# Package 'airship'

December 5, 2024

**Title** Visualization of Simulated Datasets with Multiple Simulation Input Dimensions

**Version** 1.4.3

**Description** Plots simulation results of clinical trials. Its main feature is allowing users to simultaneously investigate the impact of several simulation input dimensions through dynamic filtering of the simulation results. A more detailed description of the app can be found in Meyer et al. <DOI:10.1016/j.softx.2023.101347> or the vignettes on 'GitHub'.

**BugReports** https://github.com/el-meyer/airship/issues

**License** GPL-3

**Encoding** UTF-8

**RoxygenNote** 7.3.1

**Depends** R (>= 2.10), shiny, shinyBS

**Imports** DT, shinybusy, plotly, dplyr, tidyselect, tidyr, stringr, colourpicker, shinyWidgets, shinydashboard, scales, Cairo, ggplot2, rlang, magrittr, shinyjs, data.table, shinyalert, vctrs, mvtnorm

**LazyData** true

**Suggests** knitr, rmarkdown, ggpubr

**VignetteBuilder** knitr

**NeedsCompilation** no

**Author** Elias Laurin Meyer [aut, cre] (<https://orcid.org/0000-0001-5398-6334>), Constantin Kumaus [aut, ctb], Michal Majka [aut, ctb] (<https://orcid.org/0000-0002-7524-8014>), Franz Koenig [aut, ctb] (<https://orcid.org/0000-0002-6893-3304>)

**Maintainer** Elias Laurin Meyer <elias@berryconsultants.net>

**Repository** CRAN

**Date/Publication** 2024-12-05 18:40:10 UTC

# Contents



---

`airship` *Runs the Shiny app "AIRSHIP".*

---

## Description

Runs the Shiny app "AIRSHIP".

## Usage

```
airship(
  dfData = NULL,
  cLastInputVar = NULL,
  cReplicationVar = NULL,
  bIsFacts = FALSE
)
```

## Arguments

| | |
|---|---|
| `dfData` | Dataset that should be plotted by Airship; can be NULL if upload should be done within the app. |
| `cLastInputVar` | Optional and only useful in combination with dfData. Character name of last input variable. |
| `cReplicationVar` | Optional and only useful in combination with dfData. Character name of simulation replication variable. |
| `bIsFacts` | Boolean variable; is the supplied dfData a FACTS aggregated simulation file. |

## Value

No return value

## Examples

```
if(interactive()){
airship()
}

# See Vignette.
```

ExampleData1 *Example Data 1*

## Description

An artificially simulated dataset containing bivariate normal outcomes. Outcomes depend on four input variables in a very simple manner. For each set of input variables, 1000 replications are simulated.

## Usage

```
ExampleData1
```

## Format

An object of class `data.frame` with 81000 rows and 7 columns.

## Examples

```
input1 <- c("A", "B", "C")
input2 <- c(1, 2, 3)
input3 <- c("Z", "Y", "X")
input4 <- c(11, 12, 13)
replications <- 1:1000

scenarios <-
  expand.grid(
    replications = replications,
    input1 = input1,
    input2 = input2,
    input3 = input3,
    input4 = input4
  )

for (i in 1:nrow(scenarios)) {

  var <- ifelse(scenarios$input1[i] == "A", 1, 10)
  cor <- ifelse(scenarios$input3[i] == "Z", 0.7, 0.1)

  out <- mvtnorm::rmvnorm(
    1,
    mean = c(scenarios$input2[i], scenarios$input4[i]),
    sigma = matrix(c(var, cor, cor, var), nrow = 2)
  )

  scenarios$output1[i] <- out[1]
  scenarios$output2[i] <- out[2]

}
```

```
ExampleData1 <- scenarios
```

---

`ExampleData2` *Example Data 2*

---

## Description

Simulated dataset from Meyer et al. (2022) https://doi.org/10.1002/pst.2194.

## Usage

```
ExampleData2
```

## Format

An object of class `data.frame` with 10080 rows and 18 columns.

## Source

https://github.com/el-meyer/airship/blob/master/data/ExampleDataNASH.csv

# Index