



Shiny for animal science: project adatalab

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```
library(youngjunna)

# Information ----

Name <- "Youngjun Na"

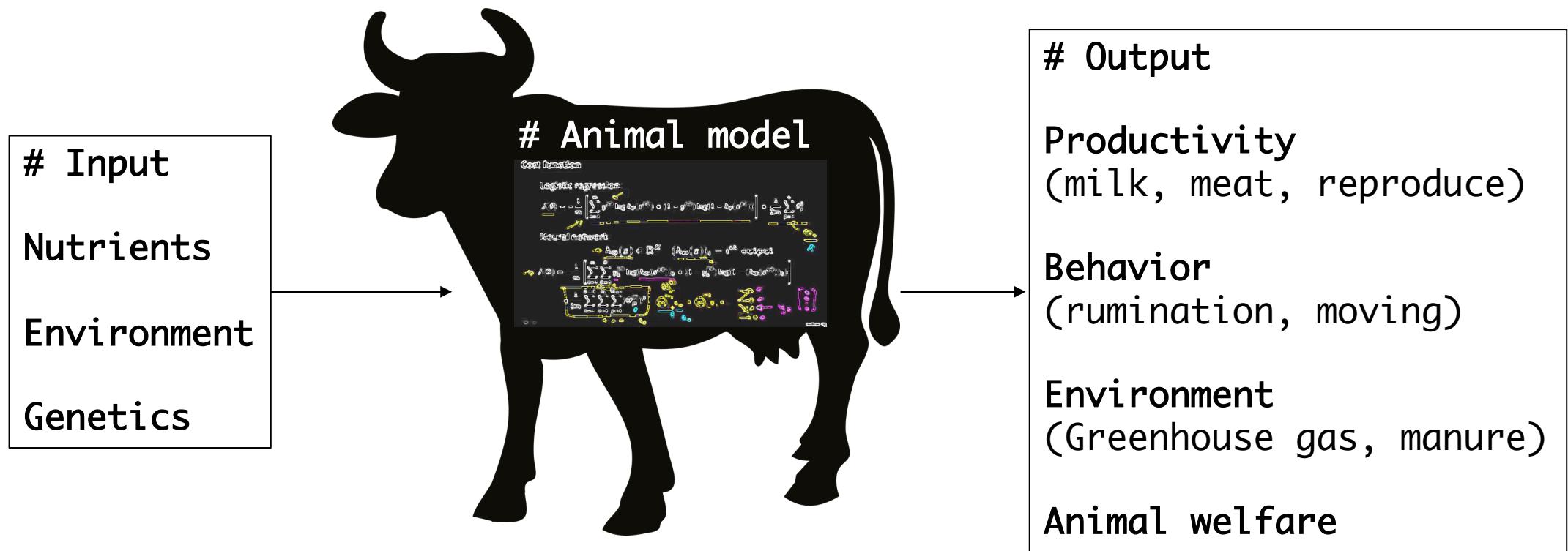
Family <- data.frame(
    family = c("wife", "son", "daughter"),
    name = c("Juhee", "Sangwoo", "Haon")

)

# Link ----

[GitHub](https://github.com/YoungjunNa)
[TechnicalBlog](https://youngjunna.github.io)
```


I'm an animal scientist



엄마가 상상하는 나의 모습

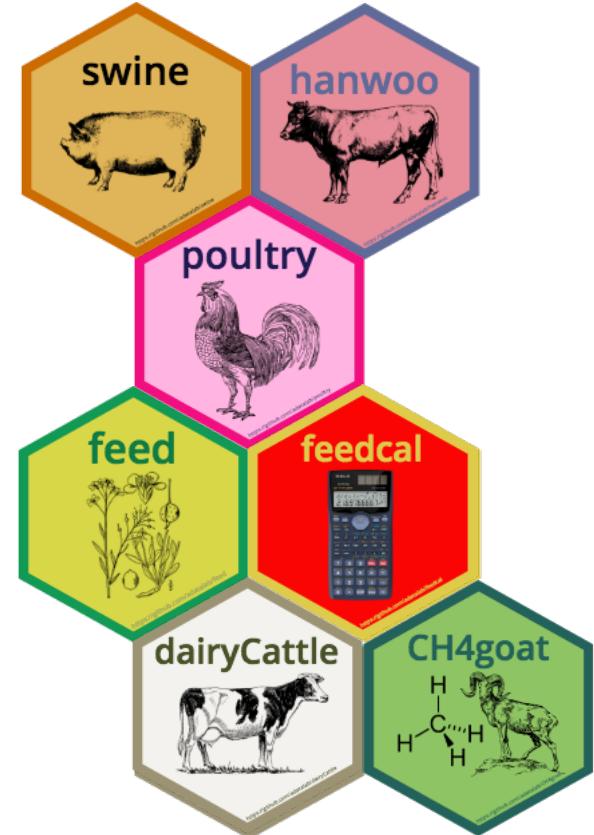


실제 나의 모습



R packages for Animal science:

Project animal data lab. (adatalab)



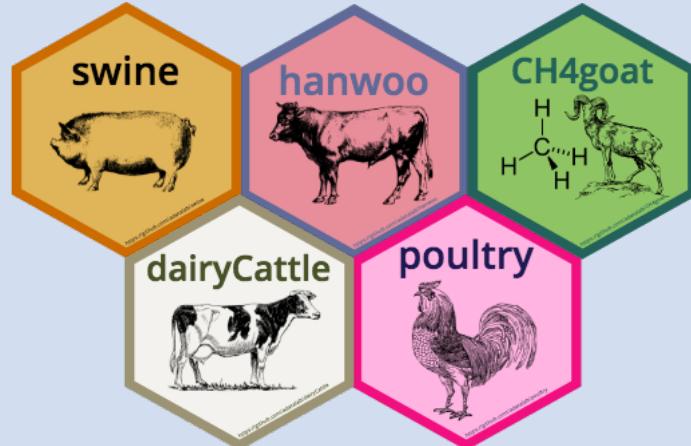
작은 모델 만들기 프로젝트

준비물:

- Data
- Computer (local PC or cloud)
- 분석을 쉽게 만들어줄 tool

Project animal data lab. (adatalab)

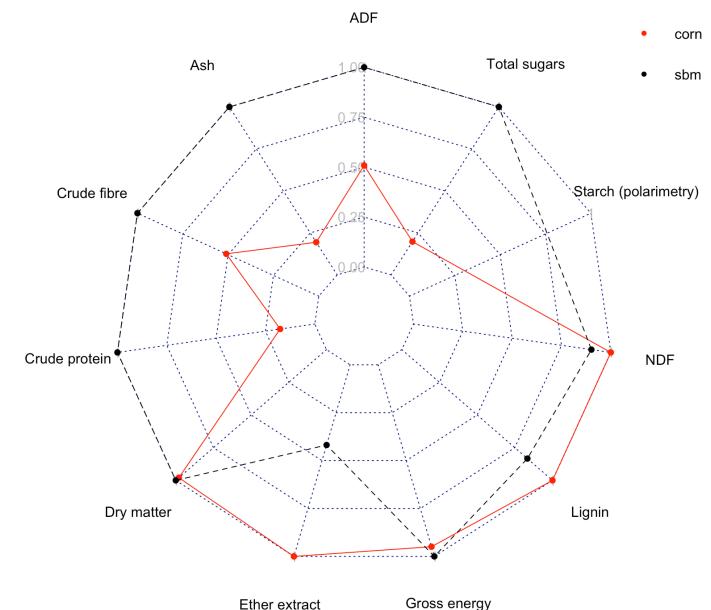
- <https://github.com/adatalab>
- 동물 영양 연구 분석용 R package를 제작

사료	요구량 설정/결과분석	사료배합
		

Package: feed



- <https://github.com/adatalab/feed>
- Imports: rvest, ggplot2, dplyr
- `feed_list()`
- `feed_search()`
- `feed_info()`
- `feed_compare()`



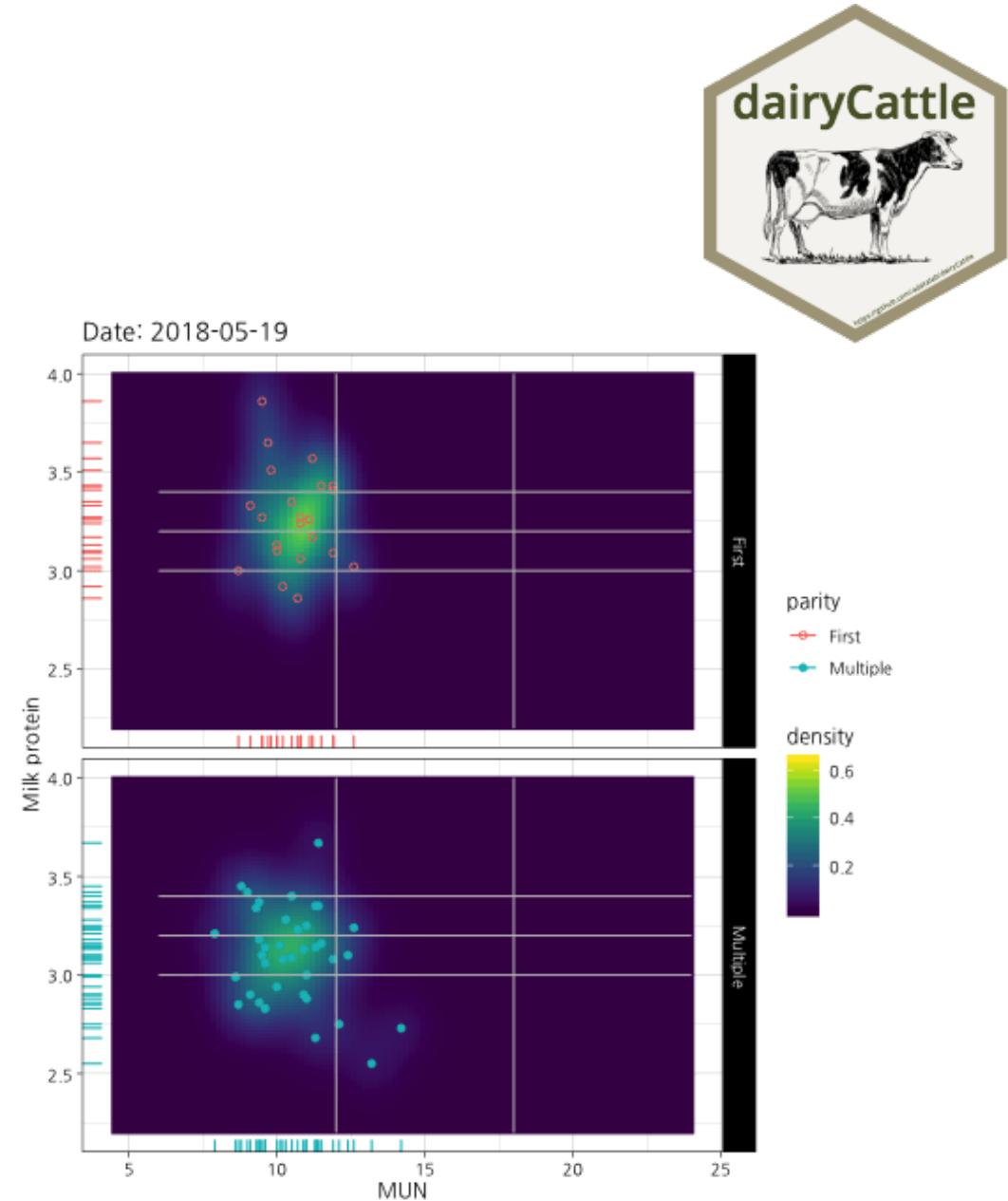
Package: hanwoo



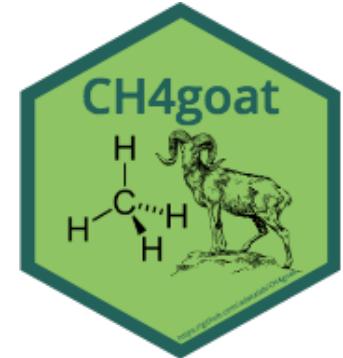
- <https://github.com/adatalab/hanwoo>
- Imports: XML, dplyr
- hanwoo_info()
- hanwoo_bull()
- Functions for import the nutrient requirements of Hanwoo.

Package: dairyCattle

- <https://github.com/adatalab/dairyCattle>
- Imports: `ggplot2`, `dplyr`, `janitor`, `timevis`
- `mun_mp()`
- `parturition()`
<https://youngjunna.github.io/adatalab/parturition>
- Functions for import the nutrient requirements of dairy cattle.

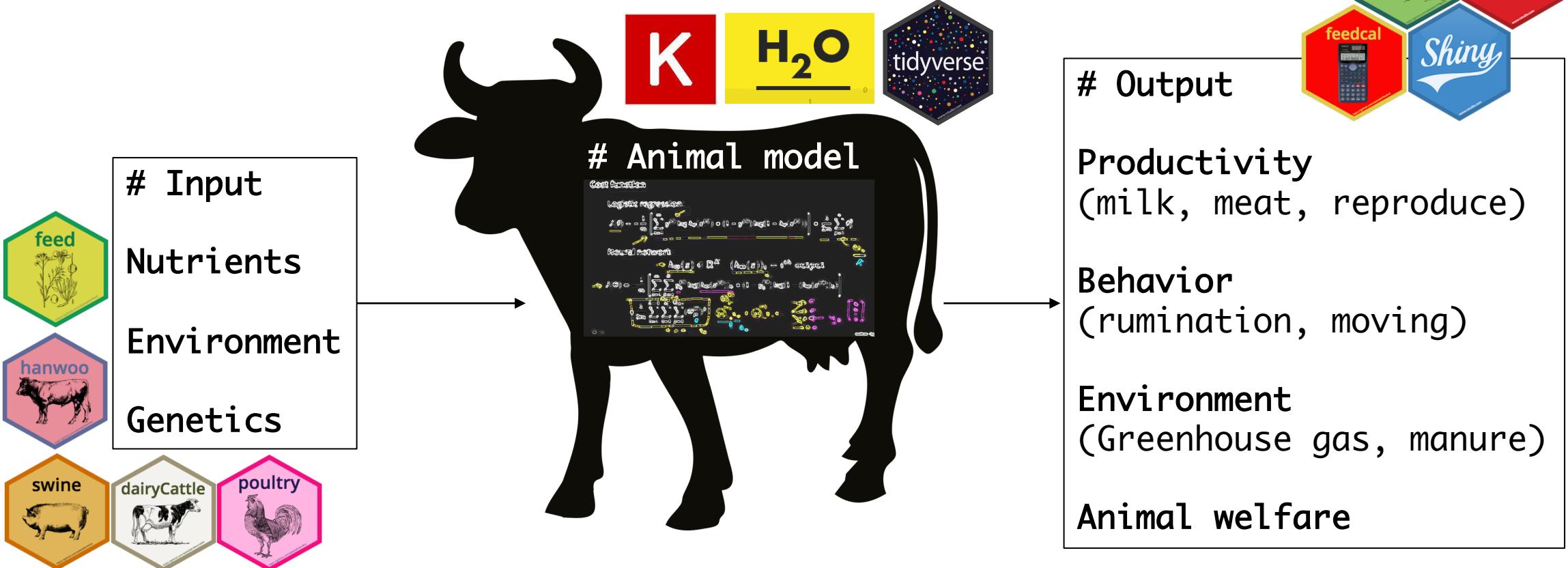


Package: CH4goat



- <https://github.com/adatalab/CH4goat>
- Imports: neuralnet
- The package contains two black-box model derived from the *in vivo* enteric methane dataset using respiration-metabolism chamber system.
- `neuralnet::compute(model1, your_data)`

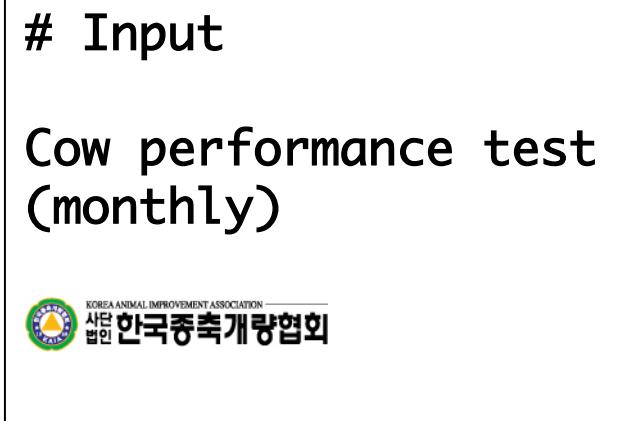
Workflow for animal modeling



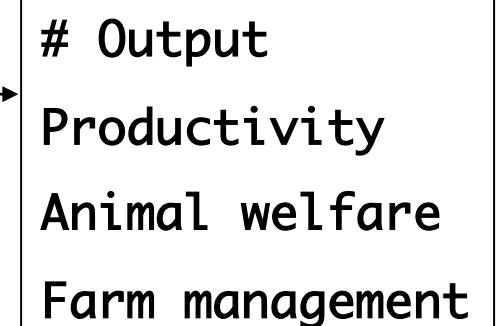
Shiny apps for Animal science

DairyLab

<https://adatalab.github.io/dairylab-pro/>



```
dairyCattle::read_cattle()
```



DairyLab

- flexdashboard 패키지 기반(<https://rmarkdown.rstudio.com/flexdashboard/index.html>)
- runtime: shiny

```
1 ---  
2 title: "DairyLab-Pro"  
3 author: <a href="https://adatalab.github.io/">@adatalab</a>  
4 output:  
5   flexdashboard::flex_dashboard:  
6     orientation: rows  
7     vertical_layout: fill  
8     social: menu  
9     theme: united  
10    runtime: shiny  
11 ---  
12  
13 ````{r setup, include=FALSE}  
14 library(shiny)  
15 library(flexdashboard)
```

DairyLab

- render*() 만 써도 대부분 flexdashboard에 적용 가능 == without *Output()

```
473 Column {data-height=300}
474 -----
475 ### 분류
476 `~~{r}
477 renderPrint({
478   req(input$selFile$datapath)
479   mun_mp_tbl(munmp())
480 })
481 `~~
482
```

DairyLab

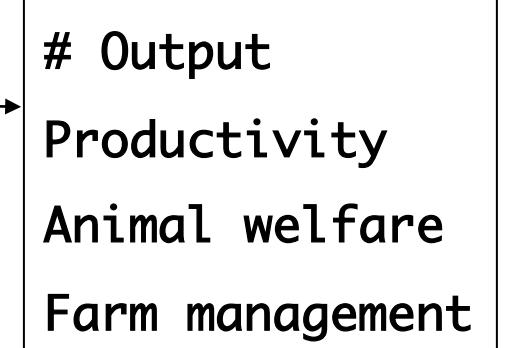
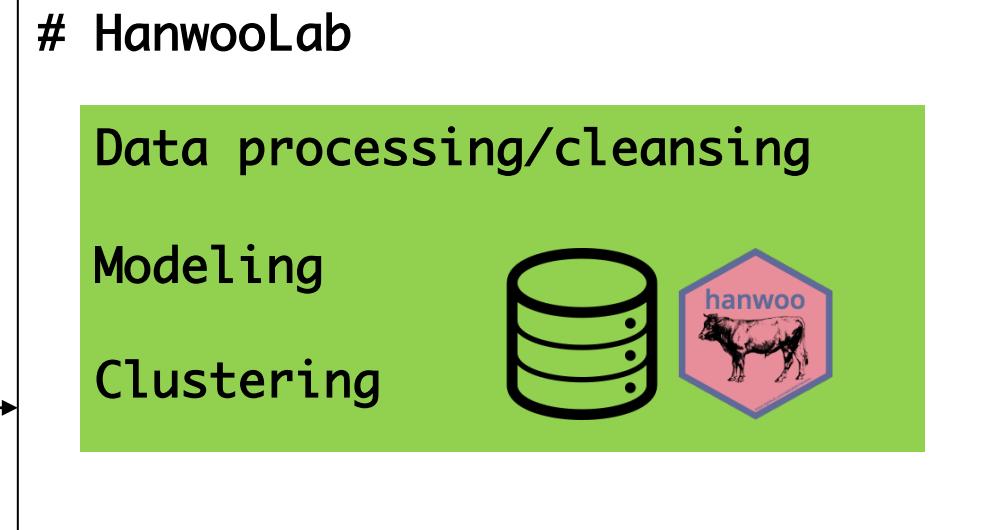
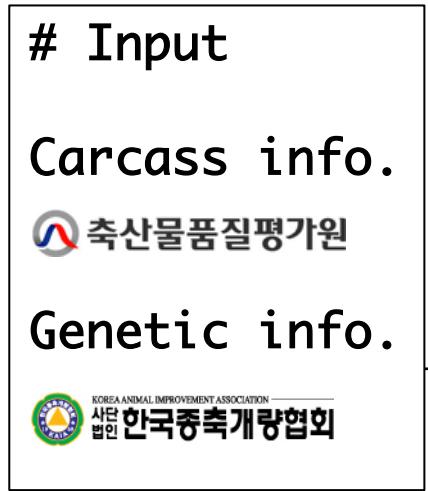
■ shinyApp() 의 응용

```
196 ### Lactation level
197 ```{r}
198 shinyApp(
199   ui = fluidPage(
200     withLoader(plotOutput("my"),
201       type = "html",
202       loader = "loader5"
203     )
204   ),
205   server = function(input, output) {
206     output$my <- renderPlot({
207
208       # req(input$selFile$datapath)
209       level <- c(`Early` = length(which(df()$level == "early")), `Mid` = length(which(df()$level == "mid")), `Late` = length(which(df()$level == "late")))
210       waffle(level, rows = 5, colors = c("#c7d4b6", "#a3aab6", "#a0d0de"))
211     })
212   }
213 )
214 ```
215
```

HanwooLab

<https://adatalab.github.io/hanwoolab-example/>

id: user pw: pass



```
hanwoo::hanwoo_info("002123456789")
+
hanwoo::hanwoo_bull("1080")
+
Rselenium + rvest
```

HanwooLab

- shinydashboard 패키지 기반(<https://rstudio.github.io/shinydashboard/index.html>)
- shinyauthr 패키지를 통해 로그인 기능 구현(<https://github.com/PaulC91/shinyauthr>)

Please log in

User Name

Password

Log in

shinyauthr을 이용한 로그인 기능 구현(global)

```
2 library(shiny)
3 library(shinydashboard)
4 library(shinycustomloader)
5 library(shinyjs)
6 library(glue)
7 library(shinyauthr)
8
9 library(dplyr)
10 library(DT)
11 library(lubridate)
12 library(hanwoo)
13
14 library(ggplot2)
15 library(ggthemes)
16 library(colorRamps)
17 library(RColorBrewer)
18 library(plotly)
```

```
21 user_base <- data_frame(
22   user = c("admin", "user", "youngjun"),
23   password = c("pass", "asdf", "qwer"),
24   permissions = c("admin", "user", "me"),
25   name = c("admin", "user", "youngjun")
26 )
```

shinyauthr을 이용한 로그인 기능 구현(ui)

```
94 body <- dashboardBody(  
95   ## Auth ----  
96   shinyjs::useShinyjs(),  
97   tags$head(  
98     tags$style(".table{margin: 0 auto;}"),  
99     tags$script(  
100       src = "https://cdnjs.cloudflare.com/ajax/libs/iframe-resizer/3.5.16/  
101         /iframeResizer.contentWindow.min.js",  
102         type = "text/javascript"  
103       ),  
104       includeScript("returnClick.js")  
105     ),  
106     shinyauthr::loginUI("login"),  
107     HTML("<div data-iframe-height></div>"),  
108   )
```

```
274 ui <- dashboardPage(header, sidebar, body, skin = "black")
```

shinyauthr을 이용한 로그인 기능 구현(server)

```
278 server <- function(input, output, session) {  
279   ## Auth -----  
280   credentials <- callModule(shinyauthr::login, "login",  
281     data = user_base,  
282     user_col = user,  
283     pwd_col = password,  
284     log_out = reactive(logout_init())  
285   )  
286  
287   logout_init <- callModule(shinyauthr::logout, "logout", reactive(credentials  
()$user_auth))  
288  
289   observe({  
290     if (credentials()$user_auth) {  
291       shinyjs::removeClass(selector = "body", class = "sidebar-collapse")  
292     } else {  
293       shinyjs::addClass(selector = "body", class = "sidebar-collapse")  
294     }  
295   })  
296 }
```

Github page + Shiny app

Github page에 shiny app 연결하기

- Jekyll 기준
- html 파일을 만들고 -> permalink 추가 -> iframe 적용

```
1 ---  
2 permalink: /dairylab-pro/  
3 ---  
4  
5 <!DOCTYPE html>  
6 <head>  
7 </head>  
8 <body>  
9 <p>  
10    <iframe src="https://youngjunna.shinyapps.io/dairylab-pro/" style="display:block; width:100vw; height: 100vh; border: 0">  
11      It looks like your browser doesn't support iframes.  
12    </iframe>  
13  </p>  
14 </body>
```

Github page에 shiny app 연결하기

```
---
```

```
permalink: /dairylab-pro/
```

```
---
```

```
<!DOCTYPE html>
```

```
<head>
```

```
</head>
```

```
<body>
```

```
<p>
```

```
<iframe src="https://youngjunna.shinyapps.io/dairylab-pro/" style="display:block; width:100vw; height: 100vh; border: 0">
```

```
It looks like your browser doesn't support iframes.
```

```
</iframe>
```

```
</p>
```

```
</body>
```

Thank you

Q&A