Package 'RegAssure'

September 4, 2023

Title Streamlined Integration of Regression Assumption

Version 1.0.0

Description It streamlines the evaluation of regression model
assumptions, enhancing result reliability. With integrated tools for
assessing key aspects like linearity, homoscedasticity, and more. It's
a valuable asset for researchers and analysts working with regression
models.

License GPL (>= 3)

Imports brant, car, lmtest, pROC, stats

Encoding UTF-8

RoxygenNote 7.2.3

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

NeedsCompilation no

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R topics documented:

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check_lm_assumptions *Check Linear Regression Model Assumptions*

Description

This function verifies assumptions for various linear regression models, including OLS, WLS, censored, and trunmessageed models.

Usage

```
check_lm_assumptions(
  model,
  studentize = TRUE,
  iterations = 1000,
  exact = NULL,
  simulate.p.value = FALSE,
  B = 2000,
  simulate = TRUE
)
```

Arguments

model	Object of class 'lm'. The fitted linear regression model.
studentize	Argument of bptest function. Default is TRUE.
iterations	Argument of dwtest function. Default is 1000.
exact	Argument of ks.test function. Default is NULL.
simulate.p.value	
	Argument of ks.test function. Default is FALSE.
B	Argument of ks.test function. Default is 2000.
simulate	Argument of durbinWatsonTest function. Default is TRUE.

Value

A list containing the results of assumption checks.

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check_logit *Check Assumptions for Logit Models*

Description

This function performs assumption checks for logistic regression models, including binary, multinomial, and ordered models. It conducts various tests to assess the validity of the model assumptions.

Usage

```
check_logit(
  logit_model,
  data,
  tipo_modelo,
  vars_numericas = NULL,
  y = NULL,
  auc = NULL,
  ci = NULL,
  ret = NULL
)
```

Arguments

`logit_model`	Fitted logistic regression model.
`data`	dataframe containing predictor variables.
`tipo_modelo`	Type of logistic regression model: ("binario", "multinomial", "ordenado", "binary", "multinomial", "ordered", "ordinal")
`vars_numericas`	Numeric variables to be used in Box-Tidwell test. Default is NULL.
`y`	Response variable for ROC test. Default is NULL.
`auc`	roc function argument.
`ci`	roc function argument.
`ret`	roc function argument.

Value

A list containing the results of assumption checks.

`get_predict`	*Get Predictions and Errors*

Description

This function generates predictions from a model and calculates the errors between actual and predicted values, resulting in a dataframe containing the predicted values, actual values, and the residuals.

Usage

```
get_predict(modelo, datos, real, n = NULL)
```

Arguments

`modelo`	Fitted model object
`datos`	Data frame containing predictor variables.
`real`	Vector of actual response values.
`n`	Number of digits to round the columns. Default

Value

A data frame containing actual, predicted, and error values.

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