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.

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Imports brant, car, lmtest, pROC, stats

Encoding UTF-8

RoxygenNote 7.2.3

Suggests testthat (>= 3.0.0)

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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 truncated 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.
simulate Argument of durbinWatsonTest function. Default is TRUE.

Value
A list containing the results of assumption checks.

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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