Package ‘visae’

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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>.
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Description

Correspondence Analysis of Adverse Events

Usage

```r
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 and 1 filtering `ae_class` with contribution greater than `contr_threshold`.
- **mass_threshold**: numerical value between 0 and 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


Examples

```r
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)
```

Description

Shiny App for Correspondence Analysis of Adverse Events

Usage

```r
run_ca(
  data,
  id,
  group,
  ae_grade = 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

```r
## 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)
```
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