Package 'jsmodule'

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`aiAssistant` *aiAssistant: AI Assistant module server*

Description

AI-powered statistical analysis assistant module server

Usage

```
aiAssistant(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  api_key = NULL,
  stats_guide = NULL,
  show_api_config = TRUE,
  analysis_context = NULL
)
```

Arguments

`input`	input
`output`	output
`session`	session
`data`	Data (reactive). Should return the current data set each time it is called.
`data_label`	Data label (reactive). Typically created with ‘jstable::mk.lev()‘.
`data_varStruct`	Variable structure list of data (reactive or NULL). If NULL, automatically generates ‘list(variable = names(data()))‘. Can also be a reactive returning a named list with elements like ‘Base‘, ‘Event‘, ‘Time‘, etc. Default: NULL
`api_key`	API key for AI service. If NULL, reads from provider-specific environment variables (‘ANTHROPIC_API_KEY‘, ‘OPENAI_API_KEY‘, ‘GOOGLE_API_KEY‘) configured in ‘.Renviron‘ file
`stats_guide`	Optional custom statistical guide text to override default guidelines. Can be a character string or reactive. If NULL, uses built-in statistical best practices guide. Useful for adding domain-specific statistical conventions or organizational standards.
`show_api_config`	If TRUE, shows API config UI. If FALSE, uses only env vars. Default: TRUE
`analysis_context`	Optional character string, list, or reactive returning that information. Used to pass prior analysis context that the AI can reference in follow-up questions.

Details

- ‘data‘ and ‘data_label‘ must be reactives; their values are re-evaluated every time the module needs data.
- ‘data_varStruct‘ can be NULL (auto-generated) or a reactive returning a named list with elements like ‘variable‘, ‘Base‘, ‘Event‘, ‘Time‘, etc. This mirrors the structure used by other *jsmodule* components.
- Generated code runs in a sandbox that only exposes the supplied data and allows the following packages: `jstable`, `jskm`, `jsmodule`, `survival`, `ggplot2`, `ggpubr`, `pROC`, `data.table`, `DT`, `gridExtra`, `GGally`, `forestploter`, `MatchIt`, `timeROC`.
- API keys are resolved in the order: explicit ‘api_key‘ argument, UI input (if ‘show_api_config = TRUE‘), provider-specific environment variables (‘ANTHROPIC_API_KEY‘, ‘OPENAI_API_KEY‘, ‘GOOGLE_API_KEY‘).
- To use environment variables for API keys, add them to your ‘.Renviron‘ file (use ‘usethis::edit_r_environ()‘ to open it) with lines like:
  ‘ANTHROPIC_API_KEY=your_key_here‘
  ‘OPENAI_API_KEY=your_key_here‘
  ‘GOOGLE_API_KEY=your_key_here‘
  Then restart R session for changes to take effect.
- ‘analysis_context‘ can be a static string/list or a reactive that returns a description of prior analyses (tables, plots, code snippets). The text is appended to the system prompt so the AI can reference earlier steps.

Value

Server module (no explicit return value). Creates reactive outputs and observers for chat conversation history, generated code execution, analysis results (tables, plots, text), and export functionality.

Examples

```
## Not run:
# Setup: Add API key to .Renviron file
# usethis::edit_r_environ()
# Add line: ANTHROPIC_API_KEY=your_actual_key_here
# Save and restart R

library(shiny)
library(DT)
library(survival)

# Example 1: Basic usage with auto-generated variable structure
ui <- fluidPage(
  titlePanel("AI Statistical Assistant"),
  aiAssistantUI("ai")
)

server <- function(input, output, session) {
  data <- reactive(colon)
  data.label <- reactive(jstable::mk.lev(colon))
```

```
  callModule(aiAssistant, "ai",
    data = data,
    data_label = data.label,
    data_varStruct = NULL  # Auto-generates variable structure
  )
}

shinyApp(ui, server)

# Example 2: With custom variable structure and analysis context
ui2 <- fluidPage(
  titlePanel("Survival Analysis Assistant"),
  aiAssistantUI("ai")
)

server2 <- function(input, output, session) {
  data <- reactive(colon)
  data.label <- reactive(jstable::mk.lev(colon))

  # Custom variable structure for survival analysis
  var_struct <- reactive({
    list(
      variable = names(colon),
      Base = c("rx", "sex", "age", "obstruct", "nodes"),
      Event = "status",
      Time = "time"
    )
  })

  callModule(aiAssistant, "ai",
    data = data,
    data_label = data.label,
    data_varStruct = var_struct,
    analysis_context = reactive({
      "Colon cancer adjuvant chemotherapy trial (survival::colon).
       Primary outcome: time to recurrence or death (status/time).
       Treatment groups: Observation, Levamisole, Levamisole+5-FU."
    })
  )
}

shinyApp(ui2, server2)

# Example 3: Production deployment without API config UI
ui_prod <- fluidPage(
  aiAssistantUI("ai", show_api_config = FALSE)
)

server_prod <- function(input, output, session) {
  # Relies entirely on .Renviron configuration
  callModule(aiAssistant, "ai",
    data = reactive(mtcars),
    data_label = reactive(jstable::mk.lev(mtcars)),
```

```
    show_api_config = FALSE
  )
}

shinyApp(ui_prod, server_prod)

## End(Not run)
```

---

aiAssistantUI *aiAssistantUI: AI Assistant module UI*

Description

AI-powered statistical analysis assistant module UI

Usage

```
aiAssistantUI(id, show_api_config = TRUE)
```

Arguments

id	Module's namespace ID. Used to create unique identifiers for UI elements.
show_api_config	If TRUE, shows API configuration UI. If FALSE, uses only env vars. Default: TRUE

Details

Provides an interactive chat interface with AI for statistical analysis code generation

Value

Shiny UI tagList containing the AI Assistant interface with chat, code editor, and result panels

Examples

```
## Not run:
# Setup: Add API key to .Renviron file
# usethis::edit_r_environ()
# Add line: ANTHROPIC_API_KEY=your_actual_key_here
# Save and restart R

library(shiny)
library(DT)
library(survival)

# Example 1: Basic usage with auto-generated variable structure
ui <- fluidPage(
  titlePanel("AI Statistical Assistant"),
```

```
  aiAssistantUI("ai")
)

server <- function(input, output, session) {
  data <- reactive(colon)
  data.label <- reactive(jstable::mk.lev(colon))

  callModule(aiAssistant, "ai",
    data = data,
    data_label = data.label,
    data_varStruct = NULL  # Auto-generates variable structure
  )
}

shinyApp(ui, server)

# Example 2: With custom variable structure and analysis context
ui2 <- fluidPage(
  titlePanel("Survival Analysis Assistant"),
  aiAssistantUI("ai")
)

server2 <- function(input, output, session) {
  data <- reactive(colon)
  data.label <- reactive(jstable::mk.lev(colon))

  # Custom variable structure for survival analysis
  var_struct <- reactive({
    list(
      variable = names(colon),
      Base = c("rx", "sex", "age", "obstruct", "nodes"),
      Event = "status",
      Time = "time"
    )
  })

  callModule(aiAssistant, "ai",
    data = data,
    data_label = data.label,
    data_varStruct = var_struct,
    analysis_context = reactive({
      "Colon cancer adjuvant chemotherapy trial (survival::colon).
       Primary outcome: time to recurrence or death (status/time).
       Treatment groups: Observation, Levamisole, Levamisole+5-FU."
    })
  )
}

shinyApp(ui2, server2)

# Example 3: Production deployment without API config UI
ui_prod <- fluidPage(
  aiAssistantUI("ai", show_api_config = FALSE)
```

```
)

server_prod <- function(input, output, session) {
  # Relies entirely on .Renviron configuration
  callModule(aiAssistant, "ai",
    data = reactive(mtcars),
    data_label = reactive(jstable::mk.lev(mtcars)),
    show_api_config = FALSE
  )
}

shinyApp(ui_prod, server_prod)

## End(Not run)
```

---

barServer *barServer: shiny module server for barplot.*

Description

Shiny module server for barplot.

Usage

```
barServer(id, data, data_label, data_varStruct = NULL, nfactor.limit = 10)
```

Arguments

id	id
data	Reactive data
data_label	Reactive data label
data_varStruct	Reactive List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10

Details

Shiny module server for barplot.

Value

Shiny module server for barplot.

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      barUI("bar")
    ),
    mainPanel(
      optionUI("bar"),
      plotOutput("bar_plot"),
      ggplotdownUI("bar")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_bar <- barServer("bar",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$bar_plot <- renderPlot({
    print(out_bar())
  })
}
```

---

barUI *barUI: shiny module UI for barplot*

Description

Shiny module UI for barplot

Usage

```
barUI(id, label = "barplot")
```

Arguments

id	id
label	label

Details

Shiny module UI for barplot

Value

Shiny module UI for barplot

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      barUI("bar")
    ),
    mainPanel(
      optionUI("bar"),
      plotOutput("bar_plot"),
      ggplotdownUI("bar")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_bar <- barServer("bar",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$bar_plot <- renderPlot({
    print(out_bar())
  })
}
```

---

boxServer *boxServer: shiny module server for boxplot.*

Description

Shiny module server for boxplot.

Usage

```
boxServer(id, data, data_label, data_varStruct = NULL, nfactor.limit = 10)
```

Arguments

id	id
data	Reactive data
data_label	Reactive data label
data_varStruct	Reactive List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10

Details

Shiny module server for boxplot.

Value

Shiny module server for boxplot.

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      boxUI("box")
    ),
    mainPanel(
      optionUI("box"),
      plotOutput("box_plot"),
      ggplotdownUI("box")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_box <- boxServer("box",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$box_plot <- renderPlot({
    print(out_box())
  })
}
```

boxUI *boxUI: shiny module UI for boxplot*

Description

Shiny module UI for boxplot

Usage

```
boxUI(id, label = "boxplot")
```

Arguments

id	id
label	label

Details

Shiny module UI for boxplot

Value

Shiny module UI for boxplot

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      boxUI("box")
    ),
    mainPanel(
      optionUI("box"),
      plotOutput("box_plot"),
      ggplotdownUI("box")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_box <- boxServer("box",
    data = data, data_label = data.label,
    data_varStruct = NULL
```

```
  )

  output$box_plot <- renderPlot({
    print(out_box())
  })
}
```

---

coxModule *coxModule: shiny modulde server for Cox's model.*

Description

Shiny modulde server for Cox's model.

Usage

```
coxModule(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  default.unires = T,
  limit.unires = 20,
  id.cluster = NULL,
  ties.coxph = "efron",
  vec.event = NULL,
  vec.time = NULL
)
```

Arguments

input	input
output	output
session	session
data	reactive data
data_label	reactuve data label
data_varStruct	reactive list of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10
design.survey	reactive survey data. default: NULL
default.unires	Set default independent variables using univariate analysis.

limit.unires	Change to default.unires = F if number of independent variables > limit.unires, Default: 20
id.cluster	reactive cluster variable if marginal cox model, Default: NULL
ties.coxph	'coxph' ties option, one of 'efron', 'breslow', 'exact', default: 'erfon'
vec.event	event variables as vector for survival analysis, Default: NULL
vec.time	time variables as vector for survival analysis, Default: NULL

Details

Shiny modulde server for Cox's model.

Value

Shiny modulde server for Cox's model.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      coxUI("cox")
    ),
    mainPanel(
      DTOutput("coxtable")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_cox <- callModule(coxModule, "cox",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$coxtable <- renderDT({
    datatable(out_cox()$table, rownames = T, caption = out_cox()$caption)
  })
}
```

coxUI *coxUI: shiny modulde UI for Cox's model.*

Description

Shiny modulde UI for Cox's model.

Usage

```
coxUI(id)
```

Arguments

id	id

Details

Shiny modulde UI for Cox's model.

Value

coxUI

Examples

```
coxUI(1)
```

csvFile *csvFile: Shiny module Server for file upload.*

Description

The server-side logic for the 'csvFileInput' module. It uses the 'DataManager' R6 class to handle all data processing.

Usage

```
csvFile(input, output, session, nfactor.limit = 20)
```

Arguments

input, output, session	Standard Shiny server parameters.
nfactor.limit	An integer, the threshold for unique values to suggest a numeric variable as categorical, Default: 20

Value

A reactive expression that returns a list with two elements: ‘data‘ (the processed data.table) and ‘label‘ (a data.table with variable label information).

`csvFileInput` *csvFileInput: Shiny module UI for file upload.*

Description

Shiny module UI for file upload supporting csv, xlsx, sav, sas7bdat, and dta formats. It provides UI outputs for various data manipulation options.

Usage

```
csvFileInput(id, label = "Upload data (csv/xlsx/sav/sas7bdat/dta)")
```

Arguments

`id`	A string, the module id.
`label`	A string, the label for the file input, Default: 'Upload data (csv/xlsx/sav/sas7bdat/dta)'

Details

This function only defines the UI. The corresponding server function, ‘csvFile‘, handles the logic.

Value

A Shiny UI object.

Examples

```
if (interactive()) {
  library(shiny)
  library(DT)
  library(jstable)

  ui <- fluidPage(
    sidebarLayout(
      sidebarPanel(
        csvFileInput("datafile")
      ),
      mainPanel(
        tabsetPanel(
          type = "pills",
          tabPanel("Data", DTOutput("data")),
          tabPanel("Label", DTOutput("data_label"))
        )
      )
```

```
    )
  )

  server <- function(input, output, session) {
    data_info <- callModule(csvFile, "datafile")

    output$data <- renderDT({
      data_info()$data
    })

    output$label <- renderDT({
      data_info()$label
    })
  }
  shinyApp(ui, server)
}
```

`FilePs` *FilePs: Shiny module Server for propensity score analysis.*

Description

Server-side logic for propensity score analysis. It uses 'DataManager' for common data tasks and adds specific controls and calculations for propensity score matching.

Usage

```
FilePs(input, output, session, nfactor.limit = 20)
```

Arguments

`input`, `output`, `session`	Standard Shiny server parameters.
`nfactor.limit`	An integer, the threshold for unique values.

Value

A reactive expression returning a list with matched data and other information.

FilePsInput *FilePsInput: Shiny module UI for propensity score analysis.*

Description

Provides a file input and UI outputs for options related to propensity score matching.

Usage

```
FilePsInput(id, label = "Upload data (csv/xlsx/sav/sas7bdat/dta)")
```

Arguments

id	A string, the module id.
label	A string, the label for the file input.

Value

A Shiny UI object.

Examples

```
if (interactive()) {
  library(shiny)
  library(DT)
  library(jstable)

  ui <- fluidPage(
    sidebarLayout(
      sidebarPanel(
        FilePsInput("datafile")
      ),
      mainPanel(
        tabsetPanel(
          type = "pills",
          tabPanel("Data", DTOutput("data")),
          tabPanel("Matching data", DTOutput("matdata")),
          tabPanel("Label", DTOutput("data_label"))
        )
      )
    )
  )

  server <- function(input, output, session) {
    mat_info <- callModule(FilePs, "datafile")

    output$data <- renderDT({ mat_info()$data })
    output$matdata <- renderDT({ mat_info()$matdata })
    output$data_label <- renderDT({ mat_info()$label })
```

```
  }
  shinyApp(ui, server)
}
```

`FileRepeated` *FileRepeated: Server for repeated measures analysis.*

Description

Server module for repeated measures analysis. It uses ‘DataManager‘ and adds a control for selecting the repeated measures variable.

Usage

```
FileRepeated(input, output, session, nfactor.limit = 20)
```

Arguments

`input`, `output`, `session`	Standard Shiny server parameters.
`nfactor.limit`	An integer, the threshold for unique values.

Value

A reactive list with the processed ‘data‘, ‘label‘, and ‘id.gee‘.

`FileRepeatedInput` *FileRepeatedInput: UI for repeated measures analysis.*

Description

File upload UI for repeated measure analysis.

Usage

```
FileRepeatedInput(id, label = "Upload data (csv/xlsx/sav/sas7bdat/dta)")
```

Arguments

`id`	A string, the module id.
`label`	A string, the label for the file input.

Value

A Shiny UI object.

Examples

```
if (interactive()) {
  library(shiny)
  library(DT)
  library(jstable)

  ui <- fluidPage(
    sidebarLayout(
      sidebarPanel(FileRepeatedInput("datafile")),
      mainPanel(
        tabsetPanel(
          type = "pills",
          tabPanel("Data", DTOutput("data")),
          tabPanel("Label", DTOutput("data_label"))
        )
      )
    )
  )

  server <- function(input, output, session) {
    data_info <- callModule(FileRepeated, "datafile")
    output$data <- renderDT({
      data_info()$data
    })
    output$label <- renderDT({
      data_info()$label
    })
  }
  shinyApp(ui, server)
}
```

`FileSurvey` *FileSurvey: Server for survey data analysis.*

Description

Server module for survey data analysis. It uses ‘DataManager‘ and adds controls and logic for creating a ‘survey.design‘ object.

Usage

```
FileSurvey(input, output, session, nfactor.limit = 20)
```

Arguments

`input`, `output`, `session`	Standard Shiny server parameters.
`nfactor.limit`	An integer, the threshold for unique values.

Value

A reactive list with ‘data‘, ‘label‘, ‘naomit‘, and the ‘survey‘ object.

`FileSurveyInput` *FileSurveyInput: UI for survey data analysis.*

Description

File upload UI for survey data analysis, with controls for survey design elements.

Usage

```
FileSurveyInput(id, label = "Upload data (csv/xlsx/sav/sas7bdat/dta)")
```

Arguments

`id`	A string, the module id.
`label`	A string, the label for the file input.

Value

A Shiny UI object.

Examples

```
if (interactive()) {
  library(shiny)
  library(DT)
  library(jstable)
  library(survey)

  ui <- fluidPage(
    sidebarLayout(
      sidebarPanel(FileSurveyInput("datafile")),
      mainPanel(
        h4("Survey object details:"),
        verbatimTextOutput("survey_summary"),
        tabsetPanel(
          type = "pills",
          tabPanel("Data", DTOutput("data")),
          tabPanel("Label", DTOutput("data_label"))
        )
      )
    )
  )

  server <- function(input, output, session) {
    data_info <- callModule(FileSurvey, "datafile")
    output$data <- renderDT({
```

```
      data_info()$data
    })
    output$label <- renderDT({
      data_info()$label
    })
    output$survey_summary <- renderPrint({
      print(data_info()$survey)
    })
  }
  shinyApp(ui, server)
}
```

`forestcoxServer` *forestcoxServer:shiny module server for forestcox*

Description

Shiny module server for forestcox

Usage

```
forestcoxServer(
  id,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  cluster_id = NULL,
  vec.event = NULL,
  vec.time = NULL
)
```

Arguments

`id`	id
`data`	Reactive data
`data_label`	Reactive data label
`data_varStruct`	Reactive List of variable structure, Default: NULL
`nfactor.limit`	nlevels limit in factor variable, Default: 10
`design.survey`	reactive survey data. default: NULL
`cluster_id`	cluster option variable for marginal cox model
`vec.event`	event variables as vector for survival analysis, Default: NULL
`vec.time`	time variables as vector for survival analysis, Default: NULL

Details

Shiny module server for forestcox

Value

Shiny module server for forestcox

See Also

data.table-package, setDT, setattr TableSubgroupMultiCox forest_theme, forest dml read_pptx, add_slide, ph_with, ph_location

Examples

```
library(shiny)
library(DT)
mtcars$vs <- factor(mtcars$vs)
mtcars$am <- factor(mtcars$am)
mtcars$kk <- factor(as.integer(mtcars$disp >= 150))
mtcars$kk1 <- factor(as.integer(mtcars$disp >= 200))

library(shiny)
library(DT)
mtcars$vs <- factor(mtcars$vs)
mtcars$am <- factor(mtcars$am)
mtcars$kk <- factor(as.integer(mtcars$disp >= 150))
mtcars$kk1 <- factor(as.integer(mtcars$disp >= 200))

out <- mtcars
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      forestcoxUI("Forest")
    ),
    mainPanel(
      tabsetPanel(
        type = "pills",
        tabPanel(
          title = "Data",
          DTOutput("tablesub"),
        ),
        tabPanel(
          title = "figure",
          plotOutput("forestplot", width = "100%"),
          ggplotdownUI("Forest")
        )
      )
    )
  )
)
```

```
server <- function(input, output, session) {
  data <- reactive(out)
  label <- reactive(jstable::mk.lev(out))
  outtable <- forestcoxServer("Forest", data = data, data_label = label)
  output$tablesub <- renderDT({
    outtable()[[1]]
  })
  output$forestplot <- renderPlot({
    a
    outtable()[[2]]
  })
}
```

`forestcoxUI` *forestcoxUI:shiny module UI for forestcox*

Description

Shiny module UI for forestcox

Usage

```
forestcoxUI(id, label = "forestplot")
```

Arguments

`id`	id
`label`	label, Default: 'forestplot'

Details

Shinymodule UI for forestcox

Value

Shinymodule UI

Examples

```
library(shiny)
library(DT)
mtcars$vs <- factor(mtcars$vs)
mtcars$am <- factor(mtcars$am)
mtcars$kk <- factor(as.integer(mtcars$disp >= 150))
mtcars$kk1 <- factor(as.integer(mtcars$disp >= 200))

library(shiny)
library(DT)
```

```
mtcars$vs <- factor(mtcars$vs)
mtcars$am <- factor(mtcars$am)
mtcars$kk <- factor(as.integer(mtcars$disp >= 150))
mtcars$kk1 <- factor(as.integer(mtcars$disp >= 200))

out <- mtcars
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      forestcoxUI("Forest")
    ),
    mainPanel(
      tabsetPanel(
        type = "pills",
        tabPanel(
          title = "Data",
          DTOutput("tablesub")
        ),
        tabPanel(
          title = "figure",
          plotOutput("forestplot", width = "100%"),
          ggplotdownUI("Forest")
        )
      )
    )
  )
)


server <- function(input, output, session) {
  data <- reactive(out)
  label <- reactive(jstable::mk.lev(out))
  outtable <- forestcoxServer("Forest", data = data, data_label = label)
  output$tablesub <- renderDT({
    outtable()[[1]]
  })
  output$forestplot <- renderPlot({
    outtable()[[2]]
  })
}
```

`forestglmServer` *forestglmServer:shiny module server for forestglm*

Description

Shiny module server for forestglm

Usage

```
forestglmServer(
  id,
  data,
  data_label,
  family,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  repeated_id = NULL
)
```

Arguments

id	id
data	Reactive data
data_label	Reactive data label
family	family, "gaussian" or "binomial" or 'poisson' or 'quasipoisson'
data_varStruct	Reactive List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10
design.survey	reactive survey data. default: NULL
repeated_id	data when repeated id. default: F

Details

Shiny module server for forestglm

Value

Shiny module server for forestglm

See Also

TableSubgroupMultiGLM data.table-package,setDT, setattr cor, coef surveysummary, svytable forest_theme, forest dml read_pptx, add_slide, ph_with, ph_location

Examples

```
library(shiny)
library(DT)
mtcars$vs <- factor(mtcars$vs)
mtcars$am <- factor(mtcars$am)
mtcars$kk <- factor(as.integer(mtcars$disp >= 150))
mtcars$kk1 <- factor(as.integer(mtcars$disp >= 200))

ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
```

```
      forestglmUI("Forest")
    ),
    mainPanel(
      tabsetPanel(
        type = "pills",
        tabPanel(
          title = "Data",
          DTOutput("tablesub"),
        ),
        tabPanel(
          title = "figure",
          plotOutput("forestplot", width = "100%"),
          ggplotdownUI("Forest")
        )
      )
    )
  )
)

out <- mtcars

server <- function(input, output, session) {
  data <- reactive(out)
  label <- reactive(jstable::mk.lev(out))
 outtable <- forestglmServer("Forest", data = data, data_label = label, family = "binomial")
  output$tablesub <- renderDT({
    outtable()[[1]]
  })
  output$forestplot <- renderPlot({
    outtable()[[2]]
  })
}
```

`forestglmUI` *forestglmUI:Shiny module UI for forestglm*

Description

Shiny module UI for forestcox

Usage

```
forestglmUI(id, label = "forestplot")
```

Arguments

id	id
label	label, Default: 'forestplot'

Details

Shinymodule UI for forestglm

Value

Shinymodule UI

Examples

```
library(shiny)
library(DT)
mtcars$vs <- factor(mtcars$vs)
mtcars$am <- factor(mtcars$am)
mtcars$kk <- factor(as.integer(mtcars$disp >= 150))
mtcars$kk1 <- factor(as.integer(mtcars$disp >= 200))

ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      forestglmUI("Forest")
    ),
    mainPanel(
      tabsetPanel(
        type = "pills",
        tabPanel(
          title = "Data",
          DTOutput("tablesub"),
        ),
        tabPanel(
          title = "figure",
          plotOutput("forestplot", width = "100%"),
          ggplotdownUI("Forest")
        )
      )
    )
  )
)

out <- mtcars

server <- function(input, output, session) {
  data <- reactive(out)
  label <- reactive(jstable::mk.lev(out))
 outtable <- forestglmServer("Forest", data = data, data_label = label, family = "binomial")
  output$tablesub <- renderDT({
    outtable()[[1]]
  })
  output$forestplot <- renderPlot({
    outtable()[[2]]
  })
}
```

`GEEModuleLinear` *GEEModuleLinear: shiny modulde server for gaussian generalized estimating equation(GEE) using reactive data.*

Description

Shiny modulde server for gaussian generalized estimating equation(GEE) using reactive data.

Usage

```
GEEModuleLinear(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  id.gee,
  vec.event = NULL
)
```

Arguments

`input`	input
`output`	output
`session`	session
`data`	reactive data, ordered by id.
`data_label`	reactive data label
`data_varStruct`	List of variable structure, Default: NULL
`nfactor.limit`	nlevels limit in factor variable, Default: 10
`id.gee`	reactive repeated measure variable
`vec.event`	event variables as vector for gaussian generalized estimating equation(GEE), Default: NULL

Details

Shiny modulde server for gaussian generalized estimating equation(GEE) using reactive data.

Value

Shiny modulde server for gaussian generalized estimating equation(GEE).

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      GEEModuleUI("linear")
    ),
    mainPanel(
      DTOutput("lineartable")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))
  id.gee <- reactive("mpg")

  out_linear <- callModule(GEEModuleLinear, "linear",
    data = data, data_label = data.label,
    data_varStruct = NULL, id.gee = id.gee
  )

  output$lineartable <- renderDT({
    hide <- which(colnames(out_linear()$table) == "sig")
    datatable(out_linear()$table,
      rownames = T, extension = "Buttons", caption = out_linear()$caption,
      options = c(
        opt.tbreg(out_linear()$caption),
        list(columnDefs = list(list(visible = FALSE, targets = hide))),
        list(scrollX = TRUE)
      )
   ) %>% formatStyle("sig", target = "row", backgroundColor = styleEqual("**", "yellow"))
  })
}
```

GEEModuleLogistic *GEEModuleLogistic: shiny modulde server for binomial gaussian generalized estimating equation(GEE) using reactive data.*

Description

Shiny modulde server for binomial gaussian generalized estimating equation(GEE) using reactive data.

Usage

```
GEEModuleLogistic(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  id.gee,
  vec.event = NULL
)
```

Arguments

input	input
output	output
session	session
data	reactive data, ordered by id.
data_label	reactive data label
data_varStruct	List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10
id.gee	reactive repeated measure variable
vec.event	event variables as vector for binomial gaussian generalized estimating equation(GEE), Default: NULL

Details

Shiny modulde server for binomial gaussian generalized estimating equation(GEE) using reactive data.

Value

Shiny modulde server for binomial gaussian generalized estimating equation(GEE).

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      GEEModuleUI("logistic")
    ),
    mainPanel(
```

```
      DTOutput("logistictable")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))
  id.gee <- reactive("mpg")

  out_logistic <- callModule(GEEModuleLogistic, "logistic",
    data = data, data_label = data.label,
    data_varStruct = NULL, id.gee = id.gee
  )

  output$logistictable <- renderDT({
    hide <- which(colnames(out_logistic()$table) == "sig")
    datatable(out_logistic()$table,
      rownames = T, extension = "Buttons",
      caption = out_logistic()$caption,
      options = c(
        opt.tbreg(out_logistic()$caption),
        list(columnDefs = list(list(visible = FALSE, targets = hide))),
        list(scrollX = TRUE)
      )
   ) %>% formatStyle("sig", target = "row", backgroundColor = styleEqual("**", "yellow"))
  })
}
```

GEEModuleUI *GEEModuleUI: shiny modulde UI for generalized estimating equation(GEE).*

Description

Shiny modulde UI for generalized estimating equation(GEE).

Usage

```
GEEModuleUI(id)
```

Arguments

id	id

Details

Shiny modulde UI for generalized estimating equation(GEE).

Value

Shiny modulde UI for generalized estimating equation(GEE).

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      GEEModuleUI("linear")
    ),
    mainPanel(
      DTOutput("lineartable")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))
  id.gee <- reactive("mpg")

  out_linear <- callModule(GEEModuleLinear, "linear",
    data = data, data_label = data.label,
    data_varStruct = NULL, id.gee = id.gee
  )

  output$lineartable <- renderDT({
    hide <- which(colnames(out_linear()$table) == "sig")
    datatable(out_linear()$table,
      rownames = T, extension = "Buttons", caption = out_linear()$caption,
      options = c(
        opt.tbreg(out_linear()$caption),
        list(columnDefs = list(list(visible = FALSE, targets = hide))),
        list(scrollX = TRUE)
      )
   ) %>% formatStyle("sig", target = "row", backgroundColor = styleEqual("**", "yellow"))
  })
}
```

---

ggpairsModule *ggpairsModule: shiny module server for basic/scatter plot.*

Description

Shiny module server for basic/scatter plot.

Usage

```
ggpairsModule(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 20
)
```

Arguments

input	input
output	output
session	session
data	data
data_label	data label
data_varStruct	List of variable structure, Default: NULL
nfactor.limit	nlevels limit for categorical variables, Default: 20

Details

Shiny module server for basic/scatter plot.

Value

Shiny module server for basic/scatter plot.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(GGally)

ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      ggpairsModuleUI1("ggpairs")
    ),
    mainPanel(
      plotOutput("ggpairs_plot"),
      ggpairsModuleUI2("ggpairs")
    )
  )
```

```
)

server <- function(input, output, session) {
  data <- mtcars
  data.label <- jstable::mk.lev(mtcars)

  out_ggpairs <- callModule(ggpairsModule, "ggpairs",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$kaplan_plot <- renderPlot({
    print(out_ggpairs())
  })
}
```

`ggpairsModule2` *ggpairsModule2: shiny module server for basic/scatter plot for reactive data.*

Description

Shiny module server for basic/scatter plot for reactive data.

Usage

```
ggpairsModule2(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 20
)
```

Arguments

`input`	input
`output`	output
`session`	session
`data`	Reactive data
`data_label`	Reactive data label
`data_varStruct`	List of variable structure, Default: NULL
`nfactor.limit`	nlevels limit for categorical variables, Default: 20

Details

Shiny module server for basic/scatter plot for reactive data.

Value

Shiny module server for basic/scatter plot

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(GGally)

ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      ggpairsModuleUI1("ggpairs")
    ),
    mainPanel(
      plotOutput("ggpairs_plot"),
      ggpairsModuleUI2("ggpairs")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_ggpairs <- callModule(ggpairsModule2, "ggpairs",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$kaplan_plot <- renderPlot({
    print(out_ggpairs())
  })
}
```

---

ggpairsModuleUI1 *ggpairsModuleUI1: Variable selection module UI for ggpairs*

Description

Variable selection module UI for ggpairs

Usage

```
ggpairsModuleUI1(id)
```

Arguments

id	id

Details

Variable selection module UI for ggpairs

Value

Variable selection module UI for ggpairs

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(GGally)

ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      ggpairsModuleUI1("ggpairs")
    ),
    mainPanel(
      plotOutput("ggpairs_plot"),
      ggpairsModuleUI2("ggpairs")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_ggpairs <- callModule(ggpairsModule2, "ggpairs",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$kaplan_plot <- renderPlot({
    print(out_ggpairs())
  })
}
```

ggpairsModuleUI2 *ggpairsModuleUI2: Option & download module UI for ggpairs*

Description

Option & download module UI for ggpairs

Usage

```
ggpairsModuleUI2(id)
```

Arguments

id	id

Details

Option & download module UI for ggpairs

Value

Option & download module UI for ggpairs

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(GGally)

ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      ggpairsModuleUI1("ggpairs")
    ),
    mainPanel(
      plotOutput("ggpairs_plot"),
      ggpairsModuleUI2("ggpairs")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_ggpairs <- callModule(ggpairsModule2, "ggpairs",
    data = data, data_label = data.label,
```

```
    data_varStruct = NULL
  )

  output$kaplan_plot <- renderPlot({
    print(out_ggpairs())
  })
}
```

---

ggplotdownUI *ggplotdownUI: Option & download module UI for ggplot*

Description

Option & download module UI for ggplot

Usage

```
ggplotdownUI(id)
```

Arguments

id	id

Details

Option & download module UI for ggplot

Value

Option & download module UI for ggplot

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      kaplanUI("kaplan")
    ),
    mainPanel(
      plotOutput("kaplan_plot"),
      ggplotdownUI("kaplan")
    )
  )
)
```

```
server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_kaplan <- callModule(kaplanModule, "kaplan",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$kaplan_plot <- renderPlot({
    print(out_kaplan())
  })
}
```

`histogramServer` *histogramServer: shiny module server for histogram.*

Description

Shiny module server for histogram.

Usage

```
histogramServer(
  id,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10
)
```

Arguments

`id`	id
`data`	Reactive data
`data_label`	Reactive data label
`data_varStruct`	Reactive List of variable structure, Default: NULL
`nfactor.limit`	nlevels limit in factor variable, Default: 10

Details

Shiny module server for histogram.

Value

Shiny module server for histogram.

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      histogramUI("histogram")
    ),
    mainPanel(
      plotOutput("histogram"),
      ggplotdownUI("histogram")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_histogram <- histogramServer("histogram",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$histogram <- renderPlot({
    print(out_histogram())
  })
}
```

`histogramUI` *histogramUI: shiny module UI for histogram*

Description

Shiny module UI for histogram

Usage

```
histogramUI(id, label = "histogram")
```

Arguments

`id`	id
`label`	label

Details

Shiny module UI for histogram

Value

Shiny module UI for histogram

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      histogramUI("histogram")
    ),
    mainPanel(
      plotOutput("histogram"),
      ggplotdownUI("histogram")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_histogram <- histogramServer("histogram",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$histogram <- renderPlot({
    print(out_histogram())
  })
}
```

---

is_production_environment

Detect if running in production/deployment environment

Description

Detect if running in production/deployment environment

Usage

```
is_production_environment()
```

Details

Default is FALSE (development mode) when DEPLOYMENT_ENV is not set

Value

Logical. TRUE if in production, FALSE if local development

`jsBasicAddin` *jsBasicAddin: Rstudio addin of jsBasicGadget*

Description

Rstudio addin of jsBasicGadget

Usage

```
jsBasicAddin()
```

Details

Rstudio addin of jsBasicGadget

Value

Rstudio addin of jsBasicGadget

See Also

rstudio-editors

Examples

```
if (interactive()) {
  jsBasicAddin()
}
```

`jsBasicExtAddin` *jsBasicExtAddin: RStudio Addin for basic data analysis with external data.*

Description

RStudio Addin for basic data analysis with external csv/xlsx/sas7bdat/sav/dta file.

Usage

```
jsBasicExtAddin(nfactor.limit = 20, max.filesize = 2048)
```

Arguments

nfactor.limit	nlevels limit for categorical variables, Default: 20
max.filesize	Maximum file size to upload (MB), Default: 2048 (2 GB)

Details

RStudio Addin for basic data analysis with external csv/xlsx/sas7bdat/sav/dta file.

Value

RStudio Addin for basic data analysis with external data.

See Also

lung fwrite opt.tbreg

Examples

```
if (interactive()) {
  jsBasicExtAddin()
}
```

---

jsBasicGadget *jsBasicGadget: Shiny Gadget of Basic Statistics in Medical Research.*

Description

Shiny Gadget including Data, Label info, Table 1, Regression(linear, logistic), Basic plot

Usage

```
jsBasicGadget(data, nfactor.limit = 20)
```

Arguments

data	data
nfactor.limit	nlevels limit for categorical variables

Details

Shiny Gadget including Data, Label info, Table 1, Regression(linear, logistic), Basic plot

Value

Shiny Gadget including Data, Label info, Table 1, Regression(linear, logistic), Basic plot

Examples

```
if (interactive()) {
  jsBasicGadget(mtcars)
}
```

`jsPropensityAddin` *jsPropensityAddin: Rstudio addin of jsPropensityGadget*

Description

Rstudio addin of jsPropensityGadget

Usage

```
jsPropensityAddin()
```

Details

Rstudio addin of jsPropensityGadget

Value

Rstudio addin of jsPropensityGadget

See Also

rstudio-editors

Examples

```
if (interactive()) {
  jsPropensityAddin()
}
```

`jsPropensityExtAddin` *jsPropensityExtAddin: RStudio Addin for propensity score analysis with external data.*

Description

RStudio Addin for propensity score analysis with external csv/xlsx/sas7bdat/sav/dta file.

Usage

```
jsPropensityExtAddin(nfactor.limit = 20, max.filesize = 2048)
```

Arguments

nfactor.limit	nlevels limit for categorical variables, Default: 20
max.filesize	Maximum file size to upload (MB), Default: 2048 (2 GB)

Details

RStudio Addin for propensity score analysis with external csv/xlsx/sas7bdat/sav/dta file.

Value

RStudio Addin for propensity score analysis with external data.

See Also

pbc fwrite,data.table svydesign opt.tbreg

Examples

```
if (interactive()) {
  jsPropensityExtAddin()
}
```

---

jsPropensityGadget *jsPropensityGadget: Shiny Gadget for propensity score analysis.*

Description

Shiny Gadget including original/matching/IPTW data, Label info, Table 1, Cox model, Basic/kaplan-meier plot.

Usage

```
jsPropensityGadget(data, nfactor.limit = 20)
```

Arguments

data	data
nfactor.limit	nlevels limit for categorical variables, Default: 20

Details

Shiny Gadget including original/matching/IPTW data, Label info, Table 1, Cox model, Basic/kaplan-meier plot.

Value

Shiny Gadget including original/matching/IPTW data, Label info, Table 1, Cox model, Basic/kaplan-meier plot.

See Also

data.table matchit,match.data cox2.display,svycox.display survfit,coxph,Surv jskm,svyjskm ggsave svykm

Examples

```
if (interactive()) {
  jsPropensityGadget(mtcars)
}
```

---

jsRepeatedAddin *jsRepeatedAddin: Rstudio addin of jsRepeatedGadget*

Description

Rstudio addin of jsRepeatedGadget

Usage

```
jsRepeatedAddin()
```

Details

Rstudio addin of jsRepeatedGadget

Value

Rstudio addin of jsRepeatedGadget

See Also

rstudio-editors

Examples

```
if (interactive()) {
  jsRepeatedAddin()
}
```

`jsRepeatedExtAddin` *jsRepeatedExtAddin: RStudio Addin for repeated measure analysis with external data.*

Description

RStudio Addin for repeated measure analysis with external csv/xlsx/sas7bdat/sav/dta file.

Usage

```
jsRepeatedExtAddin(nfactor.limit = 20, max.filesize = 2048)
```

Arguments

`nfactor.limit`	nlevels limit for categorical variables, Default: 20
`max.filesize`	Maximum file size to upload (MB), Default: 2048 (2 GB)

Details

RStudio Addin for repeated measure analysis with external csv/xlsx/sas7bdat/sav/dta file.

Value

RStudio Addin for repeated measure analysis with external data.

See Also

`fwrite` `colon` `opt.tbreg`

Examples

```
if (interactive()) {
  jsRepeatedExtAddin()
}
```

`jsRepeatedGadget` *jsRepeatedGadget: Shiny Gadget of Repeated measure analysis.*

Description

Shiny Gadget including Data, Label info, Table 1, GEE(linear, logistic), Basic plot

Usage

```
jsRepeatedGadget(data, nfactor.limit = 20)
```

Arguments

data	data
nfactor.limit	nlevels limit for categorical variables

Details

Shiny Gadget including Data, Label info, Table 1, GEE(linear, logistic), Basic plot

Value

Shiny Gadget including Data, Label info, Table 1, GEE(linear, logistic), Basic plot

Examples

```
if (interactive()) {
  jsRepeatedGadget(mtcars)
}
```

---

jsSurveyAddin *jsSurveyAddin: Rstudio addin of jsSurveyGadget*

Description

Rstudio addin of jsSurveyGadget

Usage

```
jsSurveyAddin()
```

Details

Rstudio addin of jsSurveyGadget

Value

Rstudio addin of jsSurveyGadget

See Also

rstudio-editors

Examples

```
if (interactive()) {
  jsSurveydAddin()
}
```

jsSurveyExtAddin *jsSurveyExtAddin: RStudio Addin for survey data analysis with external data.*

Description

RStudio Addin for survey data analysis with external csv/xlsx/sas7bdat/sav/dta file.

Usage

```
jsSurveyExtAddin(nfactor.limit = 20, max.filesize = 2048)
```

Arguments

nfactor.limit	nlevels limit for categorical variables, Default: 20
max.filesize	Maximum file size to upload (MB), Default: 2048 (2 GB)

Details

RStudio Addin for survey data analysis with external csv/xlsx/sas7bdat/sav/dta file.

Value

RStudio Addin for survey data analysis with external data.

See Also

fwrite opt.tb1,opt.tbreg

Examples

```
if (interactive()) {
  jsSurveyExtAddin()
}
```

jsSurveyGadget *jsSurveyGadget: Shiny Gadget of survey data analysis.*

Description

Shiny Gadget including Data, Label info, Table 1, svyglm, Basic plot

Usage

```
jsSurveyGadget(data, nfactor.limit = 20)
```

Arguments

data	data
nfactor.limit	nlevels limit for categorical variables

Details

Shiny Gadget including Data, Label info, Table 1, svyglm, Basic plot

Value

Shiny Gadget including Data, Label info, Table 1, svyglm, Basic plot

Examples

```
if (interactive()) {
  jsSurveyGadget(mtcars)
}
```

---

kaplanModule *kaplanModule: shiny module server for kaplan-meier plot.*

Description

Shiny module server for kaplan-meier plot.

Usage

```
kaplanModule(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  id.cluster = NULL,
  timeby = NULL,
  range.x = NULL,
  range.y = NULL,
  vec.event = NULL,
  vec.time = NULL
)
```

Arguments

input	input
output	output
session	session
data	Reactive data
data_label	Reactive data label
data_varStruct	Reactive List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10
design.survey	Reactive survey data. default: NULL
id.cluster	Reactive cluster variable if marginal model, Default: NULL
timeby	timeby, Default: NULL
range.x	range of x axis, Default: NULL
range.y	range of y axis, Default: NULL
vec.event	event variables as vector for survival analysis, Default: NULL
vec.time	time variables as vector for survival analysis, Default: NULL

Details

Shiny module server for kaplan-meier plot.

Value

Shiny module server for kaplan-meier plot.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      kaplanUI("kaplan")
    ),
    mainPanel(
      plotOutput("kaplan_plot"),
      ggplotdownUI("kaplan")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))
```

```
  out_kaplan <- callModule(kaplanModule, "kaplan",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$kaplan_plot <- renderPlot({
    print(out_kaplan())
  })
}
```

---

kaplanUI *kaplanUI: shiny module UI for kaplan-meier plot*

Description

Shiny module UI for kaplan-meier plot

Usage

```
kaplanUI(id)
```

Arguments

id	id

Details

Shiny module UI for kaplan-meier plot

Value

Shiny module UI for kaplan-meier plot

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      kaplanUI("kaplan")
    ),
    mainPanel(
      plotOutput("kaplan_plot"),
      ggplotdownUI("kaplan")
    )
```

```
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_kaplan <- callModule(kaplanModule, "kaplan",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$kaplan_plot <- renderPlot({
    print(out_kaplan())
  })
}
```

`lineServer` *lineServer: shiny module server for lineplot.*

Description

Shiny module server for lineplot.

Usage

```
lineServer(id, data, data_label, data_varStruct = NULL, nfactor.limit = 10)
```

Arguments

`id`	id
`data`	Reactive data
`data_label`	Reactive data label
`data_varStruct`	Reactive List of variable structure, Default: NULL
`nfactor.limit`	nlevels limit in factor variable, Default: 10

Details

Shiny module server for lineplot.

Value

Shiny module server for lineplot.

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      lineUI("line")
    ),
    mainPanel(
      optionUI("line"),
      plotOutput("line_plot"),
      ggplotdownUI("line")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_line <- lineServer("line",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$line_plot <- renderPlot({
    print(out_line())
  })
}
```

`lineUI` *lineUI: shiny module UI for lineplot*

Description

Shiny module UI for lineplot

Usage

```
lineUI(id, label = "lineplot")
```

Arguments

`id`	id
`label`	label

Details

Shiny module UI for lineplot

Value

Shiny module UI for lineplot

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      lineUI("line")
    ),
    mainPanel(
      optionUI("line"),
      plotOutput("line_plot"),
      ggplotdownUI("line")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_line <- lineServer("line",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$line_plot <- renderPlot({
    print(out_line())
  })
}
```

---

logistic.display2 *logistic.display2: Modified epiDisplay's logistic.display function.*

Description

Modified epiDisplay's logistic.display function for reactive data.

Usage

```
logistic.display2(
  logistic.model,
  alpha = 0.05,
  crude = TRUE,
  crude.p.value = FALSE,
```

```
  decimal = 2,
  simplified = FALSE
)
```

Arguments

logistic.model	glm object(binomial)
alpha	alpha, Default: 0.05
crude	crude, Default: TRUE
crude.p.value	crude.p.value, Default: FALSE
decimal	decimal, Default: 2
simplified	simplified, Default: FALSE

Details

Modified epiDisplay's logistic.display function for reactive data.

Value

logistic table

Examples

```
model1 <- glm(am ~ cyl + disp, data = mtcars, family = binomial)
logistic.display2(model1, crude = TRUE, crude.p.value = TRUE, decimal = 3)
```

---

logisticModule2 *logisticModule2: Shiny modulde server for logistic regression for reactive data.*

Description

Shiny modulde server for logistic regression for reactive data.

Usage

```
logisticModule2(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  default.unires = T,
  limit.unires = 20,
  vec.event = NULL
)
```

Arguments

input	input
output	output
session	session
data	reactive data
data_label	reactive data label
data_varStruct	List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10
design.survey	reactive survey data. default: NULL
default.unires	Set default independent variables using univariate analysis, Default: T
limit.unires	Change to default.unires = F if number of independent variables > limit.unires, Default: 20
vec.event	event variables as vector for logistic regression, Default: NULL

Details

Shiny modulde server for logistic regression.

Value

Shiny modulde server for logistic regression.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      regressModuleUI("logistic")
    ),
    mainPanel(
      DTOutput("logistictable")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_logistic <- callModule(logisticModule2, "logistic",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )
```

```
  output$logistictable <- renderDT({
    datatable(out_logistic()$table, rownames = T, caption = out_logistic()$caption)
  })
}
```

`mk.lev2` *mk.lev2: level generating function*

Description

make level for sav files with labels pre defined from SPSS

Usage

```
mk.lev2(out.old, out.label)
```

Arguments

`out.old`	raw data
`out.label`	pre-defined label data

Value

out.label data labels updated

`mklist` *mklist: function to make variable list lncluding specific variables.*

Description

Function to make variable list lncluding specific variables.

Usage

```
mklist(varlist, vars)
```

Arguments

`varlist`	Original variable list.
`vars`	variable to include.

Details

Internal function

Value

variable list lncluding specific variables.

Examples

```
data_varStruct <- list(variable = names(mtcars))
mklist(data_varStruct, names(mtcars))
```

`mksetdiff` *mksetdiff: function to make variable list excluding specific variables.*

Description

Function to make variable list excluding specific variables.

Usage

```
mksetdiff(varlist, vars)
```

Arguments

`varlist`	Original variable list
`vars`	variable to exclude.

Details

Internal function

Value

variable list excluding specific variables.

Examples

```
data_varStruct <- list(variable = names(mtcars))
mksetdiff(data_varStruct, "mpg")
```

optionUI *optionUI: Option UI with icon*

Description

Option UI with icon

Usage

```
optionUI(id)
```

Arguments

id	id

Details

Option UI with icon

Value

Option UI with icon

See Also

dropdownButton,tooltipOptions

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      kaplanUI("kaplan")
    ),
    mainPanel(
      optionUI("kaplan"),
      plotOutput("kaplan_plot"),
      ggplotdownUI("kaplan")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
```

```
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_kaplan <- callModule(kaplanModule, "kaplan",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$kaplan_plot <- renderPlot({
    print(out_kaplan())
  })
}
```

`reclassificationJS` *reclassificationJS: Function for reclassification table and statistics*

Description

Modified function of PredictABEL::reclassification: return output table

Usage

```
reclassificationJS(
  data,
  cOutcome,
  predrisk1,
  predrisk2,
  cutoff,
  dec.value = 3,
  dec.p = 3
)
```

Arguments

`data`	Data frame or matrix that includes the outcome and predictors variables.
`cOutcome`	Column number of the outcome variable.
`predrisk1`	Vector of predicted risks of all individuals using initial model.
`predrisk2`	Vector of predicted risks of all individuals using updated model.
`cutoff`	Cutoff values for risk categories. Define the cut-off values. Ex: c(0,.20,.30,1)
`dec.value`	digits of value, Default: 4
`dec.p`	digits of p, Default: 3

Details

Modified function of PredictABEL::reclassification

Value

Table including NRI(categorical), NRI(continuous), IDI with 95

See Also

rcorrp.cens

Examples

```
m1 <- glm(vs ~ am + gear, data = mtcars, family = binomial)
m2 <- glm(vs ~ am + gear + wt, data = mtcars, family = binomial)
reclassificationJS(
  data = mtcars, cOutcome = 8,
  predrisk1 = predict(m1, type = "response"),
  predrisk2 = predict(m2, type = "response"), cutoff = c(0, .20, .40, 1)
)
```

---

regress.display2 *regress.display2: modified epiDisplay's regress.display function*

Description

regress.display function for reactive data

Usage

```
regress.display2(
  regress.model,
  alpha = 0.05,
  crude = FALSE,
  crude.p.value = FALSE,
  decimal = 2,
  simplified = FALSE
)
```

Arguments

regress.model	lm object
alpha	alpha, Default: 0.05
crude	crude, Default: FALSE
crude.p.value	crude.p.value, Default: FALSE
decimal	decimal, Default: 2
simplified	simplified, Default: FALSE

Details

regress.display function for reactive data

Value

regress table

Examples

```
model1 <- glm(mpg ~ cyl + disp + vs, data = mtcars)
regress.display2(model1, crude = TRUE, crude.p.value = TRUE, decimal = 3)
```

`regressModule2` *regressModule2: Shiny modulde server for linear regression for reactive data.*

Description

Shiny modulde server for linear regression for reactive data.

Usage

```
regressModule2(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  default.unires = T,
  limit.unires = 20,
  vec.event = NULL
)
```

Arguments

`input`	input
`output`	output
`session`	session
`data`	reactive data
`data_label`	reactive data label
`data_varStruct`	List of variable structure, Default: NULL
`nfactor.limit`	nlevels limit in factor variable, Default: 10
`design.survey`	reactive survey data. default: NULL
`default.unires`	Set default independent variables using univariate analysis, Default: T
`limit.unires`	Change to default.unires = F if number of independent variables > limit.unires, Default: 20
`vec.event`	event variables as vector for linear regression, Default: NULL

Details

Shiny modulde server for linear regression.

Value

Shiny modulde server for linear regression.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      regressModuleUI("linear")
    ),
    mainPanel(
      DTOutput("lineartable")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_linear <- callModule(regressModule2, "linear",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$lineartable <- renderDT({
    datatable(out_linear()$table, rownames = T, caption = out_linear()$caption)
  })
}
```

`regressModuleUI` *regressModuleUI: shiny modulde UI for linear regression.*

Description

Shiny modulde UI for linear regression.

Usage

```
regressModuleUI(id)
```

Arguments

id	id

Details

Shiny modulde UI for linear regression.

Value

Shiny modulde UI for linear regression.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      regressModuleUI("linear")
    ),
    mainPanel(
      DTOutput("lineartable")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_linear <- callModule(regressModule2, "linear",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$lineartable <- renderDT({
    datatable(out_linear()$table, rownames = T, caption = out_linear()$caption)
  })
}
```

---

rocModule *rocModule: shiny module server for roc analysis*

Description

shiny module server for roc analysis

Usage

```
rocModule(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  id.cluster = NULL
)
```

Arguments

input	input
output	output
session	session
data	Reactive data
data_label	Reactuve data label
data_varStruct	Reactive List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10
design.survey	Reactive survey data. default: NULL
id.cluster	Reactive cluster variable if marginal model, Default: NULL

Details

shiny module server for roc analysis

Value

shiny module server for roc analysis

See Also

quantile setkey ggroc geeglm svyglm theme_modern

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(pROC)
ui <- fluidPage(
  sidebarLayout(
```

```
    sidebarPanel(
      rocUI("roc")
    ),
    mainPanel(
      plotOutput("plot_roc"),
      tableOutput("cut_roc"),
      ggplotdownUI("roc"),
      DTOutput("table_roc")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(data1))

  out_roc <- callModule(rocModule, "roc",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$plot_roc <- renderPlot({
    print(out_roc()$plot)
  })

  output$cut_roc <- renderTable({
    if (is.null(out_roc()$cut)) return(NULL)
    print(out_roc()$cut)
  })

  output$table_roc <- renderDT({
    datatable(out_roc()$tb,
      rownames = F, editable = F, extensions = "Buttons",
      caption = "ROC results",
      options = c(jstable::opt.tbreg("roctable"), list(scrollX = TRUE))
    )
  })
}
```

`rocModule2` *rocModule2: shiny module server for roc analysis- input number of model as integer*

Description

shiny module server for roc analysis- input number of model as integer

Usage

```
rocModule2(
```

```
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  id.cluster = NULL
)
```

Arguments

input	input
output	output
session	session
data	Reactive data
data_label	Reactuve data label
data_varStruct	Reactive List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10
design.survey	Reactive survey data. default: NULL
id.cluster	Reactive cluster variable if marginal model, Default: NULL

Details

shiny module server for roc analysis- input number of model as integer

Value

shiny module server for roc analysis- input number of model as integer

See Also

quantile setkey ggroc geeglm svyglm theme_modern

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(pROC)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      rocUI("roc")
    ),
```

```
    mainPanel(
      plotOutput("plot_roc"),
      tableOutput("cut_roc"),
      ggplotdownUI("roc"),
      DTOutput("table_roc")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(data1))

  out_roc <- callModule(rocModule2, "roc",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$plot_roc <- renderPlot({
    print(out_roc()$plot)
  })

  output$cut_roc <- renderTable({
    print(out_roc()$cut)
  })

  output$table_roc <- renderDT({
    datatable(out_roc()$tb,
      rownames = F, editable = F, extensions = "Buttons",
      caption = "ROC results",
      options = c(jstable::opt.tbreg("roctable"), list(scrollX = TRUE))
    )
  })
}
```

---

rocUI *rocUI: shiny module UI for roc analysis*

Description

Shiny module UI for roc analysis

Usage

```
rocUI(id)
```

Arguments

id	id

Details

Shiny module UI for roc analysis

Value

Shiny module UI for roc analysis

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(pROC)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      rocUI("roc")
    ),
    mainPanel(
      plotOutput("plot_roc"),
      tableOutput("cut_roc"),
      ggplotdownUI("roc"),
      DTOutput("table_roc")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(data1))

  out_roc <- callModule(rocModule, "roc",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$plot_roc <- renderPlot({
    print(out_roc()$plot)
  })

  output$cut_roc <- renderTable({
    if (is.null(out_roc()$cut)) return(NULL)
    print(out_roc()$cut)
  })

  output$table_roc <- renderDT({
    datatable(out_roc()$tb,
      rownames = F, editable = F, extensions = "Buttons",
      caption = "ROC results",
      options = c(jstable::opt.tbreg("roctable"), list(scrollX = TRUE))
```

```
    )
  })
}
```

ROC_table *ROC_table: extract AUC, NRI and IDI information from list of roc object in pROC packages.*

Description

extract AUC, NRI and IDI information from list of roc in pROC packages

Usage

```
ROC_table(ListModel, dec.auc = 3, dec.p = 3)
```

Arguments

ListModel	list of roc object
dec.auc	digits for AUC, Default: 3
dec.p	digits for p value, Default: 3

Details

extract AUC, NRI and IDI information from list of roc object in pROC packages.

Value

table of AUC, NRI and IDI information

See Also

ci.auc,roc.test data.table, rbindlist

Examples

```
library(pROC)
m1 <- glm(vs ~ am + gear, data = mtcars, family = binomial)
m2 <- glm(vs ~ am + gear + wt, data = mtcars, family = binomial)
m3 <- glm(vs ~ am + gear + wt + mpg, data = mtcars, family = binomial)
roc1 <- roc(m1$y, predict(m1, type = "response"))
roc2 <- roc(m2$y, predict(m2, type = "response"))
roc3 <- roc(m3$y, predict(m3, type = "response"))
list.roc <- list(roc1, roc2, roc3)
ROC_table(list.roc)
```

safe_eval_expr *Safe evaluation wrapper with environment-aware security*

Description

Safe evaluation wrapper with environment-aware security

Usage

```
safe_eval_expr(expr, envir, timeout = 10)
```

Arguments

expr	Expression to evaluate
envir	Environment for evaluation
timeout	Timeout in seconds (default: 10)

Details

In production mode, uses RAppArmor::eval.secure if available. In development mode, uses standard eval for easier debugging.

Value

Evaluation result

scatterServer *scatterServer: shiny module server for scatterplot.*

Description

Shiny module server for scatterplot.

Usage

```
scatterServer(id, data, data_label, data_varStruct = NULL, nfactor.limit = 10)
```

Arguments

id	id
data	Reactive data
data_label	Reactive data label
data_varStruct	Reactive List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10

Details

Shiny module server for scatterplot.

Value

Shiny module server for scatterplot.

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      scatterUI("scatter")
    ),
    mainPanel(
      optionUI("scatter"),
      plotOutput("scatter_plot"),
      ggplotdownUI("scatter")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_scatter <- scatterServer("scatter",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$scatter_plot <- renderPlot({
    print(out_scatter())
  })
}
```

`scatterUI` *scatterUI: shiny module UI for scatterplot*

Description

Shiny module UI for scatterplot

Usage

```
scatterUI(id, label = "scatterplot")
```

Arguments

id	id
label	label

Details

Shiny module UI for scatterplot

Value

Shiny module UI for scatterplot

Examples

```
library(shiny)
library(ggplot2)
library(ggpubr)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      scatterUI("scatter")
    ),
    mainPanel(
      optionUI("scatter"),
      plotOutput("scatter_plot"),
      ggplotdownUI("scatter")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_scatter <- scatterServer("scatter",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$scatter_plot <- renderPlot({
    print(out_scatter())
  })
}
```

---

survIDINRI_helper *survIDINRI_helper: Helper function for IDI.INF.OUT in survIDINRI packages*

Description

Helper function for IDI.INF.OUT in survIDINRI packages

Usage

```
survIDINRI_helper(
  var.event,
  var.time,
  list.vars.ind,
  t,
  data,
  dec.auc = 3,
  dec.p = 3,
  id.cluster = NULL
)
```

Arguments

var.event	event
var.time	time
list.vars.ind	list of independent variable
t	time
data	data
dec.auc	digits for AUC, Default: 3
dec.p	digits for p value, Default: 3
id.cluster	cluster variable if marginal model, Default: NULL

Details

Helper function for IDI.INF.OUT in survIDINRI packages

Value

IDI, NRI

See Also

data.table model.matrix coxph Surv IDI.INF.OUT IDI.INF

Examples

```
# library(survival)
# survIDINRI_helper("status", "time", list.vars.ind = list("age", c("age", "sex")),
#                   t = 365, data = lung)
```

tb1module *tb1module: table 1 shiny module server.*

Description

Table 1 shiny module server for descriptive statistics.

Usage

```
tb1module(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  showAllLevels = T,
  argsExact = list(workspace = 2 * 10^7, simulate.p.value = T)
)
```

Arguments

input	input
output	output
session	session
data	Data
data_label	Data label
data_varStruct	Variable structure list of data, Default: NULL
nfactor.limit	maximum factor levels to include, Default: 10
design.survey	survey data of survey package. default: NULL
showAllLevels	Show All label information with 2 categorical variables, Default: T
argsExact	Option for Fisher exact test memory limit.

Details

Table 1 shiny module server for descriptive statistics.

Value

Table 1 shiny module server for descriptive statistics.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      tb1moduleUI("tb1")
    ),
    mainPanel(
      DTOutput("table1")
    )
  )
)

server <- function(input, output, session) {
  data <- mtcars
  data.label <- jstable::mk.lev(mtcars)

  out_tb1 <- callModule(tb1module, "tb1",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$table1 <- renderDT({
    tb <- out_tb1()$table
    cap <- out_tb1()$caption
    out.tb1 <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out.tb1)
  })
}
```

`tb1module2` *tb1module2: table 1 shiny module server for reactive data.*

Description

Table 1 shiny module server for descriptive statistics for reactive data.

Usage

```
tb1module2(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
```

```
  nfactor.limit = 10,
  design.survey = NULL,
  showAllLevels = T,
  argsExact = list(workspace = 2 * 10^7, simulate.p.value = T)
)
```

Arguments

input	input
output	output
session	session
data	Reactive data
data_label	Reactive data label
data_varStruct	Variable structure list of data, Default: NULL
nfactor.limit	maximum factor levels to include, Default: 10
design.survey	Reactive survey data of survey package. Default: NULL
showAllLevels	Show All label information with 2 categorical variables, Default: T
argsExact	Option for Fisher exact test memory limit.

Details

Table 1 shiny module server for descriptive statistics.

Value

Table 1 shiny module server for descriptive statistics.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      tb1moduleUI("tb1")
    ),
    mainPanel(
      DTOutput("table1")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))
```

```
  out_tb1 <- callModule(tb1module2, "tb1",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$table1 <- renderDT({
    tb <- out_tb1()$table
    cap <- out_tb1()$caption
    out.tb1 <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out.tb1)
  })
}
```

`tb1moduleUI` *tb1moduleUI: table 1 module UI.*

Description

Table 1 shiny module UI for descriptive statistics.

Usage

```
tb1moduleUI(id)
```

Arguments

id	id

Details

Table 1 shiny module UI for descriptive statistics.

Value

Table 1 module UI.

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      tb1moduleUI("tb1")
    ),
    mainPanel(
      DTOutput("table1")
    )
```

```
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- reactive(jstable::mk.lev(mtcars))

  out_tb1 <- callModule(tb1module2, "tb1",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$table1 <- renderDT({
    tb <- out_tb1()$table
    cap <- out_tb1()$caption
    out.tb1 <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out.tb1)
  })
}
```

`tb1simple` *tb1simple: tb1 module server for propensity score analysis*

Description

Table 1 module server for propensity score analysis

Usage

```
tb1simple(
  input,
  output,
  session,
  data,
  matdata,
  data_label,
  data_varStruct = NULL,
  group_var,
  showAllLevels = T
)
```

Arguments

`input`	input
`output`	output
`session`	session
`data`	Original data with propensity score
`matdata`	Matching data

data_label	Data label
data_varStruct	List of variable structure, Default: NULL
group_var	Group variable to run propensity score analysis.
showAllLevels	Show All label information with 2 categorical variables, Default: T

Details

Table 1 module server for propensity score analysis

Value

Table 1 with original data/matching data/IPTW data

See Also

var_label CreateTableOneJS svydesign

Examples

```
library(shiny)
library(DT)
library(data.table)
library(readxl)
library(jstable)
library(haven)
library(survey)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      FilePsInput("datafile"),
      tb1simpleUI("tb1")
    ),
    mainPanel(
      DTOutput("table1_original"),
      DTOutput("table1_ps"),
      DTOutput("table1_iptw")
    )
  )
)

server <- function(input, output, session) {
  mat.info <- callModule(FilePs, "datafile")

  data <- reactive(mat.info()$data)
  matdata <- reactive(mat.info()$matdata)
  data.label <- reactive(mat.info()$data.label)


  vlist <- eventReactive(mat.info(), {
    mklist <- function(varlist, vars) {
      lapply(
```

```
      varlist,
      function(x) {
        inter <- intersect(x, vars)
        if (length(inter) == 1) {
          inter <- c(inter, "")
        }
        return(inter)
      }
    )
  }
factor_vars <- names(data())[data()[, lapply(.SD, class) %in% c("factor", "character")]]
  factor_list <- mklist(data_varStruct(), factor_vars)
  conti_vars <- setdiff(names(data()), c(factor_vars, "pscore", "iptw"))
  conti_list <- mklist(data_varStruct(), conti_vars)
  nclass_factor <- unlist(data()[, lapply(.SD, function(x) {
    length(unique(x)[!is.na(unique(x))])
  }),
  .SDcols = factor_vars
  ])
  class01_factor <- unlist(data()[, lapply(.SD, function(x) {
    identical(levels(x), c("0", "1"))
  }),
  .SDcols = factor_vars
  ])
  validate(
    need(!is.null(class01_factor), "No categorical variables coded as 0, 1 in data")
  )
  factor_01vars <- factor_vars[class01_factor]
  factor_01_list <- mklist(data_varStruct(), factor_01vars)
  group_vars <- factor_vars[nclass_factor >= 2 & nclass_factor <= 10 &
    nclass_factor < nrow(data())]
  group_list <- mklist(data_varStruct(), group_vars)
  except_vars <- factor_vars[nclass_factor > 10 | nclass_factor == 1 |
    nclass_factor == nrow(data())]

  ## non-normal: shapiro test
  f <- function(x) {
    if (diff(range(x, na.rm = T)) == 0) {
      return(F)
    } else {
      return(shapiro.test(x)$p.value <= 0.05)
    }
  }

  non_normal <- ifelse(nrow(data()) <= 3 | nrow(data()) >= 5000,
    rep(F, length(conti_vars)),
    sapply(conti_vars, function(x) {
      f(data()[[x]])
    })
  )
  return(list(
    factor_vars = factor_vars, factor_list = factor_list, conti_vars = conti_vars,
    conti_list = conti_list, factor_01vars = factor_01vars,
```

```
      factor_01_list = factor_01_list, group_list = group_list,
      except_vars = except_vars, non_normal = non_normal
    ))
  })

  out.tb1 <- callModule(tb1simple2, "tb1",
    data = data, matdata = matdata, data_label = data.label,
    data_varStruct = NULL, vlist = vlist,
    group_var = reactive(mat.info()$group_var)
  )

  output$table1_original <- renderDT({
    tb <- out.tb1()$original$table
    cap <- out.tb1()$original$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })

  output$table1_ps <- renderDT({
    tb <- out.tb1()$ps$table
    cap <- out.tb1()$ps$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })

  output$table1_iptw <- renderDT({
    tb <- out.tb1()$iptw$table
    cap <- out.tb1()$iptw$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })
}
```

`tb1simple2` *tb1simple2: tb1 module for propensity score analysis for reactive data*

Description

tb1 module for propensity score analysis for reactive data

Usage

```
tb1simple2(
  input,
  output,
  session,
  data,
  matdata,
  data_label,
  data_varStruct = NULL,
```

```
  vlist,
  group_var,
  showAllLevels = T
)
```

Arguments

input	input
output	output
session	session
data	Original reactive data with propensity score
matdata	Matching reactive data
data_label	Reactive data label
data_varStruct	List of variable structure, Default: NULL
vlist	List including factor/continuous/binary/except/non-normal variables
group_var	Group variable to run propensity score analysis.
showAllLevels	Show All label information with 2 categorical variables, Default: T

Details

Table 1 module server for propensity score analysis

Value

Table 1 with original data/matching data/IPTW data

See Also

CreateTableOneJS svydesign

Examples

```
library(shiny)
library(DT)
library(data.table)
library(readxl)
library(jstable)
library(haven)
library(survey)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      FilePsInput("datafile"),
      tb1simpleUI("tb1")
    ),
    mainPanel(
      DTOutput("table1_original"),
      DTOutput("table1_ps"),
```

```
      DTOutput("table1_iptw")
    )
  )
)

server <- function(input, output, session) {
  mat.info <- callModule(FilePs, "datafile")

  data <- reactive(mat.info()$data)
  matdata <- reactive(mat.info()$matdata)
  data.label <- reactive(mat.info()$data.label)


  vlist <- eventReactive(mat.info(), {
    mklist <- function(varlist, vars) {
      lapply(
        varlist,
        function(x) {
          inter <- intersect(x, vars)
          if (length(inter) == 1) {
            inter <- c(inter, "")
          }
          return(inter)
        }
      )
    }
   factor_vars <- names(data())[data()[, lapply(.SD, class) %in% c("factor", "character")]]
    factor_list <- mklist(data_varStruct(), factor_vars)
    conti_vars <- setdiff(names(data()), c(factor_vars, "pscore", "iptw"))
    conti_list <- mklist(data_varStruct(), conti_vars)
    nclass_factor <- unlist(data()[, lapply(.SD, function(x) {
      length(unique(x)[!is.na(unique(x))])
    }),
    .SDcols = factor_vars
    ])
    class01_factor <- unlist(data()[, lapply(.SD, function(x) {
      identical(levels(x), c("0", "1"))
    }),
    .SDcols = factor_vars
    ])
    validate(
      need(!is.null(class01_factor), "No categorical variables coded as 0, 1 in data")
    )
    factor_01vars <- factor_vars[class01_factor]
    factor_01_list <- mklist(data_varStruct(), factor_01vars)
    group_vars <- factor_vars[nclass_factor >= 2 & nclass_factor <= 10 &
      nclass_factor < nrow(data())]
    group_list <- mklist(data_varStruct(), group_vars)
    except_vars <- factor_vars[nclass_factor > 10 | nclass_factor == 1 |
      nclass_factor == nrow(data())]

    ## non-normal: shapiro test
    f <- function(x) {
```

```
      if (diff(range(x, na.rm = T)) == 0) {
        return(F)
      } else {
        return(shapiro.test(x)$p.value <= 0.05)
      }
    }

    non_normal <- ifelse(nrow(data()) <= 3 | nrow(data()) >= 5000,
      rep(F, length(conti_vars)),
      sapply(conti_vars, function(x) {
        f(data()[[x]])
      })
    )
    return(list(
      factor_vars = factor_vars, factor_list = factor_list, conti_vars = conti_vars,
      conti_list = conti_list, factor_01vars = factor_01vars,
      factor_01_list = factor_01_list, group_list = group_list,
      except_vars = except_vars, non_normal = non_normal
    ))
  })

  out.tb1 <- callModule(tb1simple2, "tb1",
    data = data, matdata = matdata, data_label = data.label,
    data_varStruct = NULL, vlist = vlist,
    group_var = reactive(mat.info()$group_var)
  )

  output$table1_original <- renderDT({
    tb <- out.tb1()$original$table
    cap <- out.tb1()$original$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })

  output$table1_ps <- renderDT({
    tb <- out.tb1()$ps$table
    cap <- out.tb1()$ps$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })

  output$table1_iptw <- renderDT({
    tb <- out.tb1()$iptw$table
    cap <- out.tb1()$iptw$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })
}
```

`tb1simpleUI` *tb1simpleUI : tb1 module UI for propensity score analysis*

Description

Table 1 module UI for propensity score analysis.

Usage

```
tb1simpleUI(id)
```

Arguments

id	id

Details

tb1 module UI for propensity score analysis

Value

Table 1 UI for propensity score analysis

Examples

```
library(shiny)
library(DT)
library(data.table)
library(readxl)
library(jstable)
library(haven)
library(survey)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      FilePsInput("datafile"),
      tb1simpleUI("tb1")
    ),
    mainPanel(
      DTOutput("table1_original"),
      DTOutput("table1_ps"),
      DTOutput("table1_iptw")
    )
  )
)

server <- function(input, output, session) {
  mat.info <- callModule(FilePs, "datafile")

  data <- reactive(mat.info()$data)
  matdata <- reactive(mat.info()$matdata)
  data.label <- reactive(mat.info()$data.label)


  vlist <- eventReactive(mat.info(), {
    mklist <- function(varlist, vars) {
```

```
    lapply(
      varlist,
      function(x) {
        inter <- intersect(x, vars)
        if (length(inter) == 1) {
          inter <- c(inter, "")
        }
        return(inter)
      }
    )
  }
factor_vars <- names(data())[data()[, lapply(.SD, class) %in% c("factor", "character")]]
  factor_list <- mklist(data_varStruct(), factor_vars)
  conti_vars <- setdiff(names(data()), c(factor_vars, "pscore", "iptw"))
  conti_list <- mklist(data_varStruct(), conti_vars)
  nclass_factor <- unlist(data()[, lapply(.SD, function(x) {
    length(unique(x)[!is.na(unique(x))])
  }),
  .SDcols = factor_vars
  ])
  class01_factor <- unlist(data()[, lapply(.SD, function(x) {
    identical(levels(x), c("0", "1"))
  }),
  .SDcols = factor_vars
  ])
  validate(
    need(!is.null(class01_factor), "No categorical variables coded as 0, 1 in data")
  )
  factor_01vars <- factor_vars[class01_factor]
  factor_01_list <- mklist(data_varStruct(), factor_01vars)
  group_vars <- factor_vars[nclass_factor >= 2 & nclass_factor <= 10 &
    nclass_factor < nrow(data())]
  group_list <- mklist(data_varStruct(), group_vars)
  except_vars <- factor_vars[nclass_factor > 10 | nclass_factor == 1 |
    nclass_factor == nrow(data())]

  ## non-normal: shapiro test
  f <- function(x) {
    if (diff(range(x, na.rm = T)) == 0) {
      return(F)
    } else {
      return(shapiro.test(x)$p.value <= 0.05)
    }
  }

  non_normal <- ifelse(nrow(data()) <= 3 | nrow(data()) >= 5000,
    rep(F, length(conti_vars)),
    sapply(conti_vars, function(x) {
      f(data()[[x]])
    })
  )
  return(list(
    factor_vars = factor_vars, factor_list = factor_list,
```

```
      conti_vars = conti_vars, conti_list = conti_list, factor_01vars = factor_01vars,
      factor_01_list = factor_01_list, group_list = group_list,
      except_vars = except_vars, non_normal = non_normal
    ))
  })

  out.tb1 <- callModule(tb1simple2, "tb1",
    data = data, matdata = matdata, data_label = data.label,
    data_varStruct = NULL, vlist = vlist,
    group_var = reactive(mat.info()$group_var)
  )

  output$table1_original <- renderDT({
    tb <- out.tb1()$original$table
    cap <- out.tb1()$original$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })

  output$table1_ps <- renderDT({
    tb <- out.tb1()$ps$table
    cap <- out.tb1()$ps$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })

  output$table1_iptw <- renderDT({
    tb <- out.tb1()$iptw$table
    cap <- out.tb1()$iptw$caption
    out <- datatable(tb, rownames = T, extension = "Buttons", caption = cap)
    return(out)
  })
}
```

`templateGenerator` *templateGenerator: Shiny Gadget for global/app.R template.*

Description

Opens a Shiny app that allows users to generate a Shiny project template.

Usage

```
templateGenerator()
```

Details

Shiny Gadget including Data, Label info, Table 1, Regression(linear, logistic), Basic plots

Value

Shiny Gadget including Data, Label info, Table 1, Regression(linear, logistic), Basic plots

Examples

```
if (interactive()) {
  templateGenerator()
}
```

`timeROChelper` *timeROChelper: Helper function for timerocModule*

Description

Helper function for timerocModule

Usage

```
timeROChelper(
  var.event,
  var.time,
  vars.ind,
  t,
  data,
  design.survey = NULL,
  id.cluster = NULL
)
```

Arguments

`var.event`	event
`var.time`	time
`vars.ind`	independent variable
`t`	time
`data`	data
`design.survey`	survey data, Default: NULL
`id.cluster`	cluster variable if marginal model, Default: NULL

Details

Helper function for timerocModule

Value

timeROC and coxph object

See Also

coxph svycoxph predict timeROC

Examples

```
# library(survival)
# timeROChelper("status", "time", c("age", "sex"), t = 365, data = lung)
```

---

timerocModule *timerocModule: shiny module server for time-dependent roc analysis*

Description

shiny module server for time-dependent roc analysis

shiny module server for time-dependent roc analysis- input number of model as integer

Usage

```
timerocModule(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  id.cluster = NULL,
  iid = TRUE,
  NRIIDI = TRUE
)

timerocModule2(
  input,
  output,
  session,
  data,
  data_label,
  data_varStruct = NULL,
  nfactor.limit = 10,
  design.survey = NULL,
  id.cluster = NULL,
  iid = T,
  NRIIDI = T
)
```

Arguments

input	input
output	output
session	session
data	Reactive data
data_label	Reactuve data label
data_varStruct	Reactive List of variable structure, Default: NULL
nfactor.limit	nlevels limit in factor variable, Default: 10
design.survey	Reactive survey data. default: NULL
id.cluster	Reactive cluster variable if marginal model, Default: NULL
iid	logical, get CI of AUC, Default: T
NRIIDI	logical, get NRI & IDI, Default: T

Details

shiny module server for time-dependent roc analysis

shiny module server for time dependent roc analysis- input number of model as integer

Value

shiny module server for time-dependent roc analysis

shiny module server for time dependent roc analysis- input number of model as integer

See Also

quantile setkey data.table rbindlist

quantile setkey data.table rbindlist

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(timeROC)
library(survIDINRI)

ui <- fluidPage(sidebarLayout(
  sidebarPanel(timerocUI("timeroc")),
  mainPanel(
    plotOutput("plot_timeroc"),
    ggplotdownUI("timeroc"),
    DTOutput("table_timeroc")
  )
))
```

```
server <- function(input, output, session) {
  data <- reactive({
    dt_data <- as.data.table(pbc)

    factor_vars <- names(dt_data)[sapply(dt_data, function(x){length(table(x))}) <= 6]
    dt_data[, (factor_vars) := lapply(.SD, factor), .SDcols = factor_vars]

    return(dt_data)
  })

  data.label <- reactive({
    jstable::mk.lev(data())
  })

  out_timeroc <- callModule(
    timerocModule,
    "timeroc",
    data = data,
    data_label = data.label,
    data_varStruct = NULL
  )

  observe({
    tb <- tryCatch(out_timeroc()$tb, error = function(e) NULL)
    print(tb)
  })

  output$plot_timeroc <- renderPlot({
    {
      print(out_timeroc()$plot)
    }
  })


  output$table_timeroc <- renderDT({
    datatable(
      out_timeroc()$tb,
      rownames = F,
      editable = F,
      extensions = "Buttons",
      caption = "ROC results",
      options = c(jstable::opt.tbreg("roctable"), list(scrollX = TRUE))
    )
  })


}


library(shiny)
library(DT)
```

```
library(data.table)
library(jstable)
library(ggplot2)
library(timeROC)
library(survIDINRI)

ui <- fluidPage(sidebarLayout(
  sidebarPanel(timerocUI("timeroc")),
  mainPanel(
    plotOutput("plot_timeroc"),
    ggplotdownUI("timeroc"),
    DTOutput("table_timeroc")
  )
))


server <- function(input, output, session) {
  data <- reactive({
    dt_data <- as.data.table(pbc)

    factor_vars <- names(dt_data)[sapply(dt_data, function(x){length(table(x))}) <= 6]
    dt_data[, (factor_vars) := lapply(.SD, factor), .SDcols = factor_vars]

    return(dt_data)
  })

  data.label <- reactive({
    jstable::mk.lev(data())
  })

  out_timeroc <- callModule(
    timerocModule2,
    "timeroc",
    data = data,
    data_label = data.label,
    data_varStruct = NULL
  )

  observe({
    tb <- tryCatch(out_timeroc()$tb, error = function(e) NULL)
    print(tb)
  })

  output$plot_timeroc <- renderPlot({
    {
      print(out_timeroc()$plot)
    }
  })


  output$table_timeroc <- renderDT({
    datatable(
      out_timeroc()$tb,
```

```
      rownames = F,
      editable = F,
      extensions = "Buttons",
      caption = "ROC results",
      options = c(jstable::opt.tbreg("roctable"), list(scrollX = TRUE))
    )
  })


}
```

`timerocUI` *timerocUI: shiny module UI for time-dependent roc analysis*

Description

Shiny module UI for time-dependent roc analysis

Usage

```
timerocUI(id)
```

Arguments

id	id

Details

Shiny module UI for time-dependent roc analysis

Value

Shiny module UI for time-dependent roc analysis

Examples

```
library(shiny)
library(DT)
library(data.table)
library(jstable)
library(ggplot2)
library(timeROC)
library(survIDINRI)
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel(
      timerocUI("timeroc")
```

```
    ),
    mainPanel(
      plotOutput("plot_timeroc"),
      ggplotdownUI("timeroc"),
      DTOutput("table_timeroc")
    )
  )
)

server <- function(input, output, session) {
  data <- reactive(mtcars)
  data.label <- jstable::mk.lev(mtcars)

  out_timeroc <- callModule(timerocModule, "timeroc",
    data = data, data_label = data.label,
    data_varStruct = NULL
  )

  output$plot_timeroc <- renderPlot({
    print(out_timeroc()$plot)
  })

  output$table_timeroc <- renderDT({
    datatable(out_timeroc()$tb,
      rownames = F, editable = F, extensions = "Buttons",
      caption = "ROC results",
      options = c(jstable::opt.tbreg("roctable"), list(scrollX = TRUE))
    )
  })
}
```

`timeROC_table` *timeROC_table: extract AUC information from list of timeROChelper object.*

Description

extract AUC information from list of timeROChelper object.

Usage

```
timeROC_table(ListModel, dec.auc = 3, dec.p = 3)
```

Arguments

`ListModel`	list of timeROChelper object
`dec.auc`	digits for AUC, Default: 3
`dec.p`	digits for p value, Default: 3

Details

extract AUC information from list of timeROChelper object.

Value

table of AUC information

See Also

confint data.table

Examples

```
# library(survival)
# list.timeROC <- lapply(list("age", c("age", "sex")),
#                        function(x){
#                          timeROChelper("status", "time", x, t = 365, data = lung)
#                        })
# timeROC_table(list.timeROC)
```

---

use_jsmodule_style *Include jsmodule CSS styling*

Description

Adds the custom ‘style.css‘ file bundled with the jsmodule package to a Shiny UI. This allows consistent styling (e.g., bold navbar title, font tweaks, spacing) across all Shiny applications using this package.

Usage

```
use_jsmodule_style()
```

Details

This function is meant to be used inside the UI of a Shiny app. It automatically locates and includes the ‘style.css‘ file found in ‘inst/assets/‘ of the jsmodule package installation.

Value

An HTML ‘<link>‘ tag that loads the CSS into a Shiny UI

See Also

include

Examples

```
## Not run:
use_jsmodule_style()

## End(Not run)
```

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