Package 'IalsaSynthesis'

October 1, 2015

Title Synthesizing Information Across Collaborating Research

Description Synthesizes information across collaborating research. Created specifically for Integrative Analysis of Longitudinal Studies of Aging (IALSA).

Version 0.1.8

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URL https://github.com/IALSA/IalsaSynthesis, http://www.ialsa.org/

BugReports https://github.com/IALSA/IalsaSynthesis/issues

Depends R(>= 3.0.0),
stats

Imports testit

Suggests devtools,
knitr,
readr,
testthat (>= 0.9)

License GPL-2

LazyData TRUE

R topics documented:

IalsaSynthesis-package

Synthesizing Information Across Collaborating Research

Description

Synthesizing information across collaborating research. Created for Integrative Analysis of Longitudinal Studies of Aging (IALSA).

Note

The release version will be available through CRAN. The most recent development version is available through GitHub. Please see the installation examples below.

If you're having trouble with the package, please install the development version. If this doesn't solve your problem, please create a new issue, or email Will or Andrey.

Author(s)

William Howard Beasley –Assistant Professor of Research, University of Oklahoma Health Sciences Center, Dept of Pediatrics, Biomedical and Behavioral Methodology Core (BBMC)

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References

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Examples

```
## Not run:
# Install/update IalsaSynthesis with the release version from CRAN.
install.packages('IalsaSynthesis')

# Install/update IalsaSynthesis with the development version from GitHub
#install.packages('devtools') #Uncomment if `devtools` isn't installed already.
devtools::install_github('IALSA/IalsaSynthesis')

## End(Not run)
```

extract *Extract the values within model output files.*

Description

Functions that extract the values within model output files.

Usage

```
extract_scalar_string(regex, source)

extract_scalar_float(regex, source)

extract_named_parameter(parameter_name, mplus_output)

extract_output_filename(mplus_output,
  regex = "\\s+DATA:\\s+File = (.+);.*")

extract_free_parameter_count(mplus_output,
  regex = "Number of Free Parameters\\s+(\\d{1,})\\s+")

extract_loglikelihood(mplus_output,
  regex = "Loglikelihood\\s+H0 Value\\s+([-\\d\\.]+)\\s+")

extract_scaling_correction(mplus_output,
  regex = "\\s+H0 Scaling Correction Factor\\s+([-\\d\\.]+)\\s+for MLR\\s+")

extract_aic(mplus_output,
  regex = "Akaike \\(AIC\\)\\s+([-\\d\\.]+)\\s+")

extract_bic(mplus_output,
  regex = "Bayesian \\(BIC\\)\\s+([-\\d\\.]+)\\s+")

extract_bic_adjusted(mplus_output,
  regex = "\\s+Sample-Size Adjusted BIC\\s+([-\\d\\.]+)\\s+")
```

Arguments

`regex`	Regular Expression pattern to capture and extract contents.
`source`	Text to run the regex against.
`parameter_name`	Variable name in Mplus output to extract.
`mplus_output`	Text containing model output. This should be the text read from the file (not a file path).

Value

A `numeric` value corresponding to the desired quantity.

Functions

- `extract_scalar_float`: Generalizable function to return a single numeric value.
- `extract_named_parameter`: Determine the estimate, standard error, z-score, and two-tailed p-value of an estimate.
- `extract_output_filename`: Determine the path of the Mplus output file.
- `extract_free_parameter_count`: Determine the number of free parameters for the model estimation.
- `extract_loglikelihood`: Determine the log likelihood for the model estimation.
- `extract_scaling_correction`: Determine the H0 Scaling Correction Factor for the model estimation.
- `extract_aic`: Determine the AIC for the model estimation.
- `extract_bic`: Determine the BIC for the model estimation.
- `extract_bic_adjusted`: Determine the Sample-Size Adjusted BIC for the model estimation.

Author(s)

Will Beasley

Examples

```
library(IalsaSynthesis) #Load the package into the current R session.
```

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validate *Functions that check the validty of values throughout the workflow.*

Description

These functions help identify mistakes in formatting before the create difficult-to-diagnose problems later.

Usage

```
validate_filename_output(filename, path, file_extension_expected = "out",
  underscore_count_expected = 4L)
```

Arguments

`filename`	The name of the file to be validated.
`path`	The location of the file to be validated.
`file_extension_expected`	The extension of the file. This defaults to "out", which corresponds to Mplus output.
`underscore_count_expected`	The number of underscores required in the name (not currently used).

Value

An `invisible TRUE` value if the filename is valid. Otherwise, an error is thrown.

Author(s)

Will Beasley

Examples

```
library(IalsaSynthesis) #Load the package into the current R session.
## Not run:
path <- "./studies/eas"
good_name <- "u1_male_aehplus_muscle_noCog_hand_noCogSpec.out"
validate_filename_output(good_name, path)

bad_name <- "missing_something.outtttt"
validate_filename_output(bad_name, path)

## End(Not run)
```

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