'sampling'
summary(object, prn = TRUE, dec = 3, ...)
```

Arguments

object	Return value from sampling
prn	Print full sampling frame. Default is TRUE
dec	Number of decimals to show
...	further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/design/sampling.html for an example in Radiant

See Also

sampling to generate the results

Examples

```
set.seed(1234)
result <- sampling("rndnames", "Names", 10)
summary(result)
```

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