Package: simcovariates (via r-universe)

May 15, 2026

Title Simulate Covariates from Summary Statistics

Version 0.0.0.9000

Description Simulate covariates from summary statistics.

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Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2.9000

Imports dplyr

Suggests knitr, rmarkdown, testthat (>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

Repository https://n8thangreen.r-universe.dev

Date/Publication 2025-07-18 10:36:42 UTC

RemoteUrl https://github.com/n8thangreen/simcovariates

RemoteRef HEAD

RemoteSha ea49838434845d03d2bae0ee34a25375ea40419d

Contents

constructors *Functions to define individual covariate properties*

Description

These functions serve as constructors to create objects that define the properties of different covariate types (continuous, binary, categorical). These definition objects are then used within the `gen_data` function's `covariate_defns` argument to specify the characteristics of the simulated covariates.

Usage

```
continuous(mean, sd)

binary(prob)

categorical(levels, probs = NULL)
```

Details

Constructors for Covariate Definitions

gen_data *Generate simulated datasets of IPD covariates and outcome for a trial*

Description

Generate simulated datasets of IPD covariates and outcome for a trial

Usage

```
gen_data(
  N,
  b_0,
  b_trt,
  covariate_defns,
  b_prognostic = NULL,
  b_effect_modifier = NULL,
  cor_matrix = NULL,
  trt_assignment = list(prob_trt1 = 0.5),
  error_params = list(sd = 1),
  family = gaussian(link = "identity")
)
```

Arguments

cor_matrix	Applies to all latent covariates
family	

Value

Data frame of simulated IPD

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gen_data_orig *Generate simulated datasets of IPD covariates and outcome for a trial*

Description

Generate simulated datasets of IPD covariates and outcome for a trial

Usage

```
gen_data_orig(
  N,
  b_trt,
  meanX = NULL,
  sdX = NULL,
  b_X = NULL,
  meanX_EM = NULL,
  sdX_EM = NULL,
  b_EM = NULL,
  prob_X_bin = NULL,
  b_X_bin = NULL,
  prob_EM_bin = NULL,
  b_EM_bin = NULL,
  b_0,
  corX,
  allocation,
  sigma = 1,
  family = binomial("logit")
)
```

Arguments

N	Total number of patients
b_trt	b coefficient for active treatment vs. common comparator
meanX	Mean vector of each normally-distributed covariate X
sdX	Standard deviation vector of each covariate X
b_X	b coefficients for each prognostic variable X
meanX_EM	Mean vector of each normally-distributed EM covariate X

sdX_EM	Standard deviation vector of each EM covariate X
b_EM	b coefficients effect modifiers
prob_X_bin	Probability for each binary distributed covariate X
b_X_bin	b coefficients for each prognostic variable X
prob_EM_bin	Probability for each binary distributed EM covariate X
b_EM_bin	b coefficients effect modifiers
b_0	Intercept coefficient
corX	Covariate correlation coefficient of X
allocation	Allocation to active treatment as proportion of total; 0 to 1
sigma	Standard deviation of outcome; optional
family	Family object

Value

Data frame of X, trt and y

Examples

```
## Not run:
x <- gen_data(
 N = 100,
 b_trt = log(0.17),
 b_X = -log(0.5),
 b_EM = -log(0.67),
 b_0 = -0.62,
 meanX = c(0.6, 0.6),
 sdX = c(0.4, 0.4),
 meanX_EM = c(0.6, 0.6),
 sdX_EM = c(0.4, 0.4),
 corX = 0.2,
 allocation = 2/3)

head(x)

## End(Not run)
```

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