



17th Meeting of the Hamburg R-User-Group, 12th Feb 2019

Project "easystats" Making R stats easier!

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Dominique



Neuropsychologist, psychotherapist, pizza lover 🔊

Postdoc at the Clinical Brain Lab (Singapore) on the neuroscience of deception

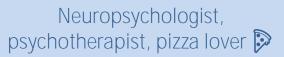


easystats



https://github.com/easystats

Dominique

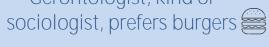


Postdoc at the Clinical Brain Lab (Singapore) on the neuroscience of deception





Gerontologist, kind of



Postdoc at the Department of Medical Sociology (University Medical Center Hamburg)







- Provide a set of packages that makes it easier to do statistical analysis and reporting with R.
 - □ Low-level (or "core") packages
 - Target group: advanced users and developers
 - Aims (examples): accessor functions to access the internals of models, such as variables, formulas, model frame/data, random effects, their structure and so on...





- Provide a set of packages that makes it easier to do statistical analysis and reporting with R.
 - Mid-level packages
 - Target group: end-user
 - Aims (examples): computation of model "performance" metrics (R2, ICC, CoD, AIC, BIC and whatnot), model comparison, Bayesian analysis, . . .





- Provide a set of packages that makes it easier to do statistical analysis and reporting with R.
 - ☐ High Level
 - Target groups: non-experts/beginners that want fully-baked solutions to solve their problems and that want to experience the power of R
 - Aims: reporting, plotting





 Provide a set of packages that makes it easier to do statistical analysis and reporting with R.



And most important!

 All packages, especially the low-level packages, should run with minimum dependencies!

```
Package: insight
Type: Package
Title: Easily Access Model Information for Various Model Objects
Description: Although there are generic functions to get information about or
  data from models, many modelling-functions from different packages do not
 provide methods to access these information. 'insight' aims to close this
  gap by providing functions that work for (almost) any model object.
Version: 0.1.0.0001
Date: 2019-01-29
Authors@R: person("Daniel", "Lüdecke", role = c("aut", "cre"), email =
"d.luedecke@uke.de", comment = c(ORCID = "0000-0002-8895-3206"))
Maintainer: Daniel Lüdecke <d.luedecke@uke.de>
License: GPL-3
                            and no imports!
Depends: R (>= 3.2), stats
Suggests: brms, glmmTMB, lme4, nlme, splines, testthat
Encoding: UTF-8
LazyData: true
```



A first low-level package...

insight



```
# model frame?
library(nlme)
m <- gls(
  follicles ~ sin(2*pi*Time) +
  cos(2*pi*Time), Ovary,
  correlation = corAR1(form = ~ 1 | Mare)
model.frame(m)
#> corStruct parameters:
#> [1] 1.960656
```

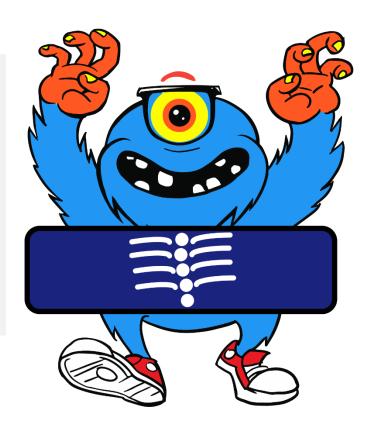




```
# model family?

fm1 <- lme(
   distance ~ age, data = Orthodont
)

family(fm1)
#> Error in UseMethod("family") :
#> no applicable method for 'family'
#> applied to an object of class "lme"
```





```
# model terms?
library(MCMCglmm)
data(PlodiaP0)
m <- MCMCglmm(
  PO~1, random=~FSfamily, data=PlodiaPO,
  verbose=FALSE, nitt=1300, burnin=300,
  thin=1
all.vars(terms(m))
#> Error in terms.default(m) : no
#> terms component nor attribute
```







Gain insight into your models!



Gain insight into your models!

Thanks to a stunning x-ray-technology, the insight-package allows to easily get insights into your model object!





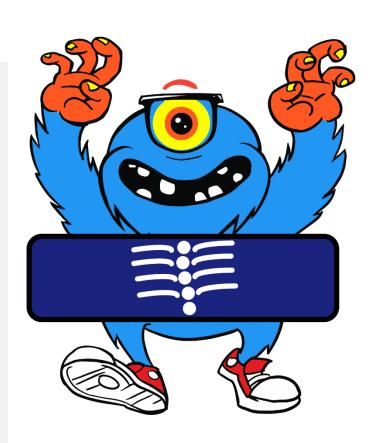


```
# model frame?
library(insight)
library(nlme)
m < - gls(
 follicles ~ sin(2*pi*Time) +
 cos(2*pi*Time), Ovary,
 correlation = corAR1(form = ~ 1 | Mare)
model_data(m)
#> Mare Time follicles
20
15
19
#> ... (truncated)
```





```
# model terms?
library(insight)
library(MCMCglmm)
data(PlodiaP0)
m <- MCMCglmm(</pre>
  PO~1, random=~FSfamily, data=PlodiaPO,
  verbose=FALSE, nitt=1300, burnin=300,
  thin=1
model_terms(m)
#> [1] "P0"
                   "FSfamily"
```





- The goal of this package is to provide tools that make it easy and intuitive to access information contained in various models.
- Although there are generic functions to get information and data from models, many modelling-functions from different packages do not provide methods to access these information.
- insight aims at closing this gap by providing consistent functions that work for (almost) any models.

easystats



https://sithub.com/easystats

Dominique & Daniel



