```
library(dplyr)

rladies_global %>%
  filter(city == 'Mendoza')
```

R-Ladies Mendoza

Auspician

R-Ladies

R consortium

QUIANID

Laboratorio de Química Analítica
para Investigación y Desarrollo

UNCUYO
UNIVERSIDAD
NACIONAL DE CUYO

FACULTAD DE CIENCIAS
EXACTAS Y NATURALES
Naturaleza, Ciencia y Humanismo

Hola!

Jan Strappa

Brenda Canizo

Hola

Soy Ana Laura Diedrichs

Ing. en Sistemas de Información.

Realizando el doctorado en la UTN Mendoza (DHARMa - GridTICs)

Uso R hace 6 años.

R-Ladies

Organización mundial que promueve la diversidad de género en la comunidad **R** mediante encuentros y mentoreo en un **amigable** y **seguro**

La comunidad R sufre de una subrepresentación de las minorías de género (incluyendo pero no limitado a mujeres cis, mujeres trans, personas no binarias y agéneros) en cada uno de los roles y áreas de participación, como líderes, desarrolladores de paquetes, disertantes y participantes de conferencias, educadores y usuarios (see recent stats).

En 2010, un 9 % de los autores eran mujeres

Mair, P., Hofmann, E., Gruber, K., Hatzinger, R., Zeleis, A. and Hornik, K. (2015) Motivation, values, and work design as drivers of participation in the R open source project for statistical computing, *PNAS* https://doi.org/10.1073/pnas.1506047112

En 2016, un 11,4 % de quienes mantienen paquetes R eran mujeres

- http://forwards.github.io/data/

useR conference

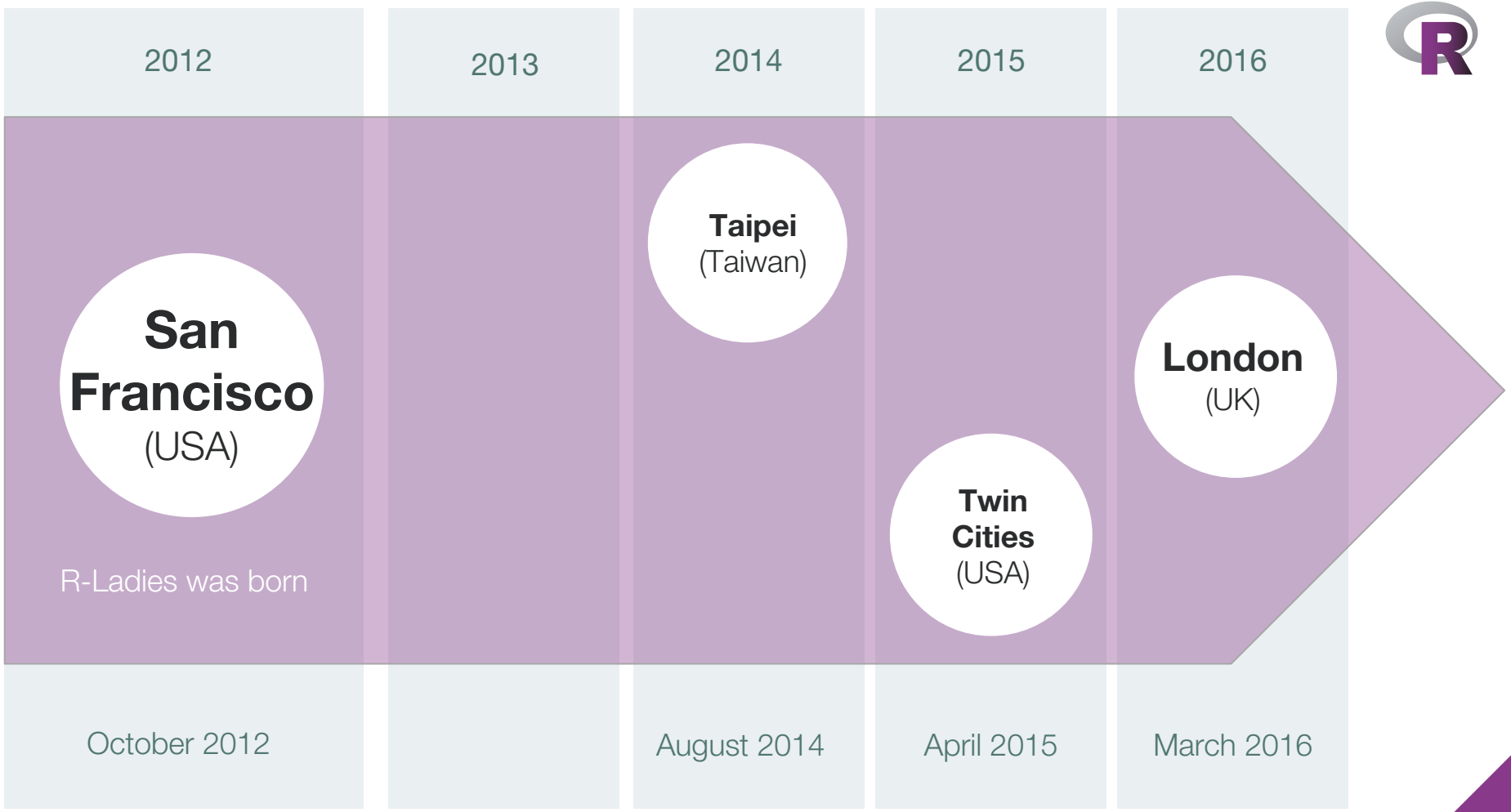
- En 2016 se vio un alza del 19 % al 28 % de asistencia femenina

Nuestra misión

Más mujeres y personas no-binarias

- programadores
- desarrolladores
- disertantes
- líderes

Más personas increíbles que integren la comunidad R y contribuyan desarrollando paquetes.


2012
2013
2014
2015
2016
San Francisco (USA)
R-Ladies was born
Taipei (Taiwan)
Twin Cities (USA)
London (UK)
October 2012
August 2014
April 2015
March 2016

¿Quiénes son?

Las cabezas organizadoras de R-Ladies

ALICE DAISH

CLAUDIA VITOLO

ERIN LEDELL

GABRIELA DE QUEIROZ

HANNAH FRICK

R-Ladies Global! (Agosto 2016)

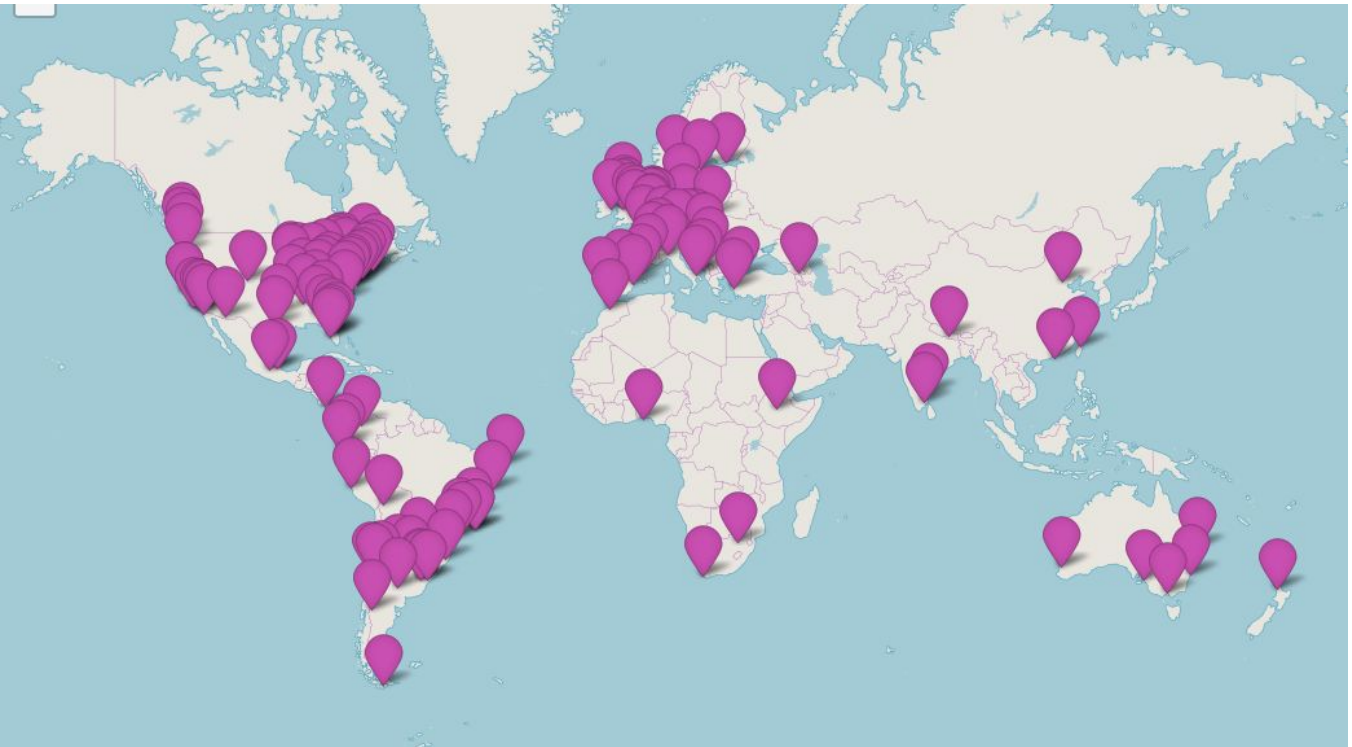
205
Cities

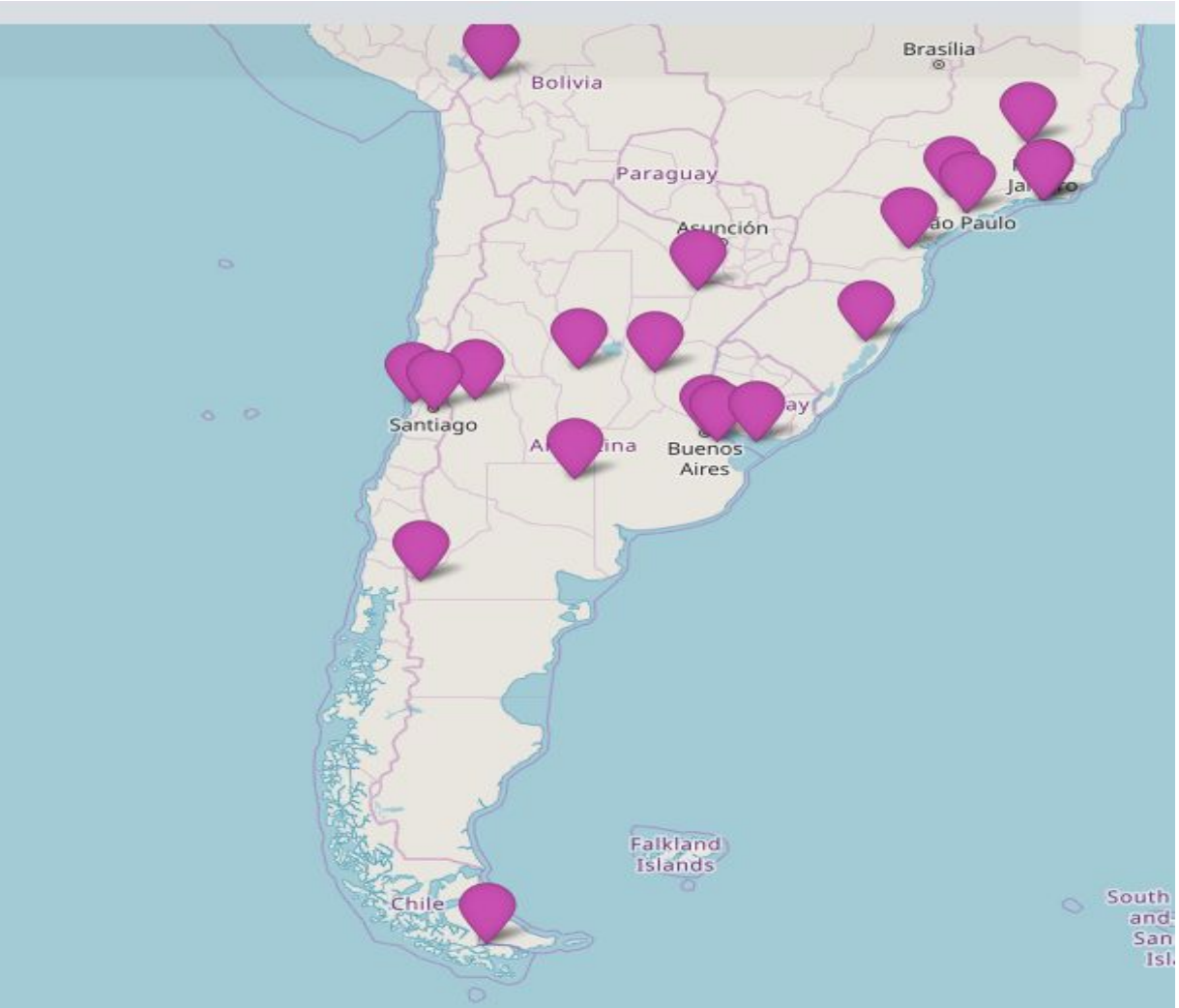
58
Countries

136
Has meetup page

118
R-Ladies on Twitter

R-Ladies





R-Ladies

https://gqueiroz.shinyapps.io/rshinylady/

¿Cómo ayudarnos?

¿Cómo nos puedes ayudar?

Apoya

A capítulos locales

- Lugar para evento
- Comida, bebida, sponsor

Recomienda

- R-Ladies directorio
- Oportunidades, por ejemplo, becas, conferencias

Inspira

Alza tu voz

- Unite R-Ladies
- Comparte código
- Inspira y apoya
- Enseña
- Tweet
- Blog

¡Gracias!

R-Ladies

Envíanos tu propuesta para próximos meetups

mendoza@rladies.org

https://www.meetup.com/es/rladies-mendoza

https://twitter.com/RLadiesMza

https://www.facebook.com/RLadiesMendoza

novedades

Llamado para dar charlas (27/4/2019) - UTN

Festival Latinoamericano de Software Libre
FORMULARIO → https://goo.gl/forms/QCA6CGrKUAEqC05G3

LATINR Conferencia Latinoamericana sobre Uso de R en Investigación + Desarrollo

- **SITIO** http://latin-r.com

@LatinR_Conf

Ciencia de datos con R

CRAN
https://cran.rstudio.com/

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The Comprehensive R Archive Network

Download and Install R

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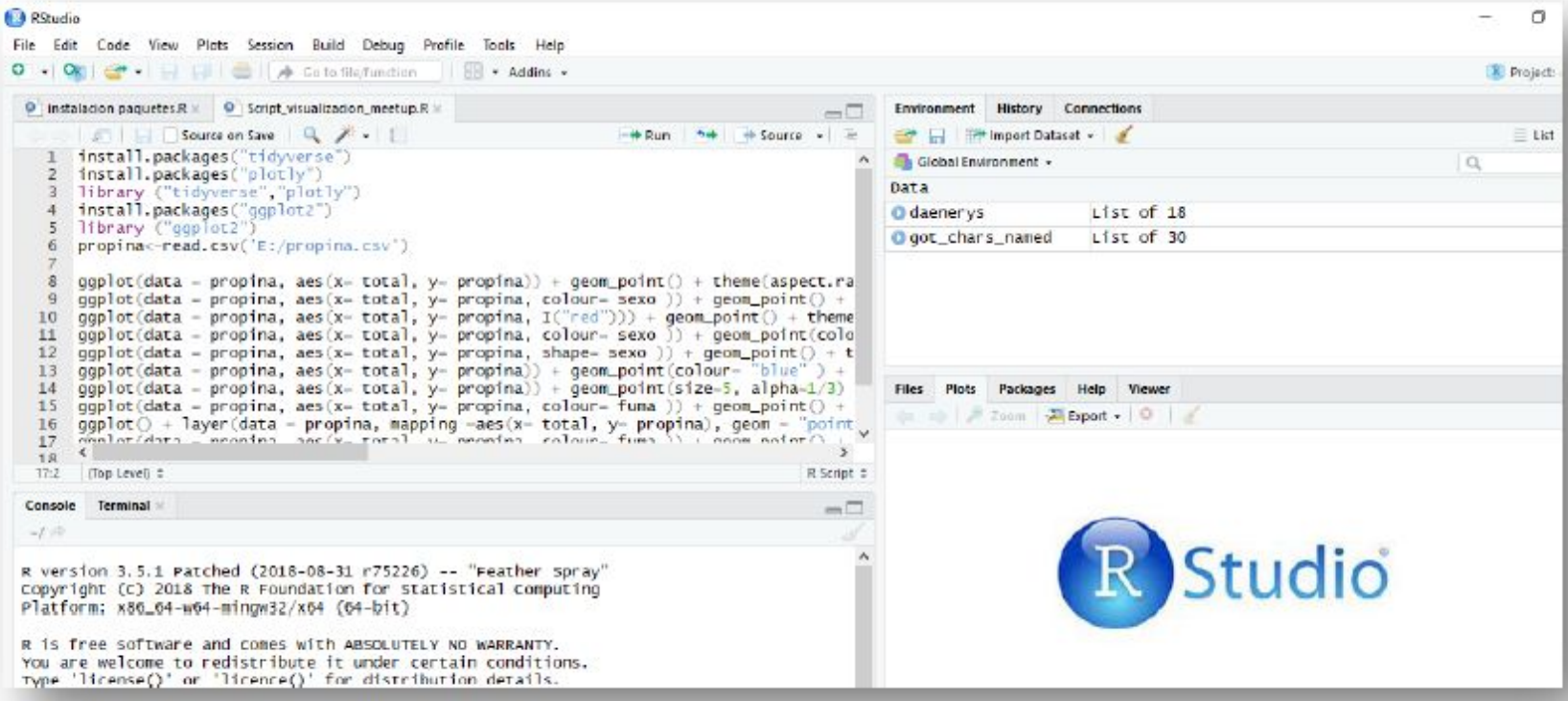
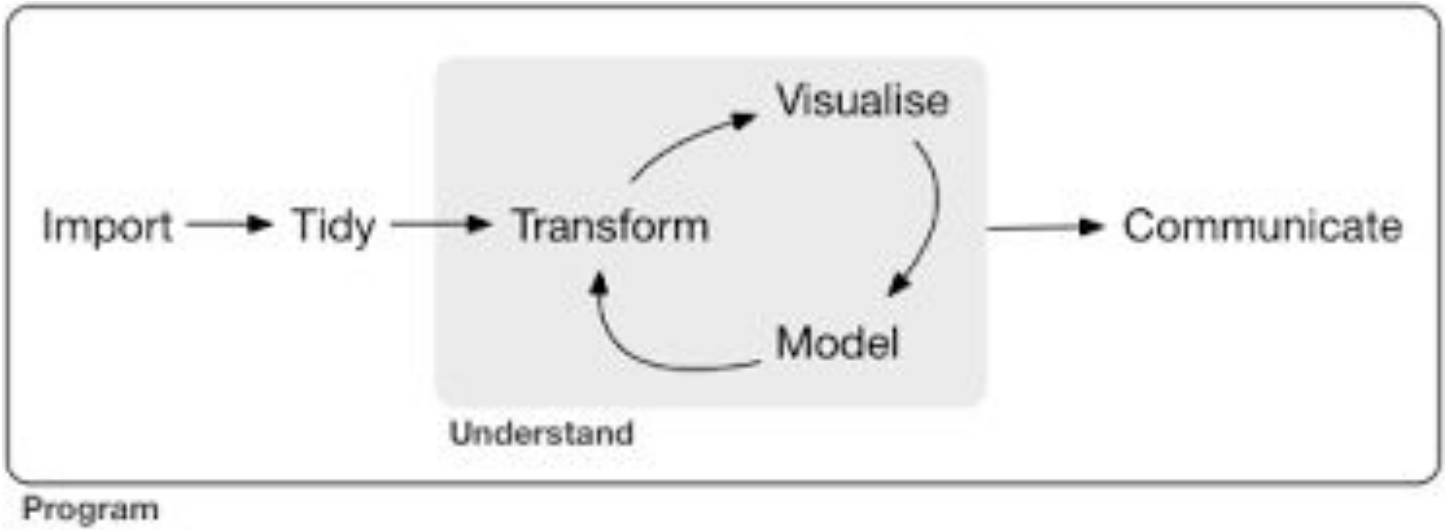
Rstudio

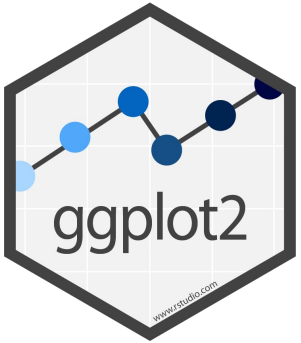
https://www.rstudio.com



Ciclo de datos



Tidyverse

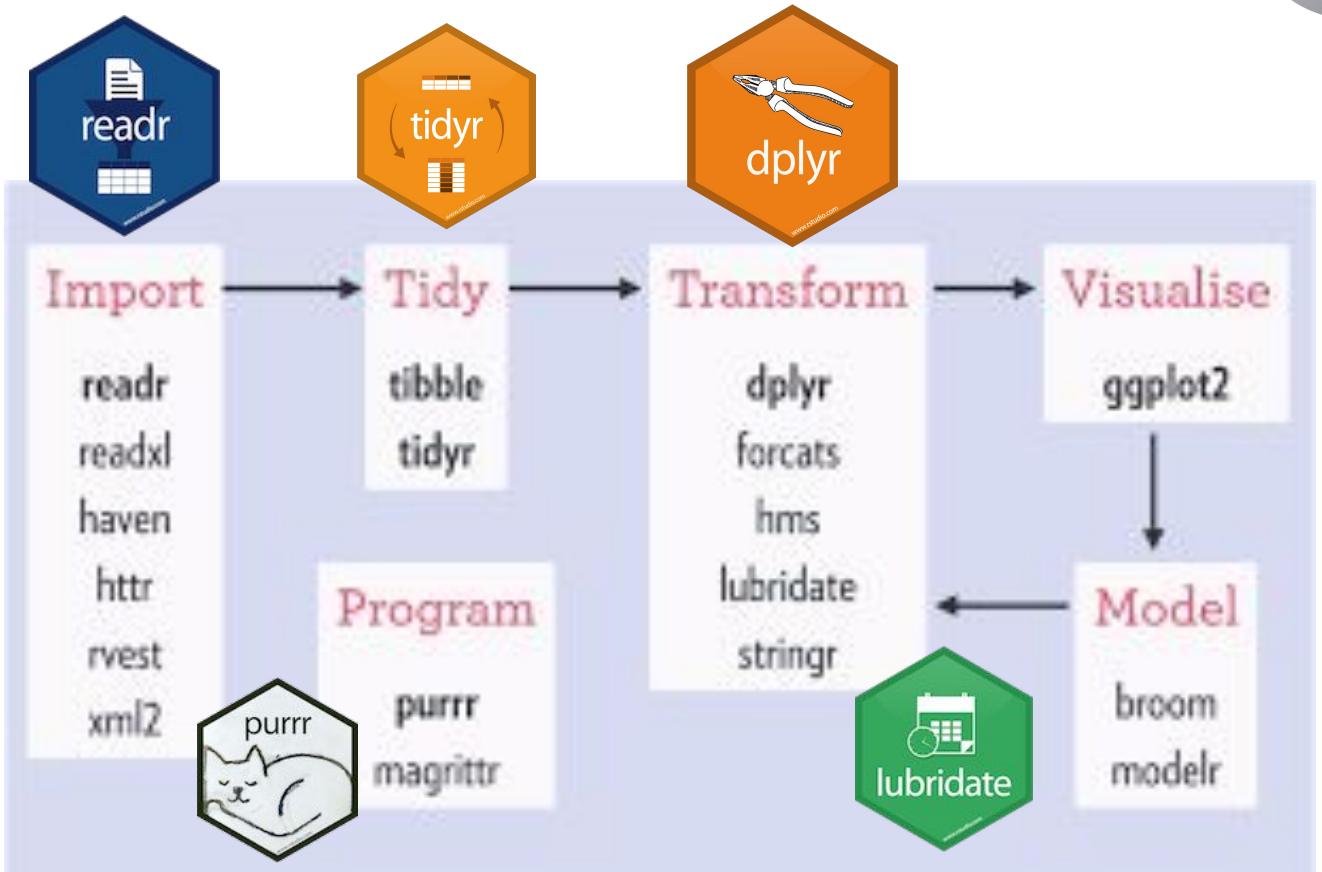


Conjunto de paquetes de R utilizados para ciencia de datos

https://www.tidyverse.org/packages/

https://www.tidyverse.org/

Ciclo de datos



ggplot2

modelr

Propuesta:

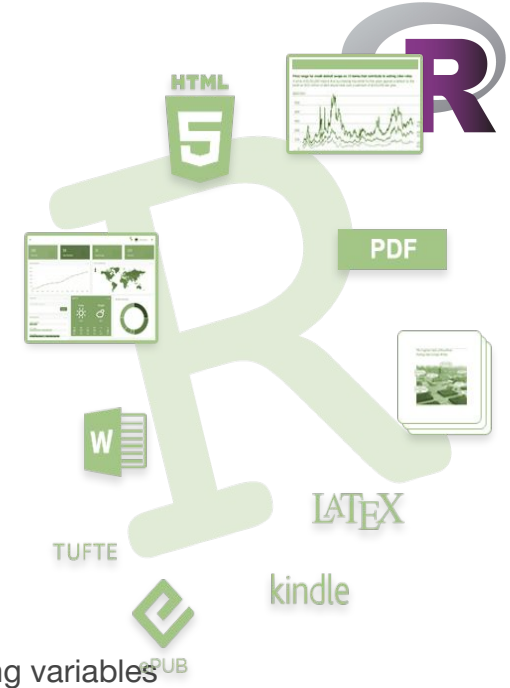
Dataset Mujeres programadoras

Descargue el dataset en formato .csv desde el sitio
http://mujeresprogramadoras.com.ar/

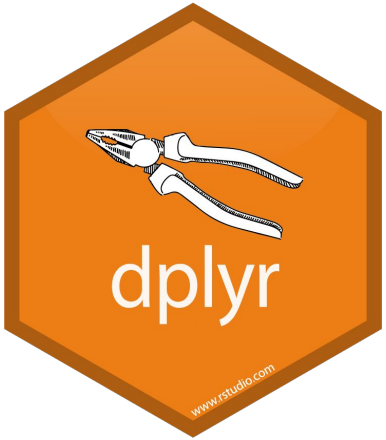
Otro enlace de descarga

Propuesta:

Procesar y documentar: Dplyr & Rmarkdown



https://dplyr.tidyverse.org/
https://rmarkdown.rstudio.com/



- `mutate()` adds new variables that are functions of existing variables
- `select()` picks variables based on their names.
- `filter()` picks cases based on their values.
- `summarise()` reduces multiple values down to a single summary.
- `arrange()` changes the ordering of the rows.

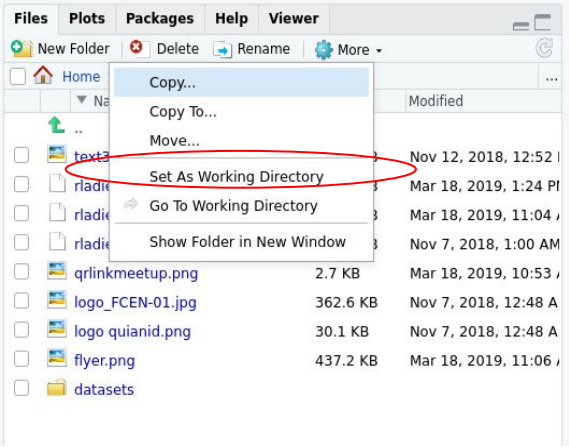
Instalar paquetes

```
install.packages(“tidyverse”)
install.packages(c(“knitr”,”rmarkdown”))
```

Directorio de trabajo

```
getwd()
[1] "/home/ana/Dropbox/rladies/cuarto-meetup/datasets/mujeres-programadoras"
  setwd("/home/ana/Dropbox/rladies/cuarto-meetup/")
```

Ventana inferior derecha de Rstudio → More → set as working directory



Operador %>% pipe

```
x <- c(0.109, 0.359, 0.63, 0.996, 0.515, 0.142, 0.017, 0.829,0.907)

round(exp(diff(log(x))), 1)
```

Es lo mismo que:

```
x <- c(0.109, 0.359, 0.63, 0.996, 0.515, 0.142, 0.017, 0.829,0.907)

library(magrittr)


x %>% log() %>%
    diff() %>%
    exp() %>%
    round(1)

[1]  3.3  1.8  1.6  0.5  0.3  0.1 48.8  1.1
```

Operador %>% pipe

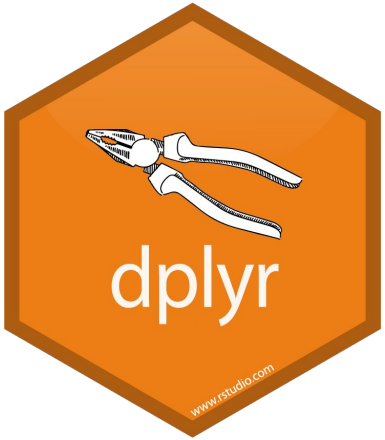
```
x <- c(0.109, 0.359, 0.63, 0.996, 0.515, 0.142, 0.017, 0.829,0.907)

library(magrittr)


x %>% log() %>%
    diff() %>%
    exp() %>%
    round(1)
```

```
[1]  3.3  1.8  1.6  0.5  0.3  0.1 48.8  1.1
```

Live coding

Script mujeres-programadoras.R
Notebook mujeres2.Rmd

Cheat sheet
u hoja machete



https://www.rstudio.com/wp-content/uploads/2015/02/data-wrangling-cheatsheet.pdf

https://github.com/rstudio/cheatsheets/blob/master/data-transformation.pdf

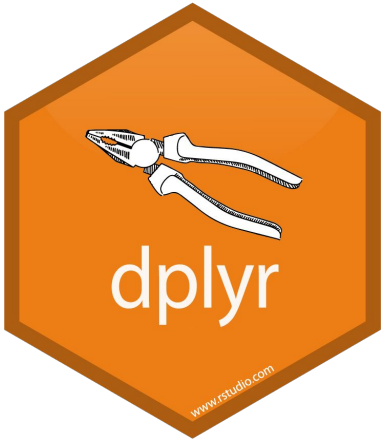
Rmarkdown

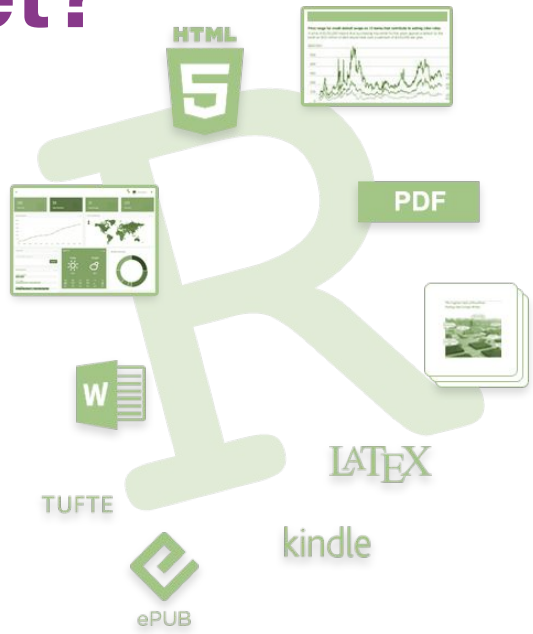
https://www.rstudio.com/wp-content/uploads/2015/02/rmarkdown-cheatsheet.pdf

Propuesta:

¿Qué otras preguntas podemos realizar sobre el dataset?

Comparte tu script con el resto del meetup :-)





Conclusiones colectivas

¡Gracias!

R-Ladies

Envíanos tu propuesta para próximos meetups

mendoza@rladies.org

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https://twitter.com/RLadiesMza

https://www.facebook.com/RLadiesMendoza

Slides extras por las dudas

¿Qué es R?

Lenguaje de **programación** de **código abierto** con énfasis en estadística y gráficos.

R compila y se ejecuta en en una amplia variedad de plataformas UNIX, Linux, FreeBSD, Windows y MacOs.

https://www.r-project.org/

```
> remove.packages("ggplot2”)
> install.packages("ggplot2”)
```

Funcionalidades de R

- Funcionalidades básicas orientadas a la estadística, operaciones aritméticas y matriciales, y soporte gráfico estático.
- El resto de las funcionalidades se instala en R mediante paquetes
- Cada paquete es un librería que añade nuevos comandos, más funcionalidades a R.
- Se accede a R mediante comandos de consola, pero hoy en día existen varias GUI o IDEs:

https://es.wikipedia.org/wiki/C%C3%B3digo_abierto

CRAN
https://cran.rstudio.com/

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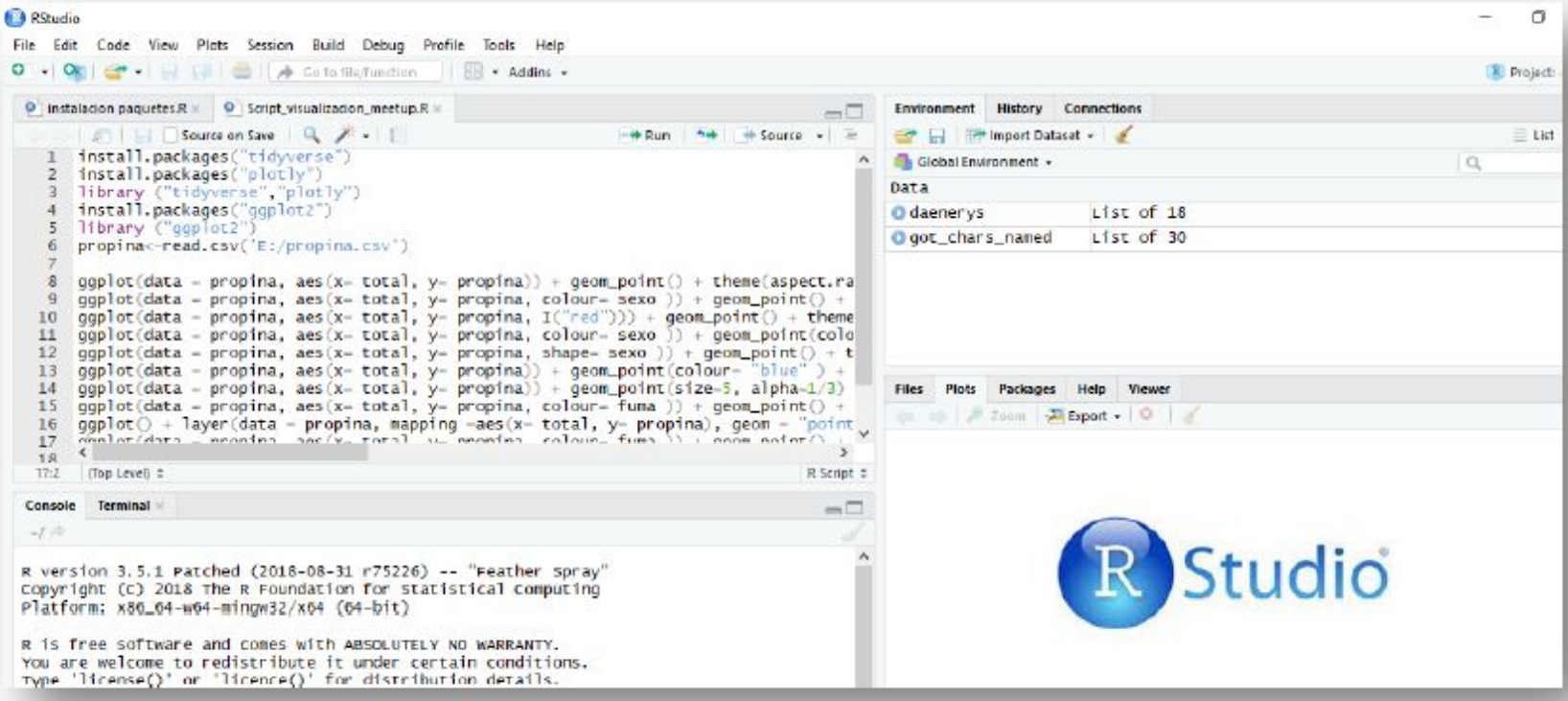
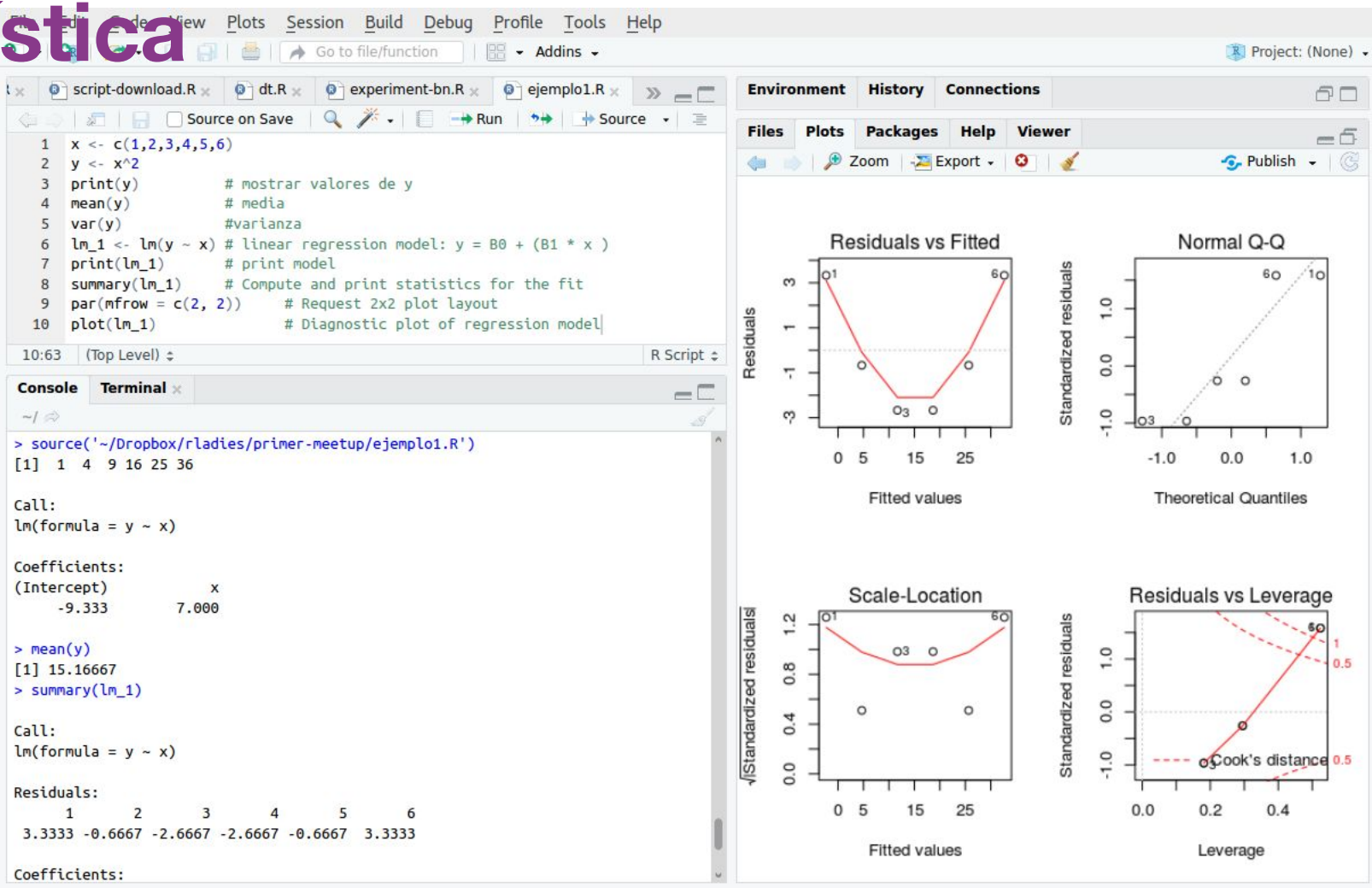
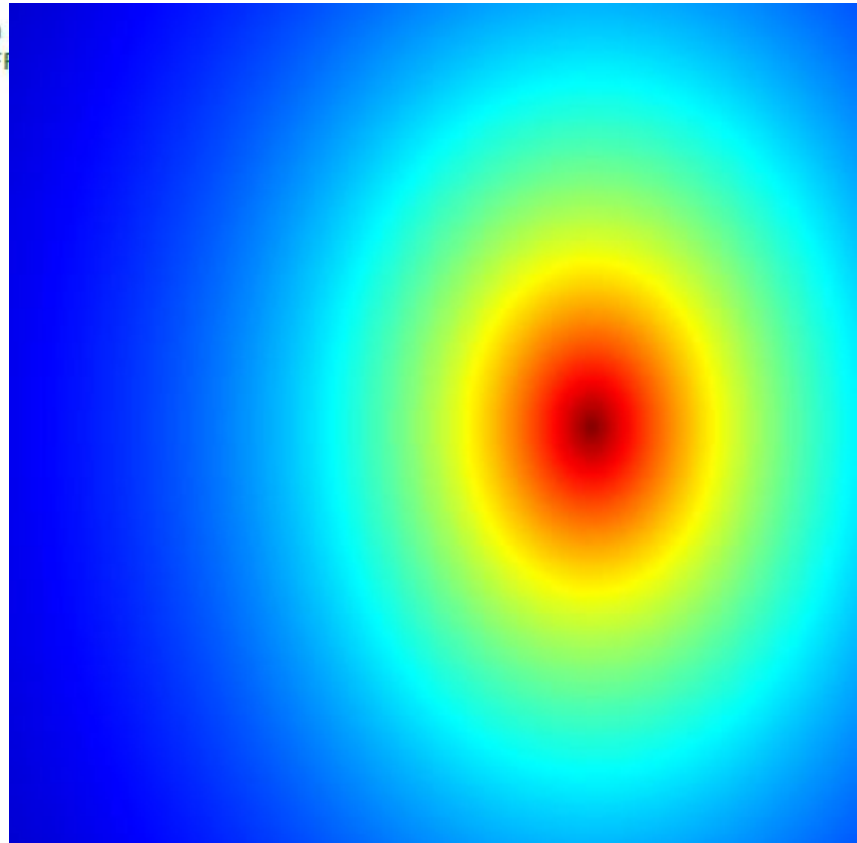


Estadística



Animaciones

```
###
install.packages("caTools")  # install external package
library(caTools)             # external package providing write.gif function
jet.colors <- colorRampPalette(c("#00007F", "blue", "#007FFF", "cyan", "#7FFF
                                 "yellow", "#FF7F00", "red", "#7F0000"))
dx <- 400                    # define width
dy <- 400                    # define height
C  <- complex(real = rep(seq(-2.2, 1.0, length.out = dx), each = dy),
              imag = rep(seq(-1.2, 1.2, length.out = dy), dx))
C <- matrix(C, dy, dx)       # reshape as square matrix of complex numbers
Z <- 0                       # initialize Z to zero
X <- array(0, c(dy, dx, 20)) # initialize output 3D array
for (k in 1:20) {            # loop with 20 iterations
  Z <- Z^2 + C               # the central difference equation
  X[, , k] <- exp(-abs(Z))   # capture results
}
write.gif(X, "Mandelbrot.gif", col = jet.colors, delay = 100)
```



https://en.wikipedia.org/wiki/Mandelbrot_set

https://en.wikipedia.org/wiki/R_(programming_language)

shiny

Análisis de resultados

dataset
dacc-temp

T value
1

Training Config
smote

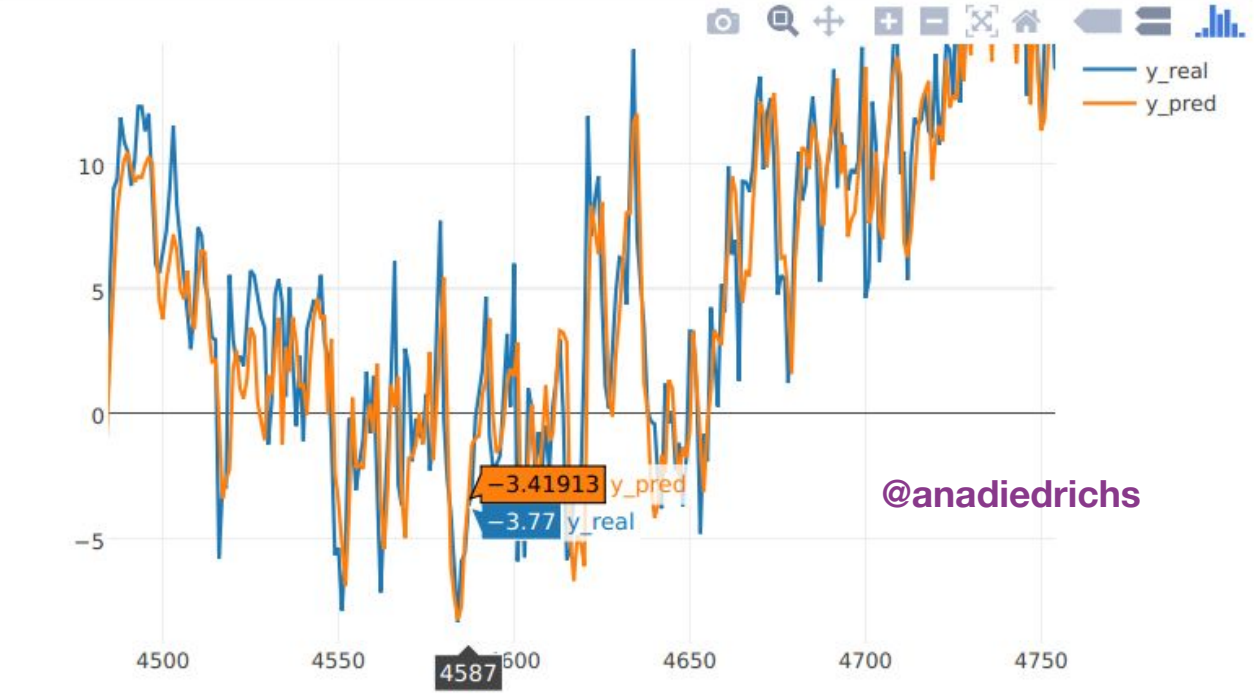
Algoritmo
hc

Score
bic-g

Variable a Predecir
las_paredes.te

ConfusionMatrixHelada | ConfusionMatrixTemps | Errors regression | Plot | Table

Error distribution | Cummulative differences | BN description



@anadiedrichs

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ISSN: 2073-4859

The R Journal

The R Journal is the open access, refereed journal of the R project for statistical computing. It features short to medium length articles covering topics that should be of interest to users or developers of R. *The R Journal* intends to reach a wide audience and have a thorough review process. Papers are expected to be reasonably short, clearly written, not too technical, and of course focused on R. Authors of refereed articles should take care to:

- put their contribution in context, in particular discuss related R functions or packages;
- explain the motivation for their contribution;
- provide code examples that are reproducible.

Following revision of the content description of *The R Journal*, from January 2017 submitted articles may include:

Reviews and proposals:
surveying and discussing challenges and opportunities of potential importance for the broader R community, including proposals and proof-of-concept implementations.

Comparisons and benchmarking:
of implementations in base-R and contributed packages with each other, and where relevant with