



```
1 meetup(  
2   topic    = "Data Carpentry with Tidyverse",  
3   speaker  = "Muhammad Aswan Syahputra",  
4   when     = "2019-05-11",  
5   where    = "Algoritma Education Center"  
6 )
```

- Sensory Scientist @ Sensolution.ID
- Trainer @ R-Academy Telkom University and The Datanomics Institute (TDI)
- Initiator of Komunitas R Indonesia
- Pkgs: sensehubr, nusandata, bandungjuara, prakiraan, etc
- Shinyapps: sensehub, thermostats, aquastats, bcrp, bandungjuara, etc



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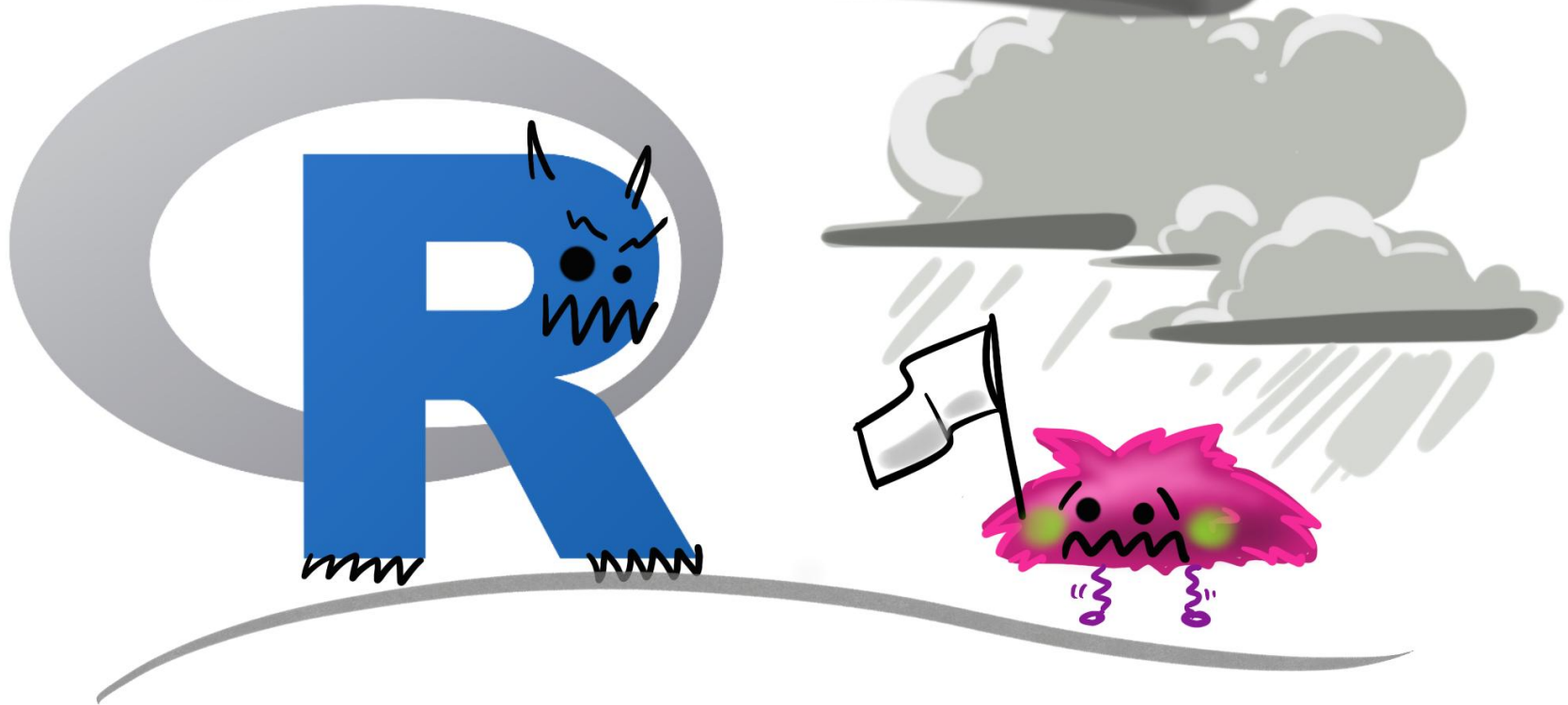




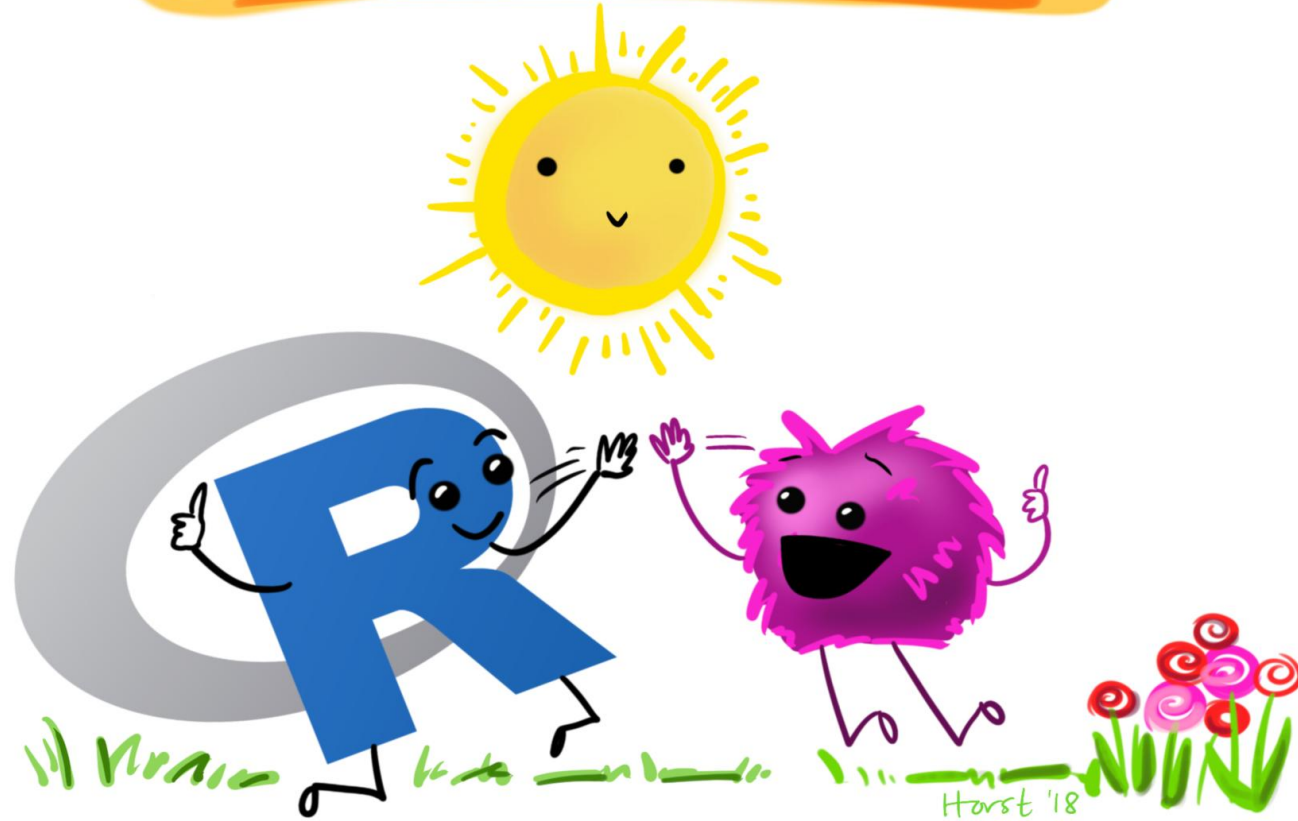
Know your neighbour!

- Who are you?
- What you do with data?
- How would you describe your experience with R?

at first I was like...



...but now it's like...



Data
Carpentry?

“

Do not underestimate

DATA PREPROCESSING

”

“

is not a single process

but a thousand of

little skills and techniques

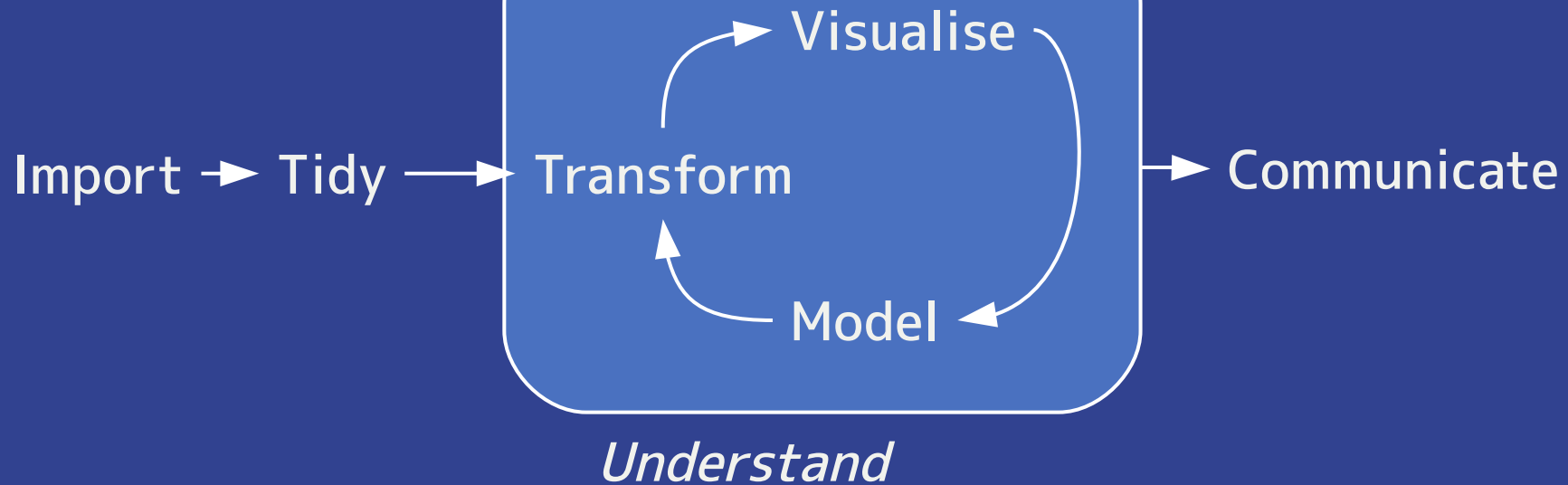
”

- David Minmo

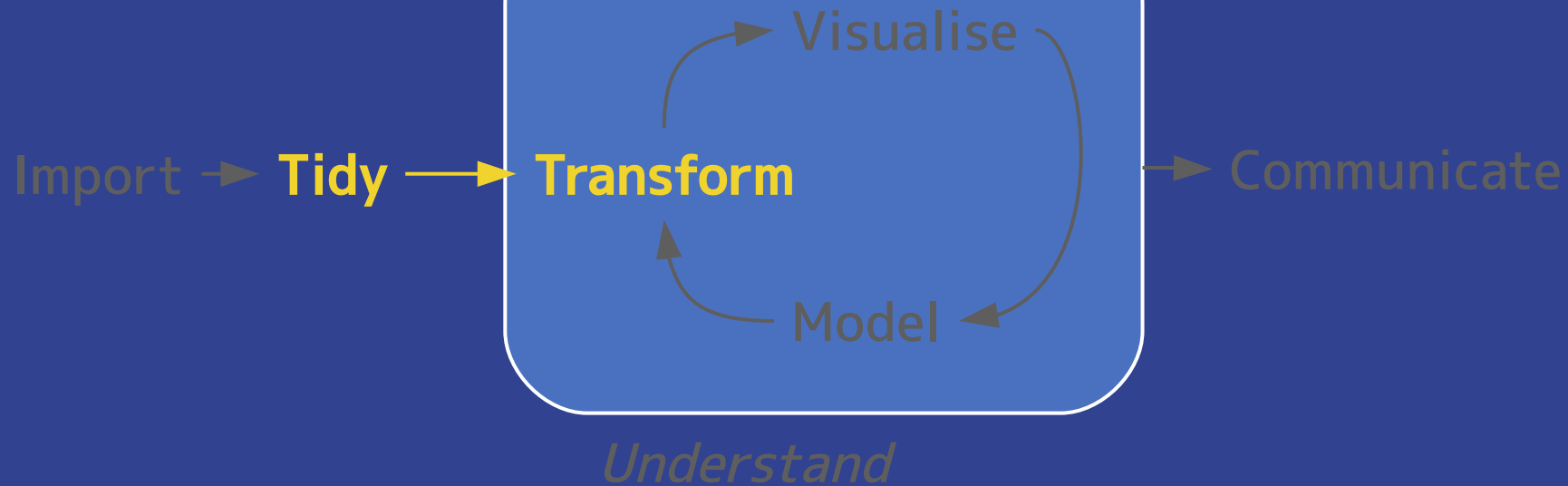


The tidyverse is an opinionated **collection of R packages** designed for **data science**. All packages **share** an underlying design philosophy, grammar, and data structures.

Artwork by @allison_horst



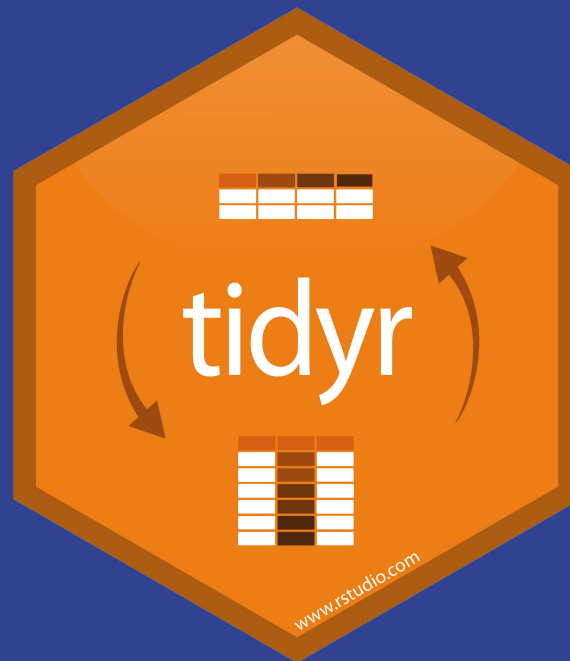
Program



Program



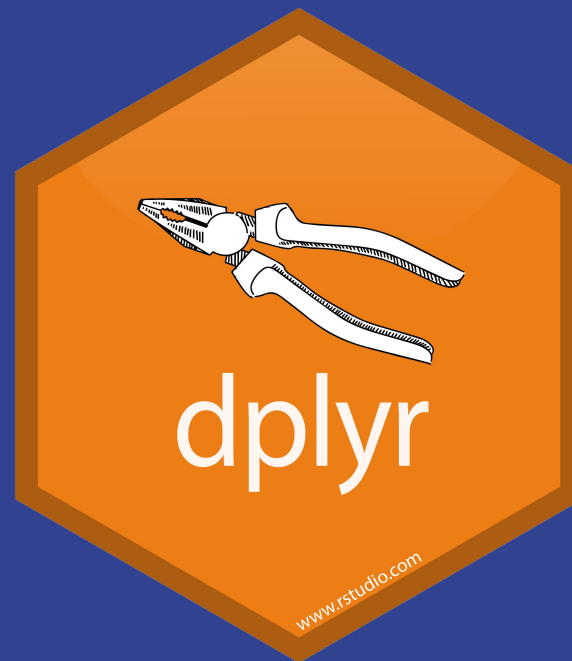
tidyr



dplyr : go wrangling



dplyr



dplyr basic functions:

- **filter()** selects rows based on their values
- **mutate()** creates new variables
- **select()** picks columns by name
- **summarise()** calculates summary statistics
- **arrange()** sorts the rows

tidyr basic functions:

- **gather()** wide-format >> long-format
- **spread()** long-format >> wide-format
- **fill()** fills value based on previous entry
- **complete()** turns implicit missing values into explicit


Operators:

- **!** (not)
- **|** (or)
- **&** (and)
- **==, !=**
- **<, <=, >, >=**
- **%in%**
- **is.na()**

How can I
chain?



- 
1. diputar
 2. dijilat
 3. dicelupin
 4. dimakan :D

- 
1. `putar(apa)`
 2. `jilat(apa, berapa_kali)`
 3. `celup(apa, ke)`
 4. `makan(apa, output)`

a

```
> oreo_putar ← putar(apa = "oreo")
> oreo_jilat ← jilat(apa = oreo_putar,
                     berapa_kali = 2)
> oreo_celup ← celup(apa = oreo_jilat,
                     ke = "susu")
> makan(apa = oreo_celup,
        output = "kenyang.perut")
```

a

```
> oreo_putar <- putar(apa = "oreo")  
> oreo_jilat <- jilat(apa = oreo_putar,  
                      berapa_kali = 2)  
> oreo_celup <- celup(apa = oreo_jilat,  
                      ke = "susu")  
> makan(apa = oreo_celup,  
        output = "kenyang.perut")
```



```
> makan(  
  celup(  
    jilat(  
      putar(apa = "oreo"),  
      berapa_kali = 2  
    ),  
    ke = "susu"  
  ),  
  output = "kenyang.perut"  
)
```

```
function(arg1, arg2, arg3, ... )
```

```
arg1 %>%  
  function(arg2, arg3, ... )
```

```
function(arg1, arg2, arg3, ... )
```

```
arg2 %>%  
  function(arg1, arg2=., arg3, ... )
```

magrittr





```
> putar(apa = "oreo") %>%  
  jilat(berapa_kali = 2) %>%  
  celup(ke = "susu") %>%  
  makan(output = "kenyang.perut")
```

What to do
today?



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Let's get started!

- Let's write R scripts together!
- I will demonstrate and explain the use of each code
- Access this presentation at:
s.id/data-carpentry-tidyverse

Muhammad Aswan Syahputra

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Video ini mendemonstrasikan cara membersihkan data menggunakan paket tidy dan dplyr. Anda akan diperkenalkan dengan fungsi gather(), select(), mutate(), group_by, summarise(), left_join(), dan filter()

s.id/yt_aswansyahputra



Thanks!

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