

Package ‘visae’

November 11, 2021

Type Package

Title Visualization of Adverse Events

Version 0.2.0

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](https://doi.org/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),
magrittr (>= 1.5.0)

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 7.1.2

Suggests rmarkdown, knitr

VignetteBuilder knitr

NeedsCompilation no

Author Marcio A. Diniz [aut, cre, cph]
(<<https://orcid.org/0000-0002-2427-7843>>),
Michael Luu [aut] (<<https://orcid.org/0000-0002-7968-7313>>)

Maintainer Marcio A. Diniz <marcio.diniz@cshs.org>

Repository CRAN

Date/Publication 2021-11-10 23:40:02 UTC

R topics documented:

| | |
|------------------|----------|
| ca_ae | 2 |
| run_ca | 3 |
| Index | 5 |

`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

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

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(magrittr)
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)
```

 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

```

## Not run:
library(magrittr)
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)

## End(Not run)

```

Index

ca_ae, 2

run_ca, 3