# Package ‘broomExtra’

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**Type**  Package

**Title**  Enhancements for 'broom' and 'easystats' Package Families

**Version**  4.0.0

**Maintainer**  Indrajeet Patil <patilindrajeet.science@gmail.com>

**Description**  Provides helper functions that assist in data analysis workflows involving regression analyses. The goal is to combine the functionality offered by different set of packages (‘broom’, ‘broom.mixed’, ‘parameters’, and ‘performance’) through a common syntax to return tidy dataframes containing model parameters and performance measure summaries. The ‘grouped_’ variants of the generics provides a convenient way to execute functions across a combination of grouping variable(s) in a dataframe.

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**BugReports**  [https://github.com/IndrajeetPatil/broomExtra/issues](https://github.com/IndrajeetPatil/broomExtra/issues)

**Depends**  R (>= 3.6.0)

**Imports**  broom, broom.mixed, dplyr, ipmisc, parameters, performance, rlang

**Suggests**  generics, ggplot2, insight, knitr, lavaan, lme4, MASS, mixor, orcutt, rmarkdown, spelling, testthat, tidyr
augment

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augment

Retrieve augmented dataframe if it exists.

Description

Check if a `augment` method exists for a given object, either in `broom` or in `broom.mixed`. If it does, return the model summary dataframe, if not, return a NULL.

Usage

`augment(x, ...)`

Arguments

- `x` Model object or other R object with information to append to observations.
- `...` Addition arguments to `augment` method.

Value

A `tibble::tibble()` with information about data points.

Methods

No methods found in currently loaded packages.

Note

For available methods, see https://indrajeetpatil.github.io/broomExtra/articles/available_methods.html
Author(s)

Indrajeet Patil

See Also

grouped_augment

Examples

```r
set.seed(123)
library(lme4)

# mixed-effects models (`broom.mixed` will be used)
llm.mod <- lmer(Reaction ~ Days + (Days | Subject), sleepstudy)
broomExtra::augment(llm.mod)

# linear model (`broom` will be used)
llm.mod <- lm(Reaction ~ Days, sleepstudy)
broomExtra::augment(llm.mod)
```

easystats_to_tidy_names

Convert easystats package outputs to tidymodels conventions.

Description

Both broom package from tidymodels universe and parameters package from easystats universe can provide model summaries for a large number of model objects. This is a convenience function that converts naming conventions adopted in easystats to the ones adopted in the broom package.

Usage

easystats_to_tidy_names(x)

Arguments

- `x` A statistical model object

Examples

```r
# example model object
mod <- stats::lm(formula = wt ~ am * cyl, data = mtcars)

# `tidy`-fied output
easystats_to_tidy_names(parameters::model_parameters(mod))
```
glance

Retrieve model summary dataframe if it exists.

Description
Check if a glance method exits for a given object, either in broom or in broom.mixed. If it does, return the model summary dataframe, if not, return a NULL. In this case, you can try the broomExtra::glance_performance function.

Usage
glance(x, ...)

Arguments
x model or other R object to convert to single-row data frame
... other arguments passed to methods

Methods
No methods found in currently loaded packages.

Note
For available methods, see- https://indrajeetpatil.github.io/broomExtra/articles/available_methods.html

Author(s)
Indrajeeet Patil

See Also
grouped_glance, glance_performance

Examples
set.seed(123)
library(lme4)

# mixed-effects models (`broom.mixed` will be used)
lmm.mod <- lmer(Reaction ~ Days + (Days | Subject), sleepstudy)
broomExtra::glance(lmm.mod)

# linear model (`broom` will be used)
lm.mod <- lm(Reaction ~ Days, sleepstudy)
broomExtra::glance(lm.mod)
**glance_performance**

*Model performance summary dataframes using broom and easystats.*

**Description**

Computes indices of model performance for regression models.

**Usage**

```r
glance_performance(x, ...)
```

**Arguments**

- `x`: model or other R object to convert to single-row data frame
- `...`: other arguments passed to methods

**Details**

The function will attempt to get these details either using `broom::glance` or `performance::model_performance`. If both functions provide model performance measure summaries, the function will try to combine them into a single dataframe.

**Value**

A data frame (with one row) and one column per "index".

**Examples**

```r
set.seed(123)
mod <- lm(mpg ~ wt + cyl, data = mtcars)
broomExtra::glance_performance(mod)
```

---

**grouped_augment**

*Augmented data from grouped analysis of any function that has data argument in its function call.*

**Description**

Augmented data from grouped analysis of any function that has data argument in its function call.

**Usage**

```r
grouped_augment(data, grouping.vars, ..f, ..., augment.args = list())
```
Arguments

data  Dataframe (or tibble) from which variables are to be taken.
grouping.vars  Grouping variables.
..f  A function, or function name as a string.
...
<dynamic> Arguments for .fn.
augment.args  A list of arguments to be used in the relevant S3 method.

Value

A tibble::tibble() with information about data points.

Methods

No methods found in currently loaded packages.

Note

For available methods, see- https://indrajeetpatil.github.io/broomExtra/articles/available_methods.html

Author(s)

Indrajeet Patil

See Also

augment

Examples

set.seed(123)
# to speed up computation, let's use only 50% of the data

# linear model
broomExtra::grouped_augment(
  data = dplyr::sample_frac(tbl = ggplot2::diamonds, size = 0.5),
  grouping.vars = c(cut, color),
  formula = price ~ carat - 1,
  ..f = stats::lm,
  na.action = na.omit,
  augment.args = list(se_fit = TRUE)
)

# linear mixed effects model
broomExtra::grouped_augment(
  data = dplyr::sample_frac(tbl = ggplot2::diamonds, size = 0.5),
  grouping.vars = "cut",
  ..f = lme4::lmer,
  formula = price ~ carat + (carat | color) - 1,
  control = lme4::lmerControl(optimizer = "bobyqa")
)
grouped_glance

Model summary output from grouped analysis of any function that has data argument in its function call.

Description

Model summary output from grouped analysis of any function that has data argument in its function call.

Usage

grouped_glance(data, grouping.vars, ..f, ...)

Arguments

data  Dataframe (or tibble) from which variables are to be taken.
grouping.vars  Grouping variables.
..f  A function, or function name as a string.
...  <dynamic> Arguments for .f.

Methods

No methods found in currently loaded packages.

Note

For available methods, see- https://indrajeetpatil.github.io/broomExtra/articles/available_methods.html

Author(s)

Indrajeet Patil

See Also

glance

Examples

set.seed(123)
# to speed up computation, let's use only 50% of the data

# linear model
broomExtra::grouped_glance(
  data = dplyr::sample_frac(tbl = ggplot2::diamonds, size = 0.5),
  grouping.vars = c(cut, color),
  formula = price ~ carat - 1,
  ..f = stats::lm,
  na.action = na.omit
)

# linear mixed effects model
broomExtra::grouped_glance(
  data = dplyr::sample_frac(tbl = ggplot2::diamonds, size = 0.5),
  grouping.vars = "cut",
  .f = lme4::lmer,
  formula = price ~ carat + (carat | color) - 1,
  control = lme4::lmerControl(optimizer = "bobyqa")
)

---

**grouped_tidy**

*Tidy output from grouped analysis of any function that has data argument in its function call.*

**Description**

Tidy output from grouped analysis of any function that has `data` argument in its function call.

**Usage**

```r
grouped_tidy(data, grouping.vars, ..f, ..., tidy.args = list())
```

**Arguments**

- `data` Dataframe (or tibble) from which variables are to be taken.
- `grouping.vars` Grouping variables.
- `..f` A function, or function name as a string.
- `...` <dynamic> Arguments for `.f`.
- `tidy.args` A list of arguments to be used in the relevant S3 method.

**Value**

A `tibble::tibble()` with information about model components.

**Methods**

No methods found in currently loaded packages.

**Note**

For available methods, see: https://indrajeetpatil.github.io/broomExtra/articles/available_methods.html

**Author(s)**

Indrajeet Patil

**See Also**

`tidy`
Examples

```r
tidy

Examples

set.seed(123)
# to speed up computation, let's use only 50% of the data

# linear model
broomExtra::grouped_tidy(
    data = dplyr::sample_frac(tbl = ggplot2::diamonds, size = 0.5),
    grouping.vars = c(cut, color),
    formula = price ~ carat - 1,
    ..f = stats::lm,
    na.action = na.omit,
    tidy.args = list(quick = TRUE)
)

# linear mixed effects model
broomExtra::grouped_tidy(
    data = dplyr::sample_frac(tbl = ggplot2::diamonds, size = 0.5),
    grouping.vars = "cut",
    ..f = lme4::lmer,
    formula = price ~ carat + (carat | color) - 1,
    control = lme4::lmerControl(optimizer = "bobyqa"),
    tidy.args = list(conf.int = TRUE, conf.level = 0.99)
)
```

**tidy**

*Retrieve tidy dataframe if it exists.*

**Description**

Checks if a tidy method exits for a given object, either in `broom` or in `broom.mixed`. If it does, it turn an object into a tidy tibble, if not, return a NULL. In case of data frames, a tibble data frame is returned. In this case, you can try the `broomExtra::tidy_parameters` function.

**Usage**

```r
tidy(x, ...)
```

**Arguments**

- `x`
  An object to be converted into a tidy `tibble::tibble()`.

- `...`
  Additional arguments to tidying method.

**Value**

A `tibble::tibble()` with information about model components.

**Methods**

No methods found in currently loaded packages.

**Note**

For available methods, see- [https://indrajeetpatil.github.io/broomExtra/articles/available_methods.html](https://indrajeetpatil.github.io/broomExtra/articles/available_methods.html)
tidy_parameters

Tidy dataframes of model parameters using broom and easystats.

Description

Computes parameters for regression models.

Usage

tidy_parameters(x, conf.int = TRUE, ...)

Arguments

x An object to be converted into a tidy tibble::tibble().

conf.int Indicating whether or not to include a confidence interval in the tidied output.

... Additional arguments that will be passed to parameters::model_parameters and broom::tidy.

Details

The function will attempt to get these details first using parameters::model_parameters and then using broom::tidy.

Value

A data frame of indices related to the model’s parameters.
Examples

```r
set.seed(123)
mod <- lm(mpg ~ wt + cyl, data = mtcars)
broomExtra::tidy_parameters(mod)
```
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