Package 'visae'

March 7, 2025

Type Package

Title Visualization of Adverse Events

Version 0.2.1

Description Implementation of 'shiny' app to visualize adverse events based on the Common Terminology Criteria for Adverse Events (CTCAE) using stacked correspondence analysis as described in Diniz et. al (2021)<doi:10.1186/s12874-021-01368-w>.

BugReports https://github.com/dnzmarcio/visae/issues

License GPL (>= 2)

Depends shiny (>= 1.4.0), dplyr (>= 1.0.0), ggplot2 (>= 3.3.0), R (>= 4.1.0)

Imports shinyjs (>= 1.1), ca (>= 0.71), tidyr (>= 1.1.0), ggrepel (>= 0.8.2), rlang (>= 0.4.6), DT (>= 0.13)

Encoding UTF-8

RoxygenNote 7.3.1

Suggests rmarkdown, knitr, testthat (>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

NeedsCompilation no

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Repository CRAN

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ca_ae *Correspondence Analysis of Adverse Events*

Description

Correspondence Analysis of Adverse Events

Usage

```
ca_ae(
  data,
  id,
  group,
  ae_class,
  label = "AE",
  contr_indicator = TRUE,
  mass_indicator = TRUE,
  contr_threshold = NULL,
  mass_threshold = NULL
)
```

Arguments

data	data.frame or tibble object.
id	unquoted expression indicating the variable name in data that corresponds to the id variable.
group	unquoted expression indicating the variable name in data that corresponds to the group variable.
ae_class	unquoted expression indicating the variable name in data that corresponds to AE class.
label	character value indicating the column name of AE class in resulting tables.
contr_indicator	logical value indicating the use of color intensity to represent the maximum contribution of each ae_class.
mass_indicator	logical value indicating the use of dot size to represent the overall relative frequency of each ae_class.
contr_threshold	numerical value between 0 an 1 filtering ae_class with contribution greater than contr_threshold.
mass_threshold	numerical value between 0 an 1 filtering ae_class with mass greater than mass_threshold.

Value

a list of

tab_abs	a tibble showing absolute frequency of ae_class by group;
tab_rel	a tibble showing percent of ae_class by group;
total_inertia	a numerical value indicating the total inertia;
tab_inertia	a tibble showing inertia broken down by dimension and the percent relative to the total inertia;
asymmetric_plot	a contribution biplot.

References

Levine RA, Sampson E, Lee TC. Journal of Computational and Graphical Statistics. Wiley Interdisciplinary Reviews: Computational Statistics. 2014 Jul;6(4):233-9.

Examples

```
library(dplyr)

id <- rep(1:50, each = 2)
group <- c(rep("A", 50), rep("B", 50))
ae_grade <- sample(1:5, size = 100, replace = TRUE)
ae_domain <- sample(c("D", "E"), size = 100, replace = TRUE)
ae_term <- sample(c("F", "G", "H", "I"), size = 100, replace = TRUE)
df <- tibble(id = id, trt = group,
            ae_g = ae_grade, ae_d = ae_domain, ae_t = ae_term)
test <- df |> ca_ae(id = id,
                    group = trt,
                    ae = ae_g,
                    label = "AE",
                    contr_indicator = TRUE,
                    mass_indicator = TRUE,
                    contr_threshold = 0.01,
                    mass_threshold = 0.01)
```

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run_ca *Shiny App for Correspondence Analysis of Adverse Events*

Description

Shiny App for Correspondence Analysis of Adverse Events

Usage

```
run_ca(
  data,
  id,
  group,
  ae_grade = NULL,
  ae_domain = NULL,
  ae_term = NULL,
  ae_cycle = NULL
)
```

Arguments

data	data.frame or tibble object.
id	unquoted expression indicating the variable name in data that corresponds to the id variable.
group	unquoted expression indicating the variable name in data that corresponds to the group variable.
ae_grade	unquoted expression indicating the variable name in data that corresponds to AE grade class.
ae_domain	unquoted expression indicating the variable name in data that corresponds to AE domain class.
ae_term	unquoted expression indicating the variable name in data that corresponds to AE term class.
ae_cycle	unquoted expression indicating the variable name in data that corresponds to AE cycle.

Value

an interactive web application to perform correspondence analysis for adverse event data.

Examples

```
if (interactive()) {
library(dplyr)
patient_id <- 1:100
group <- c(rep("A", 50), rep("B", 50))
ae_grade <- sample(1:5, size = 100, replace = TRUE)
ae_domain <- sample(c("C", "D"), size = 100, replace = TRUE)
ae_term <- sample(c("E", "F", "G", "H"), size = 100, replace = TRUE)
dt <- tibble(patient_id = patient_id, trt = group,
            ae_g = ae_grade, ae_d = ae_domain, ae_t = ae_term)
dt %>% run_ca(., group = trt,
             id = patient_id,
             ae_grade = ae_g,
             ae_domain = ae_d,
             ae_term = ae_t)
             }
```

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