

Package: ConfoundingExplorer (via r-universe)

September 2, 2024

Type Package

Title Confounding Explorer

Version 0.5.1

Date 2024-03-24

Description This package provides a simple interactive application for investigating the effect of confounding between a signal of interest and a batch effect. It uses simulated data with user-specified effect sizes for both batch and condition effects. The user can also specify the number of samples in each condition and batch, and thereby the degree of confounding.

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Encoding UTF-8

LazyData true

Imports shiny, ggplot2, iSEE, iCOBRA, cowplot, shinydashboard, ComplexHeatmap, shinyMatrix, stats, grDevices, shinyjs, rintrojs, limma, methods, tidyr, dplyr, tibble

RoxygenNote 7.3.1

biocViews Regression, ExperimentalDesign, MultipleComparison, BatchEffect

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

Repository <https://csoneson.r-universe.dev>

RemoteUrl <https://github.com/csoneson/ConfoundingExplorer>

RemoteRef HEAD

RemoteSha 2bae33e1e0d8afecd5b5c6dfac85cf5f92e6b282

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ConfoundingExplorer *Confounding explorer*

Description

Confounding explorer

Usage

```
ConfoundingExplorer(
  sampleSizes = matrix(rep(5, 4), nrow = 2, dimnames = list(c("group1", "group2"),
    c("batch1", "batch2"))),
  fracVarCond = 0.25,
  fracVarBatch = 0.5,
  fracVarUnknown = 0,
  condEffectSize = 3,
  batchEffectSize = 3,
  unknownEffectSize = 0,
  unknownEffectType = "categorical",
  analysisApproach = "dontAdjust",
  seed = 123
)
```

Arguments

sampleSizes 2x2 numeric matrix giving the number of samples in each group. Row names must be c('group1', 'group2') and column names must be c('batch1', 'batch2').

fracVarCond, fracVarBatch, fracVarUnknown
 Numeric scalars between 0 and 1. The fraction of variables affected by the condition effect, batch effect, and 'unknown' effect, respectively.

condEffectSize, batchEffectSize, unknownEffectSize
 Numeric scalars. The condition, batch and 'unknown' effect size, respectively.

unknownEffectType
 Character scalar, either 'categorical' or 'continuous', representing the type of 'unknown' effect to add.

analysisApproach
 Character scalar. One of 'dontAdjust', 'inclBatch', 'removeBatch', 'removeBatchAccCond'. Determines what model is fit to the data.

seed Numeric scalar, the random seed to use when simulating data.

Value

A shinyApp object

Author(s)

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Examples

```
if (interactive()) {  
  ConfoundingExplorer()  
}
```

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