Package: crashbayes (via r-universe)

September 30, 2024

Title Crash Course On Bayesian Regression Modelling

Version 0.1.0

Description Code, data and vignettes for a short (< 1 day) practical course on Bayesian Statistics.

License GPL (>= 3)

Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.2.3

Suggests knitr, rmarkdown, bookdown

VignetteBuilder knitr

Imports bayesplot, broom, cowplot, distributional, dplyr, forcats, ggdist, ggplot2, ggtext, kableExtra, rstanarm, tibble, tidyr, tidybayes

Depends R (>= 2.10)

LazyData true

Repository https://cirad-astre.r-universe.dev

RemoteUrl https://forgemia.inra.fr/umr-astre/training/crashbayes

RemoteRef HEAD

RemoteSha 700f5a00de239bac8fd54b8b30f70ef74db599ad

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best *Bayesian Estimation Supersedes the t Test (BEST)*

Description

Example data from Kruschke (2013) used to compare the quantitative means of two groups using Null-Hypothesis Significance Testing and Bayesian Estimation

Usage

```
best
```

Format

`best`**:**

A data frame with 89 rows and 2 columns:

group Factor with levels 'drug' or 'placebo'

y Observed outcome of the IQ test for an individual

Details

Outcomes from two groups of people who take an IQ test. Group 1 (N1 = 47) consumes a "smart drug" and Group 2 (N2 = 42) is a control group that consumes a placebo

The data was simulated randomly from *t* distributions, in order to generate some outliers.

Source

https://jkkweb.sitehost.iu.edu/BEST/

References

John K. Kruschke, Journal of Experimental Psychology: General, 2013, v.142(2), pp.573-603. (doi: 10.1037/a0029146)

dlogitnorm *Logistic-Normal distribution density function*

Description

Probability density function of a variable whose logit is Gaussian.

Usage

```
dlogitnorm(x, mu, sd)
```

Arguments

x	Numeric vector. Evaluation value.
mu	Numeric vector. Mean of the latent Gaussian.
sd	Numeric vector. Standard deviation of the latent Gaussian.

References

https://en.wikipedia.org/wiki/Logit-normal_distribution

Examples

```
dlogitnorm(seq(0.1, 0.9, by = 0.1), 1, 1)
```

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sigma_ci *Confidence Interval for the residual standard deviation of a linear model*

Description

Compute a Confidence Interval

Usage

```
sigma_ci(x, alpha)
```

Arguments

x	An object of class `lm`
alpha	

Value

A data.frame with 1 line and variables `parameter`, `point_est`, `ll` and `hh`.

References

See, for instance,

Examples

```
sigma_ci(lm(y ~ 1, data.frame(y = rnorm(1e3, sd = 2))), alpha = 0.05)
```

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