

# Package ‘jlme’

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**Title** Regression Modelling with 'GLM.jl' and 'MixedModels.jl' in 'Julia'

**Version** 0.1.0

**Description** Bindings to 'Julia' packages 'GLM.jl'  [<doi:10.5281/zenodo.3376013>](https://doi.org/10.5281/zenodo.3376013) and 'MixedModels.jl'  [<doi:10.5281/zenodo.12575371>](https://doi.org/10.5281/zenodo.12575371), powered by 'JuliaConnector'. Fits (generalized) linear (mixed-effects) regression models in 'Julia' using familiar model fitting syntax from R. Offers 'broom'-style data frame summary functionalities for 'Julia' regression models.

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**URL** <https://yjunechoe.github.io/jlme/>

**Depends** R (>= 4.1)

**Imports** generics, JuliaConnector, JuliaFormulae, MASS, stats, utils

**Suggests** broom, broom.mixed, lme4, testthat (>= 3.0.0)

**Config/testthat/edition** 3

**Encoding** UTF-8

**RoxygenNote** 7.3.2

**SystemRequirements** Julia (>= 1.8)

**NeedsCompilation** no

**Author** June Choe [aut, cre] ( [<https://orcid.org/0000-0002-0701-921X>](https://orcid.org/0000-0002-0701-921X))

**Maintainer** June Choe  [<jchoe001@gmail.com>](mailto:jchoe001@gmail.com)

**Repository** CRAN

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`check_julia_ok`*Set up Julia connection for jlme*

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**Description**

Set up Julia connection for jlme

**Usage**`check_julia_ok()``stop_julia()``jlme_status()``jlme_setup(..., restart = FALSE, threads = NULL, verbose = interactive())`**Arguments**

<code>...</code>	Unused
<code>restart</code>	Whether to run <code>stop_julia()</code> first, before attempting setup
<code>threads</code>	Number of threads to start Julia with. Defaults to 1
<code>verbose</code>	Whether to alert setup progress. Defaults to <code>interactive()</code>

**Value**

Invisibly returns TRUE on success

**Examples**

```
# Check whether Julia installation meets requirements
check_julia_ok()

# Connect to a Julia runtime for use with `{jlme}`
jlme_setup()

# Show information about the Julia runtime
jlme_status()

# Stop Julia runtime
stop_julia()
```

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`jlm`*Fit a (mixed-effects) regression model in Julia*

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## Description

Fit a (mixed-effects) regression model in Julia

## Usage

```
jlm(formula, data, family = "gaussian", contrasts = jl_contrasts(data), ...)

jlmer(
  formula,
  data,
  family = NULL,
  contrasts = jl_contrasts(data),
  ...,
  progress = interactive()
)
```

## Arguments

<code>formula</code>	A formula written in Julia syntax. Can be a string or a language object.
<code>data</code>	A data frame
<code>family</code>	A distribution family
<code>contrasts</code>	A Julia dictionary of contrasts Inferred from data by default.
<code>...</code>	Additional arguments to the <code>fit()</code> function called in Julia
<code>progress</code>	Whether to print model fitting progress. Defaults to <code>interactive()</code>

## Value

A julia model object of class `jlme`

## Examples

```
jlme_setup(restart = TRUE)

# Fixed effects models
lm(mpg ~ hp, mtcars)
jlm(mpg ~ hp, mtcars)

# Auto-handling of contrasts
x <- mtcars
x$cyl_helm <- factor(x$cyl)
contrasts(x$cyl_helm) <- contr.helmert(3)
colnames(contrasts(x$cyl_helm)) <- c("4vs6", "4&6vs8")
```

```
lm(mpg ~ cyl_helm, x)
jlm(mpg ~ cyl_helm, x)

# Mixed effects models
library(lme4)

glmer(r2 ~ Anger + Gender + (1 | id), VerbAgg, family = "binomial")
jlmr(r2 ~ Anger + Gender + (1 | id), VerbAgg, family = "binomial")

stop_julia()
```

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jlme\_tidiers

*Tidier methods for Julia regression models*

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## Description

Tidier methods for Julia regression models

## Usage

```
## S3 method for class 'jlme'
tidy(x, effects = c("var_model", "ran_pars", "fixed"), ...)

## S3 method for class 'jlme'
glance(x, ...)
```

## Arguments

x	An object of class <code>jlmr_mod</code>
effects	One of "var_model", "ran_pars", or "fixed"
...	Unused

## Value

A data frame

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