Package 'Multiaovbay'

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Type Package

Title Classic, Nonparametric and Bayesian Two-Way Analysis of Variance
Panel

Version 0.1.0

Description Covers several approaches to ANOVA (Analysis of Variance), specifically studying a balanced two-factor fixed-fixed ANOVA design. It consists of four sections. The first section uses a dynamic scheme to indicate which possible alternatives to follow depending on the fulfillment of the assumptions of the model. It also presents an analysis on the fulfillment of the assumptions of linearity, homoscedasticity, normality, and independence in the residuals of the model, as well as dynamic statistical graphs on the residuals of the model. The second section presents an analysis with a non-parametric approach of Kruskal Wallis. After Kruskal Wallis, a Post-Hoc analysis of multiple comparisons on the medians of the treatments is carried out. The third section presents a classical parametric ANOVA. Following classical ANOVA, a post-hoc analysis of multiple comparisons on the medians of the treatments, factor levels by Dunn's test, and statistical graphs for the treatments and factor levels are shown. Additionally, a post-hoc analysis of multiple comparisons on the means of the treatments is done. The fourth section presents an analysis of variance under a Bayesian approach. In this section, interactive statistical graphs are presented on the posterior distributions of treatments, factor levels, and a convergence analysis of the estimated parameters, using MCMC (Markov Chain Monte Carlo). These results are displayed in an interactive glossy panel which allows modification of the test arguments, contains interactive statistical plots, and presents automatic conclusions depending on the fulfillment of the assumptions of the balanced two-factor fixed ANOVA model.

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Encoding UTF-8

Biarch true

Depends R (>= 3.4.0)

Imports methods, DT, shiny, shinydashboard, shinydashboardPlus,
ggstatsplot, ggplot2, dplyr, tibble, BayesFactor, broom, car,
highcharter, moments, reshape, nortest, purrr, shinycssloaders,
PMCMRplus, stringr, waiter, htmltools, graphics, stats

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NeedsCompilation no

Author Santiago Salazar-Ruiz [aut, ctb],
Sebastian Poveda-Sandoval [aut, ctb],
Luis Aguilar-Merino [aut, ctb],
Miguel Bravo-Rosales [aut, ctb],
Omar Ruiz-Barzola [aut, cre, ctb],
John Borbor-Mieles [ctb],
Mauricio Rojas-Campuzano [ctb],
Johny Pambabay-Calero [ctb],
Sergio Bauz-Olvera [ctb]

Maintainer Omar Ruiz-Barzola <oruiz@espol.edu.ec>

R topics documented:

Multiaovbayes	*Interactive panel Two-way ANOVA classic, non parametric and bayesian*

Description

Interactive panel to visualize and develop two-way analysis of variance models, from the classical, non-parametric and Bayesian approach.

Usage

```
Multiaovbayes(dataset = FALSE)
```

Arguments

dataset   Data set

Value

A shiny panel with the classical, non-parametric and Bayesian analyzes of variance, based on the specification of the dependent and independent variable of the data set provided in dataset, also provides a decision diagram that suggests which method is appropriate, based on the assumptions of the models.

Examples

```
data(ToothGrowth)
ToothGrowth$dose = factor(ToothGrowth$dose)
levels(ToothGrowth$dose) = c("Low", "Medium", "High")
Multiaovbayes(ToothGrowth)
```

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