

Package ‘BiasCorrector’

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Title A GUI to Correct Measurement Bias in DNA Methylation Analyses

Version 0.2.3

Date 2024-10-17

Description A GUI to correct measurement bias in DNA methylation analyses. The 'BiasCorrector' package just wraps the functions implemented in the 'R' package 'rBiasCorrection' into a shiny web application in order to make them more easily accessible. Publication: Kapsner et al. (2021) <[doi:10.1002/ijc.33681](https://doi.org/10.1002/ijc.33681)>.

License GPL-3

URL <https://github.com/kapsner/BiasCorrector>

BugReports <https://github.com/kapsner/BiasCorrector/issues>

Depends R (>= 2.10)

Imports data.table, DT, magrittr, rBiasCorrection (>= 0.3.4), shiny, shinydashboard, shinyjs

Suggests lintr, testthat

Encoding UTF-8

NeedsCompilation no

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Contents

launch_app	2
module_calibrationfile_server	3
module_calibrationfile_ui	4
module_correctedplots_server	5

module_correctedplots_ui	6
module_correctedstatistics_ui	6
module_correctedstats_server	7
module_experimentalfile_server	8
module_experimentalfile_ui	9
module_fileupload_server	10
module_fileupload_ui	11
module_info_server	12
module_info_ui	13
module_log_server	13
module_log_ui	14
module_modelselection_server	15
module_modelselection_ui	16
module_plotting_server	17
module_plotting_ui	18
module_results_server	18
module_results_ui	19
module_settings_server	20
module_settings_ui	21
module_statistics_server	22
module_statistics_ui	23

Index **24**

launch_app	<i>Launch BiasCorrector</i>
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Description

Launch BiasCorrector

Usage

```
launch_app(
  port = 3838,
  plotdir = "plots",
  csvdir = "csv",
  logfilename = "biascorrector.log",
  maxfilesize = 100,
  parallel = TRUE
)
```

Arguments

port	The port, BiasCorrector is running on (default: 3838)
plotdir	A character string. Defaults to 'plots'. This directory is being created inside tempdir.

csvdir	A character string. Defaults to 'csv'. This directory is being created inside tempdir.
logfilename	A character string. The name of the logfile (default = biascorrector.log).
maxfilesize	A positive integer. The maximum file size allowed for upload.
parallel	A boolean. If TRUE (default), initializing 'future::plan("multiprocess")' before running the code.

Value

The function returns the BiasCorrector shiny application.

Examples

```
if (interactive()) {  
  launch_app()  
}
```

module_calibrationfile_server

module_calibrationfile_server

Description

module_calibrationfile_server

Usage

```
module_calibrationfile_server(input, output, session, rv, input_re, ...)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: input_re = reactive({input})
...	Further arguments, such as 'logfilename', 'csvdir' and 'plotdir'

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  rv <- list()  
  logfilename <- paste0(tempdir(), "/log.txt")  
  shiny::callModule(  
    module_calibrationfile_server,  
    "moduleCalibrationFile",  
    rv = rv,  
    logfilename = logfilename  
  )  
}
```

module_calibrationfile_ui
module_calibrationfile_ui

Description

module_calibrationfile_ui

Usage

```
module_calibrationfile_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "calibration",  
      module_calibrationfile_ui(  
        "moduleCalibrationFile"  
      )  
    )  
  )  
}
```

```
module_correctedplots_server
  module_correctedplots_server
```

Description

module_correctedplots_server

Usage

```
module_correctedplots_server(input, output, session, rv, input_re, ...)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>
...	Further arguments, such as 'logfilename', 'csvdir' and 'plotdir'

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {
  rv <- list()
  logfilename <- paste0(tempdir(), "/log.txt")
  shiny::callModule(
    module_correctedplots_server,
    "moduleCorrectedPlots",
    rv = rv,
    logfilename = logfilename
  )
}
```

module_correctedplots_ui
module_correctedplots_ui

Description

module_correctedplots_ui

Usage

```
module_correctedplots_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "correctedplots",  
      module_correctedplots_ui(  
        "moduleCorrectedPlots"  
      )  
    )  
  )  
}
```

module_correctedstatistics_ui
module_correctedstatistics_ui

Description

module_correctedstatistics_ui

Usage

```
module_correctedstatistics_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "correctedstats",  
      module_correctedstatistics_ui(  
        "moduleCorrectedStats"  
      )  
    )  
  )  
}
```

module_correctedstats_server

module_correctedstats_server

Description

module_correctedstats_server

Usage

```
module_correctedstats_server(input, output, session, rv, input_re)
```

Arguments

input Shiny server input object
output Shiny server output object
session Shiny session object
rv The global 'reactiveValues()' object, defined in server.R
input_re The Shiny server input object, wrapped into a reactive expression: input_re = reactive({input})

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  rv <- list()  
  logfilename <- paste0(tempdir(), "/log.txt")  
  shiny::callModule(  
    module_correctedstats_server,  
    "moduleCorrectedStats",  
    rv = rv,  
    logfilename = logfilename  
  )  
}
```

module_experimentalfile_server
module_experimentalfile_server

Description

module_experimentalfile_server

Usage

```
module_experimentalfile_server(input, output, session, rv, ...)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
...	Further arguments, such as 'logfilename', 'csvdir' and 'plotdir'

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  rv <- list()  
  logfilename <- paste0(tempdir(), "/log.txt")  
  shiny::callModule(  
    module_experimentalfile_server,  
    "moduleExperimentalFile",  
    rv = rv,  
    logfilename = logfilename  
  )  
}
```

module_experimentalfile_ui
module_experimentalfile_ui

Description

module_experimentalfile_ui

Usage

```
module_experimentalfile_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "experimental",  
      module_experimentalfile_ui(  
        "moduleExperimentalFile"  
      )  
    )  
  )  
}
```

module_fileupload_server
module_fileupload_server

Description

module_fileupload_server

Usage

```
module_fileupload_server(input, output, session, rv, input_re, ...)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>
...	Further arguments, such as 'logfilename', 'csvdir' and 'plotdir'

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  rv <- list()  
  logfilename <- paste0(tempdir(), "/log.txt")  
  shiny::callModule(  
    module_fileupload_server,  
    "moduleEileUpload",  
    rv = rv,  
    logfilename = logfilename  
  )  
}
```

module_fileupload_ui *module_fileupload_ui*

Description

module_fileupload_ui

Usage

```
module_fileupload_ui(id, ...)
```

Arguments

`id` A character. The identifier of the shiny object

`...` Further arguments, such as 'maxfilesize'

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "fileupload",
      module_fileupload_ui(
        "moduleFileUpload",
        maxfilesize = maxfilesize
      )
    )
  )
}
```

module_info_server *module_info_server*

Description

module_info_server

Usage

```
module_info_server(input, output, session, rv, input_re)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  rv <- list()  
  logfilename <- paste0(tempdir(), "/log.txt")  
  shiny::callModule(  
    module_info_server,  
    "moduleInfo",  
    rv = rv,  
    logfilename = logfilename  
  )  
}
```

module_info_ui	<i>module_info_ui</i>
----------------	-----------------------

Description

module_info_ui

Usage

```
module_info_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "info",
      module_info_ui(
        "moduleInfo"
      )
    )
  )
}
```

module_log_server	<i>module_log_server</i>
-------------------	--------------------------

Description

module_log_server

Usage

```
module_log_server(input, output, session, rv, input_re, ...)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>
...	Further arguments, such as 'logfile', 'csvdir' and 'plotdir'

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {
  rv <- list()
  logfile <- paste0(tempdir(), "/log.txt")
  shiny::callModule(
    module_log_server,
    "moduleLog",
    rv = rv,
    logfile = logfile
  )
}
```

module_log_ui

module_log_ui

Description

module_log_ui

Usage

```
module_log_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "log",  
      module_log_ui(  
        "moduleLog"  
      )  
    )  
  )  
}
```

module_modelselection_server

module_modelselection_server

Description

module_modelselection_server

Usage

```
module_modelselection_server(input, output, session, rv, input_re)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  rv <- list()  
  logfilename <- paste0(tempdir(), "/log.txt")  
  shiny::callModule(  
    module_modelselection_server,  
    "moduleModelSelection",  
    rv = rv,  
    logfilename = logfilename  
  )  
}
```

module_modelselection_ui

module_modelselection_ui

Description

module_modelselection_ui

Usage

```
module_modelselection_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "modelselection",  
      module_modelselection_ui(  
        "moduleModelSelection"  
      )  
    )  
  )  
}
```

```

    )
  )
}

```

```

module_plotting_server
      module_plotting_server

```

Description

module_plotting_server

Usage

```
module_plotting_server(input, output, session, rv, input_re, ...)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>
...	Further arguments, such as 'logfilename', 'csvdir' and 'plotdir'

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```

if (interactive()) {
  rv <- list()
  logfilename <- paste0(tempdir(), "/log.txt")
  shiny::callModule(
    module_plotting_server,
    "modulePlotting",
    rv = rv,
    logfilename = logfilename
  )
}

```

module_plotting_ui *module_plotting_ui*

Description

module_plotting_ui

Usage

```
module_plotting_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "plotting",  
      module_plotting_ui(  
        "modulePlotting"  
      )  
    )  
  )  
}
```

module_results_server *module_results_server*

Description

module_results_server

Usage

```
module_results_server(input, output, session, rv, input_re, ...)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>
...	Further arguments, such as 'logfilename', 'csvdir' and 'plotdir'

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {
  rv <- list()
  logfilename <- paste0(tempdir(), "/log.txt")
  shiny::callModule(
    module_results_server,
    "moduleResults",
    rv = rv,
    logfilename = logfilename
  )
}
```

module_results_ui *module_results_ui*

Description

module_results_ui

Usage

```
module_results_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "results",
      module_results_ui(
        "moduleResults"
      )
    )
  )
}
```

module_settings_server

module_settings_server

Description

module_settings_server

Usage

```
module_settings_server(input, output, session, rv, input_re, ...)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: input_re = reactive({input})
...	Further arguments, such as 'logfilename', 'csvdir' and 'plotdir'

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {
  rv <- list()
  logfilename <- paste0(tempdir(), "/log.txt")
  shiny::callModule(
    module_settings_server,
    "moduleSettings",
    rv = rv,
    logfilename = logfilename
  )
}
```

module_settings_ui *module_settings_ui*

Description

module_settings_ui

Usage

```
module_settings_ui(id)
```

Arguments

id A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "settings",
      module_settings_ui(
        "moduleSettings"
      )
    )
  )
}
```

```
)  
)  
}
```

module_statistics_server

module_statistics_server

Description

module_statistics_server

Usage

```
module_statistics_server(input, output, session, rv, input_re)
```

Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: input_re = reactive({input})

Value

The function returns a shiny server module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  rv <- list()  
  logfilename <- paste0(tempdir(), "/log.txt")  
  shiny::callModule(  
    module_statistics_server,  
    "moduleStatistics",  
    rv = rv,  
    logfilename = logfilename  
  )  
}
```

module_statistics_ui *module_statistics_ui*

Description

module_statistics_ui

Usage

```
module_statistics_ui(id)
```

Arguments

`id` A character. The identifier of the shiny object

Value

The function returns a shiny ui module.

See Also

<https://shiny.rstudio.com/articles/modules.html>

Examples

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "statistics",  
      module_statistics_ui(  
        "moduleStatistics"  
      )  
    )  
  )  
}
```

Index

launch_app, 2

module_calibrationfile_server, 3
module_calibrationfile_ui, 4
module_correctedplots_server, 5
module_correctedplots_ui, 6
module_correctedstatistics_ui, 6
module_correctedstats_server, 7
module_experimentalfile_server, 8
module_experimentalfile_ui, 9
module_fileupload_server, 10
module_fileupload_ui, 11
module_info_server, 12
module_info_ui, 13
module_log_server, 13
module_log_ui, 14
module_modelselection_server, 15
module_modelselection_ui, 16
module_plotting_server, 17
module_plotting_ui, 18
module_results_server, 18
module_results_ui, 19
module_settings_server, 20
module_settings_ui, 21
module_statistics_server, 22
module_statistics_ui, 23