Package ‘broomExtra’

Type Package

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

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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

Depends R (>= 3.6.0)

Imports broom, broom.mixed, dplyr, magrittr, parameters (>= 0.13.0), performance (>= 0.7.0), rlang, tibble

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**augment**  
Retrieve augmented dataframe if it exists.

**Description**

Checks if a `augment` 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`.

**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.

**See Also**

`grouped_augment`

**Examples**

```r
set.seed(123)
lm.mod <- lm(Sepal.Length ~ Species, iris)
broomExtra::augment(lm.mod)
```
glance

Retrieves model summary dataframe if it exists.

Description

Checks if a glance 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. In this case, you can try the 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

See Also

grouped_glance, glance_performance

Examples

set.seed(123)
lm.mod <- lm(Sepal.Length ~ Species, iris)
broomExtra::glance(lm.mod)

---

glance_performance  Model performance summary dataframes using broom and easystats.

Description

Computes indices of model performance for regression models.

Usage

glance_performance(x, ...)

Arguments

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

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. Measures for which these two packages have different naming conventions, both will be retained.

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.

See Also

`augment`
Examples

```r
set.seed(123)

# linear mixed effects model
broomExtra::grouped_augment(
  data = dplyr::mutate(MASS::Aids2, interval = death - diag),
  grouping.vars = sex,
  ..f = lme4::lmer,
  formula = interval ~ age + (1 | status),
  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

```r
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`.

### See Also

`glance`

### Examples

```r
set.seed(123)

# linear mixed effects model
broomExtra::grouped_glance(
  data = dplyr::mutate(MASS::Aids2, interval = death - diag),
  grouping.vars = sex,
  ..f = lme4::lmer,
  formula = interval ~ age + (1 | status),
  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 `.fn`.
- `tidy.args`: A list of arguments to be used in the relevant S3 method.

Value

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

See Also

- `tidy`

Examples

```r
set.seed(123)

# linear mixed effects model
broomExtra::grouped_tidy(
  data = dplyr::mutate(MASS::Aids2, interval = death - diag),
  grouping.vars = sex,
  ..f = lme4::lmer,
  formula = interval ~ age + (1 | status),
  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 this case, you can try the tidy_parameters() function.

Usage

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.

See Also

grouped_tidy, tidy_parameters

Examples

set.seed(123)
lm.mod <- lm(Sepal.Length ~ Species, iris)
broomExtra::tidy(x = lm.mod, conf.int = TRUE)

tidy_parameters Tidy dataframes of model parameters using broom and easystats.

Description

Computes parameters for regression models.

Usage

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

tidy_parameters
tidy_parameters

Arguments

x  An object to be converted into a tidy \texttt{tibble::tibble()}.  
conf.int  Indicating whether or not to include a confidence interval in the tidied output (defaults to \texttt{TRUE}).  
...  Additional arguments that will be passed to \texttt{parameters::model_parameters()} or \texttt{broom::tidy()}, whichever method works. Note that you should pay attention to different naming conventions across these packages. For example, the required confidence interval width is specified using \texttt{ci} argument in \texttt{parameters::model_parameters}, while using \texttt{conf.level} in \texttt{broom::tidy}.

Details

The function will attempt to get these details first using \texttt{parameters::model_parameters()}, and if this fails, then using \texttt{broom::tidy()}.  

Value

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

Examples

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