Package 'clixo'

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Type Package

Title An implementation of the Clique-Extracted Ontology (CliXO) algorithm

Version 0.1.0

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Depends R (>= 4.0.2)

Description This package facilitates application of Clique-Extracted Ontology (CliXO) algorithm in R. This algorithm was originally implemented in C++ by Michael Kramer. The input is a feature similarity matrix, while the output is an ontology source-target-similarity-relation data frame.

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LazyData true

Roxygen list(markdown = TRUE)

RoxygenNote 7.1.1

Imports devtools,
tidyverse

Suggests BiocStyle,
knitr,
rmarkdown,
kableExtra,
magick,
testthat

URL https://github.com/herdiantrisufriyana/clixo

BugReports https://github.com/herdiantrisufriyana/clixo/issues

VignetteBuilder knitr

R topics documented:

clixo *Create Clique-Extracted Ontology (CliXO)*

Description

This function create clique-extracted ontology from a similarity matrix.

Usage

```
clixo(
  similarity,
  alpha = 0.01,
  beta = 0.5,
  feature_name = "feature",
  onto_prefix = "CliXO"
)
```

Arguments

similarity	Feature similarity, a square matrix of numerics containing feature-feature similarity measures.
alpha	A numeric of a noise parameter. Please see https://pubmed.ncbi.nlm.nih.gov/24932003/.
beta	A numeric of a parameter which deals with missing edges. Please see https://pubmed.ncbi.nlm.nih.gov
feature_name	A character to annotate feature (source)-ontology (target) relation in the resulting ontology.
onto_prefix	A character that precedes the resulting ontology names.

Value

clique-extracted ontology, a data frame with rows for ontologies and four columns for source, target, similarity, and relation. Feature (source)- ontology (target) relation is annotated as 'feature' as defined by default for `feature_name`, while ontology-ontology relation is annotated as 'is_a'. To differentiate between feature and ontology names, an `onto_prefix` with ':' precedes an ontology name. All columns except similarity are characters. Similarity (a numeric) is a minimum threshold by which either features or ontologies (source) belong to an ontology (target).

Examples

```
## Create input example
input=input_example()

## Run CliXO algorithm
ontology=clixo(input$similarity)
```

`input_example` *Make an input example for clixo package*

Description

This function create an input example for clixo package.

Usage

```
input_example()
```

Value

output A list of inputs: 1) value, a data frame with rows for instances and columns for features; 2) similarity, a square matrix of numerics containing feature-feature similarity measures.

Examples

```
## Create input example
input=input_example()
```

Index