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>.

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` *Launch BiasCorrector*

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: 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_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: 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_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: `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_info_server,
  "moduleInfo",
  rv = rv,
  logfilename = logfilename
)
}
```

module_info_ui *module_info_ui*

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 *module_log_server*

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: 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_log_server,
  "moduleLog",
  rv = rv,
  logfilename = logfilename
)
}
```

---

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: 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_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: `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_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: 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_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"
    )
  )
)
}
```

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