Package ‘inference’

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Title Functions to extract inferential values of a fitted model object
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Description Collection of functions to extract inferential values (point estimates, confidence intervals, p-values, etc) of a fitted model object into a matrix-like object that can be used for table/report generation; transform point estimates via the delta method.
License GPL (>= 2)
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infer-package

Extract inferential information from different statistical models.

Description

Extract inferential information from different statistical models.

Details

This package provides functions to extract point estimates, standard errors, confidence intervals, p-values, and sample size from a fitted model in a matrix-like object. The purpose is to have all inferential numbers be readily accessible, especially in the construction of summary tables (R -> LaTeX -> html -> Word) for publication and collaboration.

Author(s)

Vinh Nguyen <vinhdizzo at gmail dot com>

Examples

infer(lm(rnorm(100) ~ runif(100)))

infer,-methods

Inference for fitted model objects.

Description

Inference for fitted model objects.

Usage

infer(fitobj, vars, robust.se=TRUE, two.sided=TRUE, ci.level=0.95, ...)

Arguments

- **fitobj**: Fitted model object, such as those of class `lm`.
- **vars**: Vector of variable names to obtain inference information for. If not specified, all variables in the fitted model will be used in the fitted model.
- **robust.se**: Boolean indicator for whether robust standard errors should be use. Defaults to TRUE.
- **two.sided**: Boolean indicator for whether p-values should correspond to a two-sided test or one-sided. Defaults to TRUE.
- **ci.level**: Confidence level. Defaults to 0.95.
- **...**: Not used.
**Details**

Extract point estimates, standard errors, confidence intervals, p-values, and sample size.

**Value**

S4 `inference` object.

**Author(s)**

Vinh Nguyen

**Examples**

```
infer(lm(rnorm(100) ~ runif(100)))
```

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**inference-class**  
*An S4 class that stores inferential values of a fitted model object.*

---

**Description**

An S4 class that stores inferential values of a fitted model object.

**Details**

An S4 class that inherits from the `matrix` class in the `methods` package; see `class?matrix`. Rows correspond to different coefficients and columns consist of point estimates (point.est), confidence intervals (ci.lo and ci.hi), p-values (p.value), and sample size (n).

**Slots**

.Data:

- `model`: (character) String specifying class of model fit, such as "lm".
- `sample.size`: (numeric) Sample size used in model fit.
- `robust.se`: (logical) Boolean indicator whether robust standard errors were used.
- `two.sided`: (logical) Boolean indicator whether p-values correspond to a two-sided test or one-sided.
- `ci.level`: (numeric) Confidence level, e.g., 0.95.
- `scale`: (character) Scale of point estimates; defaults to "beta".
- `others`: (list) List containing other information about the model; e.g., summary of cluster size for `gee` and `lme` objects; number of events for `coxph` objects.

**Extends**

`matrix`
show.inference-method  
Show/print inference object.

Description

Show/print inference object.

Arguments

object  inference object.

Details

show method for objects made using the infer function.

Value

Nothing.

Author(s)

Vinh Nguyen

transform.inference  
Transformation of point estimates

Description

transform method for class inference

Usage

transform.inference(`_data`, f, f.prime, ...)

Arguments

_data  Object of class inference.

f  Function to transform the point estimates and confidence intervals; e.g., exp.

f.prime  Derivative of f in order to compute the standard error of the transformed point estimates based on the delta method.

...  Nothing.
transform.inference

Details
Transform the point estimates, confidence intervals, and standard errors based on the delta method. This builds on the S3 generic function `transform` from the base package.
It can be used to get the hazard ratio scale in inference objects created from `coxph` objects and the odds ratio scale from logistic regression created from `glm` (both using `f=exp`, `f.prime=exp`).

Value
Object of class `inference`.

Author(s)
Vinh Nguyen
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