Exploratory Data Analysis

```
followers <- read.csv("/Users/Anton/Desktop/DSU Project/Artists Compiled/initial_artists_followers.csv"

listeners <- read.csv("/Users/Anton/Desktop/DSU Project/Artists Compiled/initial_artists_monthly_listene

popularity <- read.csv("/Users/Anton/Desktop/DSU Project/Artists Compiled/initial_artists_popularity.csv

festivals <- read.csv("/Users/Anton/Desktop/DSU Project/Artists Compiled/songkick_data_initial_small_ar

songs <- read.csv("/Users/Anton/Desktop/DSU Project/Artists Compiled/spotify_song_data_initial_small_ar
```

```
str(followers)
```

```
## 'data.frame':    35224 obs. of  4 variables:
##  $ artist         : chr  "junkie kid" "junkie kid" "junkie kid" "junkie kid" ...
##  $ DateTime       : chr  "2017-01-06 16:00:00" "2017-01-07 16:00:00" "2017-01-08 16:00:00" "2017-01-
##  $ Total.Followers: int  2580 2589 2592 2608 2618 2628 2631 2637 2644 2649 ...
##  $ Change         : int  0 9 3 16 10 10 3 6 7 5 ...
```

```
followers$DateTime <- as.Date(followers$DateTime)
names(followers)[names(followers) == "Change"] <- "followers_change"


str(listeners)
```

```
## 'data.frame':    20980 obs. of  4 variables:
##  $ artist           : chr  "junkie kid" "junkie kid" "junkie kid" "junkie kid" ...
##  $ DateTime         : chr  "2017-01-15 16:00:00" "2017-03-09 16:00:00" "2017-04-02 17:00:00" "2017-04
##  $ Monthly.Listeners: int  NA NA NA NA NA NA NA 117861 116918 116481 ...
##  $ Change           : int  NA NA NA NA NA NA NA 0 -943 -437 ...
```

```
listeners$DateTime <- as.Date(listeners$DateTime)
names(listeners)[names(listeners) == "Change"] <- "listeners_change"

str(popularity)
```

```
## 'data.frame':    23379 obs. of  3 variables:
##  $ artist    : chr  "junkie kid" "junkie kid" "junkie kid" "junkie kid" ...
##  $ DateTime  : chr  "2017-01-06 16:00:00" "2017-01-07 16:00:00" "2017-01-08 16:00:00" "2017-01-09 16
##  $ Popularity: int  41 41 41 41 41 41 41 41 41 42 ...
```

```
listeners$DateTime <- as.Date(listeners$DateTime)

artist_reach <- merge(merge(followers, listeners, all = TRUE), popularity, all = TRUE)

artist_reach <- artist_reach[!is.na(artist_reach$Total.Followers),]

str(festivals)
```

```
## 'data.frame':    2550 obs. of  5 variables:
```

```
##  $ X                  : int  6 7 8 9 10 11 12 13 17 18 ...
##  $ Artist             : chr  "Junkie Kid" "Junkie Kid" "Junkie Kid" "Junkie Kid" ...
##  $ Event              : chr  "New Horizons 2019" "New Horizons 2019" "New Horizons 2019" "New Horizo
##  $ Festival.or.Concert: int  0 0 0 0 0 0 0 0 0 0 ...
##  $ Date               : chr  "Wednesday 21 August 2019" "Thursday 22 August 2019" "Friday 23 August
```

```
festivals <- festivals[,-1]

library(stringr)
festivals$Date <- as.Date(str_remove(festivals$Date, "\\w*\\s"), format = "%d %B %Y")

festivals$Artist <- str_replace_all(tolower(festivals$Artist), "\\.", "")

str(songs)
```

```
## 'data.frame':    1304 obs. of  16 variables:
##  $ X                     : int  0 1 2 3 4 5 6 7 8 9 ...
##  $ artist_name           : chr  "Junkie Kid" "Junkie Kid" "Junkie Kid" "Junkie Kid" ...
##  $ album_group           : chr  "album" "album" "single" "single" ...
##  $ album_type            : chr  "album" "album" "single" "single" ...
##  $ artists               : chr  "[{'external_urls': {'spotify': 'https://open.spotify.com/artist/3Cj
##  $ available_markets     : chr  "['AD', 'AE', 'AR', 'AT', 'AU', 'BE', 'BG', 'BH', 'BO', 'BR', 'CA',
##  $ external_urls         : chr  "{'spotify': 'https://open.spotify.com/album/5kjDWsciPAjBS2y9vidJKO'
##  $ href                  : chr  "https://api.spotify.com/v1/albums/5kjDWsciPAjBS2y9vidJKO" "https://
##  $ id                    : chr  "5kjDWsciPAjBS2y9vidJKO" "5za9nsr6ne6HQDKrKcyQNB" "5NDy2Iyi9ULnMHUvy
##  $ images                : chr  "[{'height': 640, 'url': 'https://i.scdn.co/image/0c5cca729feb2ca247
##  $ name                  : chr  "Puro Pinche Hardstyle, Vol. 1" "Find Yourself" "Love Is Dead (LNY T
##  $ release_date          : chr  "2019-10-18" "2018-05-04" "2018-07-09" "2018-05-25" ...
##  $ release_date_precision: chr  "day" "day" "day" "day" ...
##  $ total_tracks          : int  11 16 1 1 1 1 1 1 7 1 ...
##  $ type                  : chr  "album" "album" "album" "album" ...
##  $ uri                   : chr  "spotify:album:5kjDWsciPAjBS2y9vidJKO" "spotify:album:5za9nsr6ne6HQD
```

```
songs <- songs[,c("artist_name", "name", "release_date", "total_tracks")]
songs$release_date <- as.Date(songs$release_date)
songs$artist_name <- str_replace_all(tolower(songs$artist_name), "\\.", "")
```

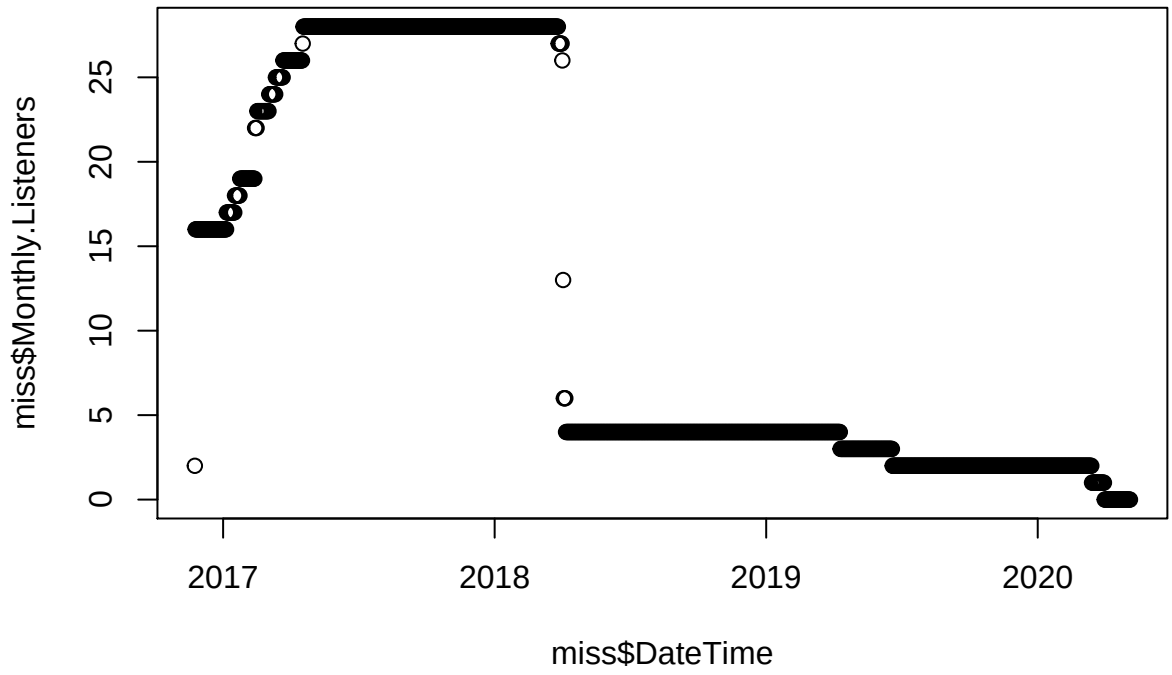
```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
miss <- artist_reach %>% select(-artist) %>% group_by(DateTime) %>% summarise_all(function(x) sum(is.na

plot(x = miss$DateTime, y = miss$Monthly.Listeners)
```




```
artist_reach <- artist_reach[artist_reach$DateTime > "2018-04-03",]

miss <- artist_reach %>% group_by(artist) %>% summarise_all(function(x) sum(is.na(x)))

missing_artists <- miss[miss$Monthly.Listeners > 5, ]$artist

remove_bad_artists_i <- !((artist_reach$artist %in% missing_artists & is.na(artist_reach$Monthly.Listene

artist_reach <- artist_reach[remove_bad_artists_i,]

artist_reach <- artist_reach[!(is.na(artist_reach$Monthly.Listeners)),]

artist_reach <- artist_reach %>% select(-Popularity)

songs <- songs[!(is.na(songs$release_date)),]
```

```
library(xts)
```

```
## Loading required package: zoo
##
## Attaching package: 'zoo'
## The following objects are masked from 'package:base':
##
##     as.Date, as.Date.numeric
##
## Attaching package: 'xts'
## The following objects are masked from 'package:dplyr':
##
##     first, last
```

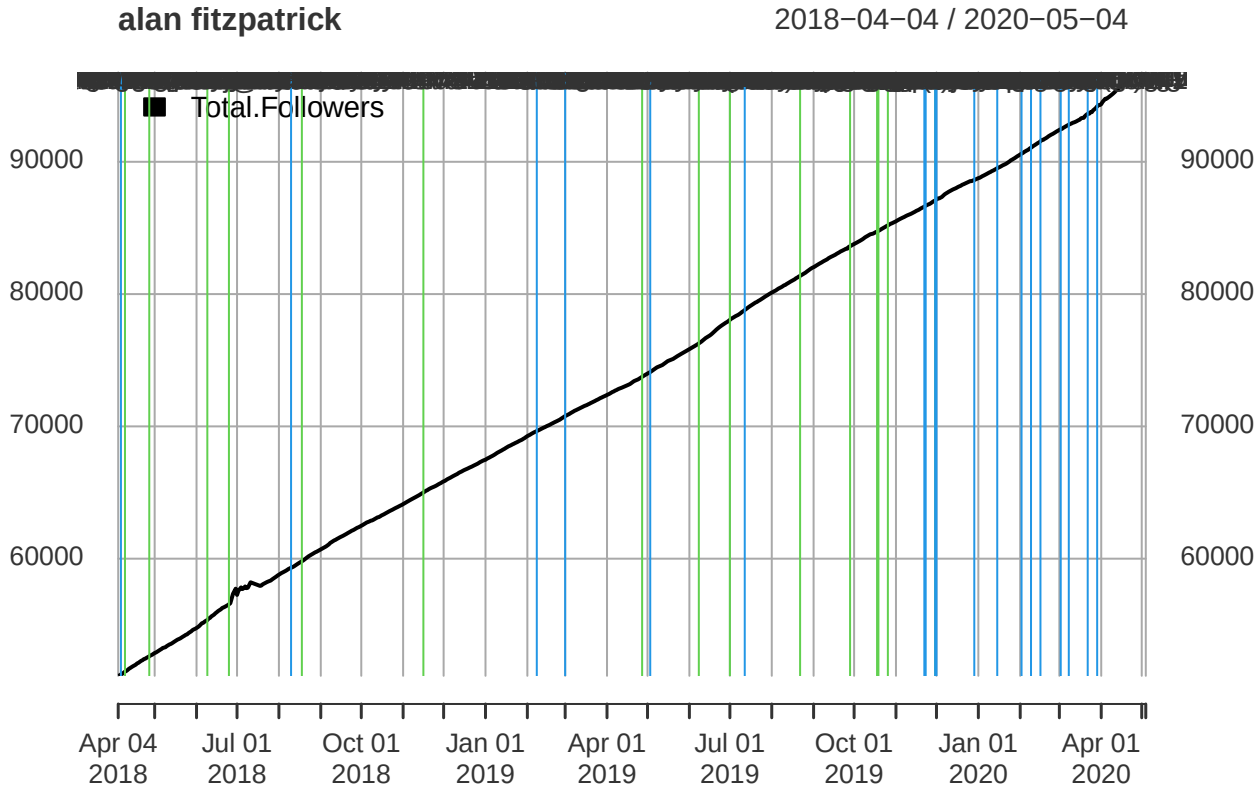
```r
for(artist in unique(artist_reach$artist)) {
  example_artist_reach <- artist_reach[artist_reach$artist == artist, -1]

  example_festivals <- festivals[festivals$Artist == artist,]
  example_songs <- songs[songs$artist_name == artist,]

  example_ts <- xts(example_artist_reach[,-1], order.by = example_artist_reach[,1])

  example_festivals <- example_festivals[!(duplicated(example_festivals[,1:3])),]
  example_events_ts <- xts(example_festivals$Event, example_festivals$Date)
  example_songs_ts <- xts(example_songs$name, example_songs$release_date)

  plot(example_ts[,c(1)], legend.loc = "topleft", main = artist)
  addEventLines(example_events_ts, col = 3) # Green
  print(addEventLines(example_songs_ts, col = 4)) # Blue
  plot(example_ts[,c(3)], legend.loc = "topleft", main = artist)
  addEventLines(example_events_ts, col = 3) # Green
  print(addEventLines(example_songs_ts, col = 4)) # Blue
  plot(example_ts[,c(2)], legend.loc = "topleft", main = artist)
  addEventLines(example_events_ts, col = 3)
  print(addEventLines(example_songs_ts, col = 4))
  plot(example_ts[,c(4)], legend.loc = "topleft", main = artist)
  addEventLines(example_events_ts, col = 3)
  print(addEventLines(example_songs_ts, col = 4))
}
```

```
## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <e2>
```

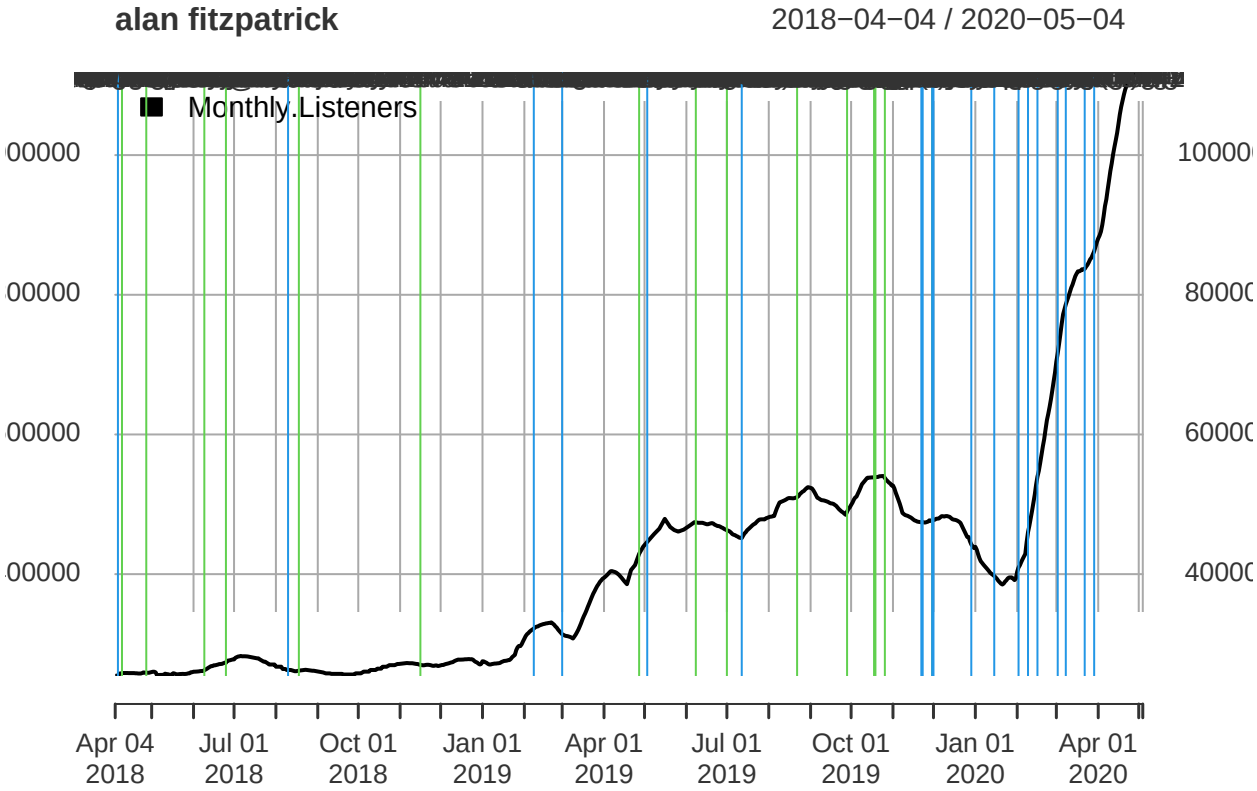
```
## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <80>
```

```
## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <94>
```

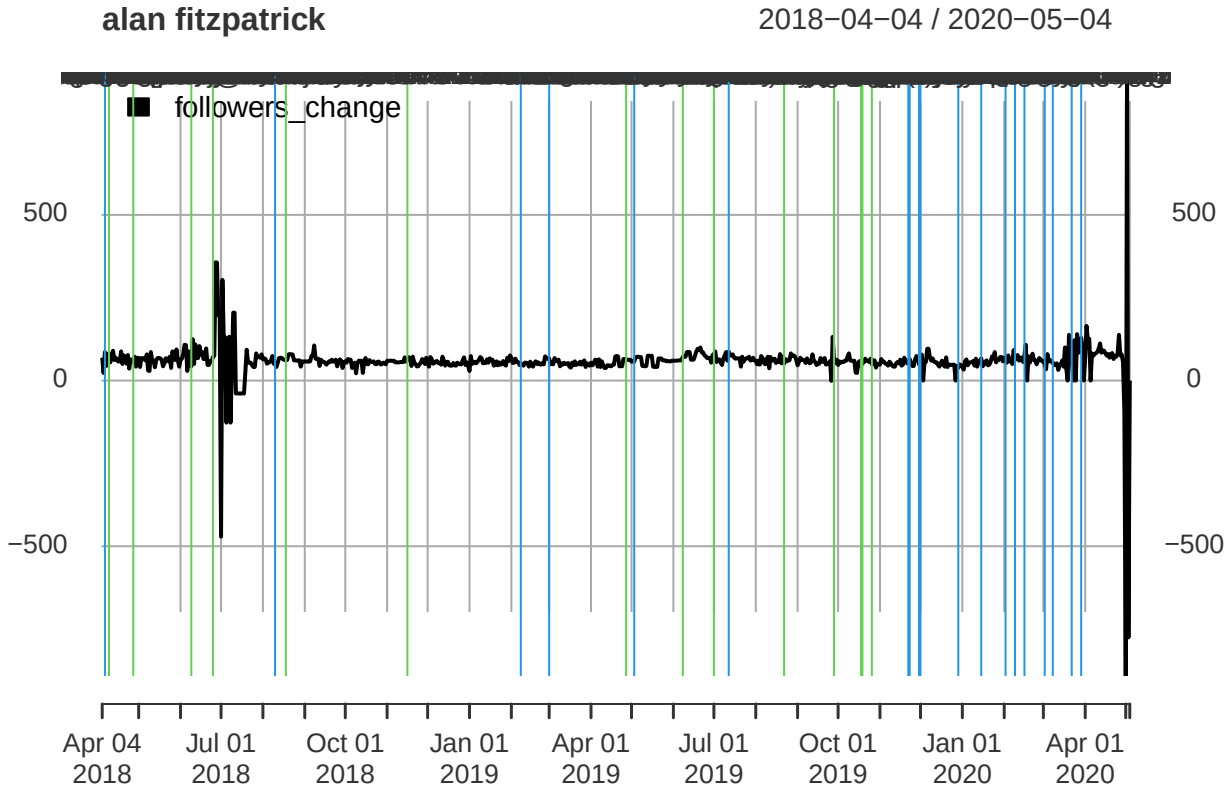
```
## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : font metrics unknown for Unicode character U+2014
```



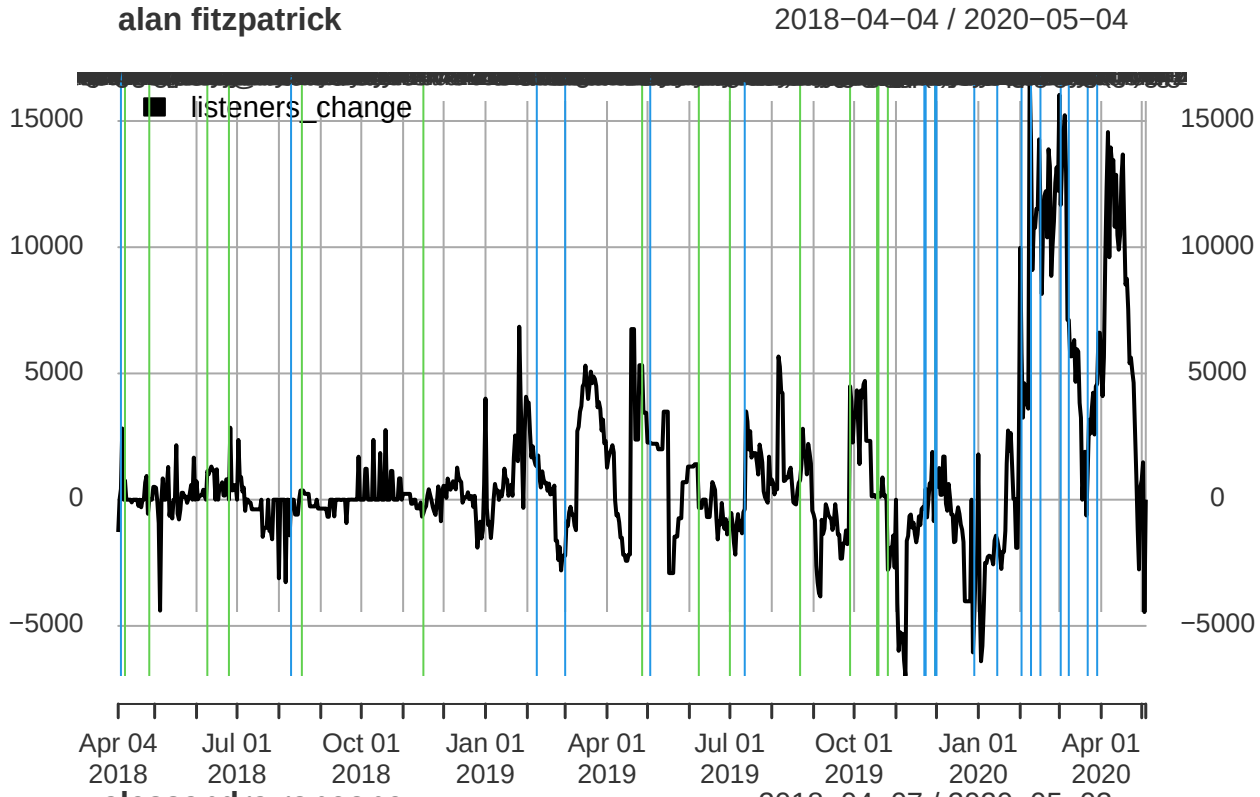

```
## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <80>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <94>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : font metrics unknown for Unicode character U+2014
```

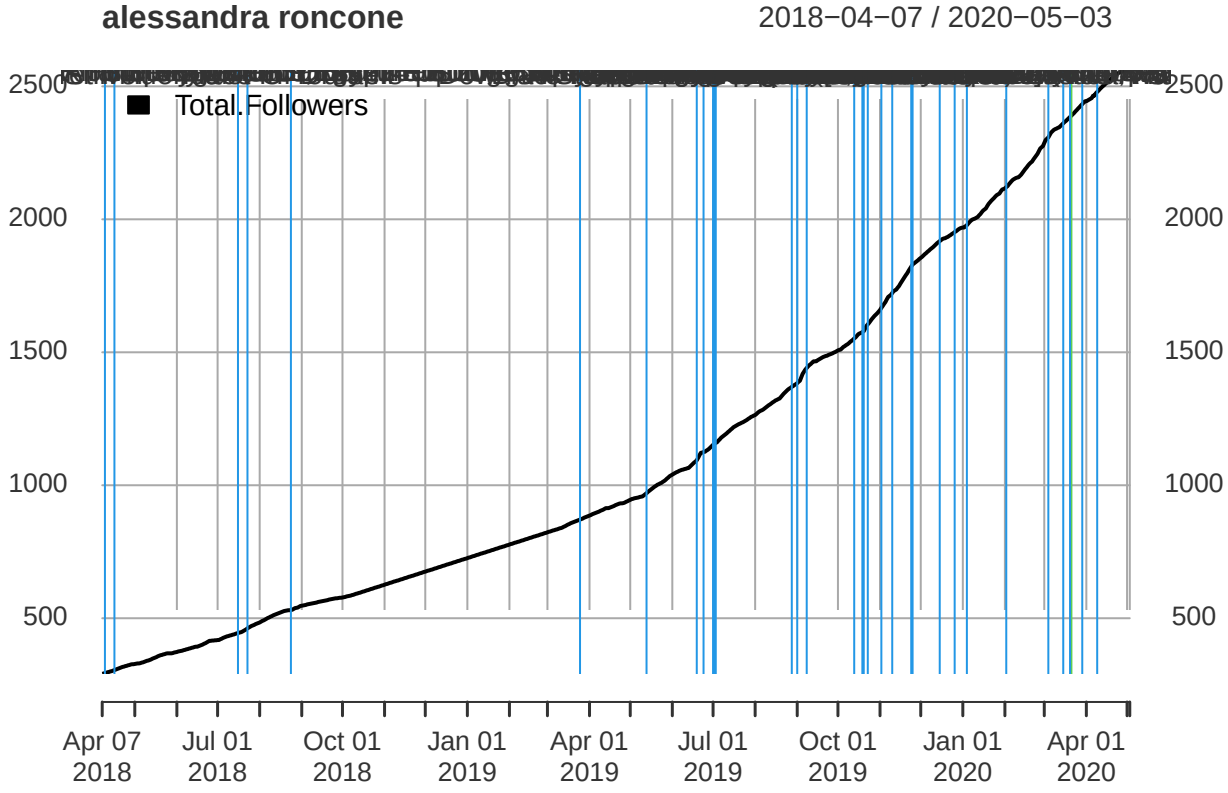


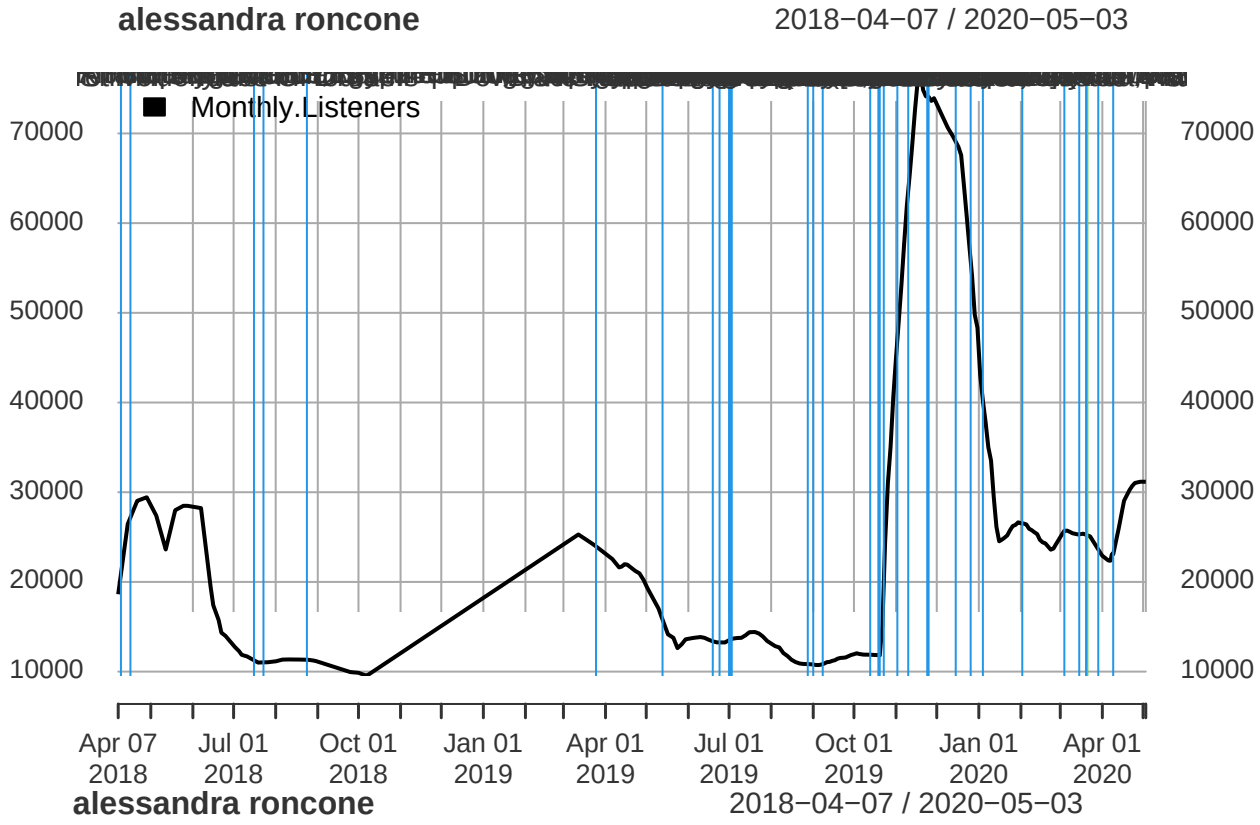

```
## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <80>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <94>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : font metrics unknown for Unicode character U+2014
```

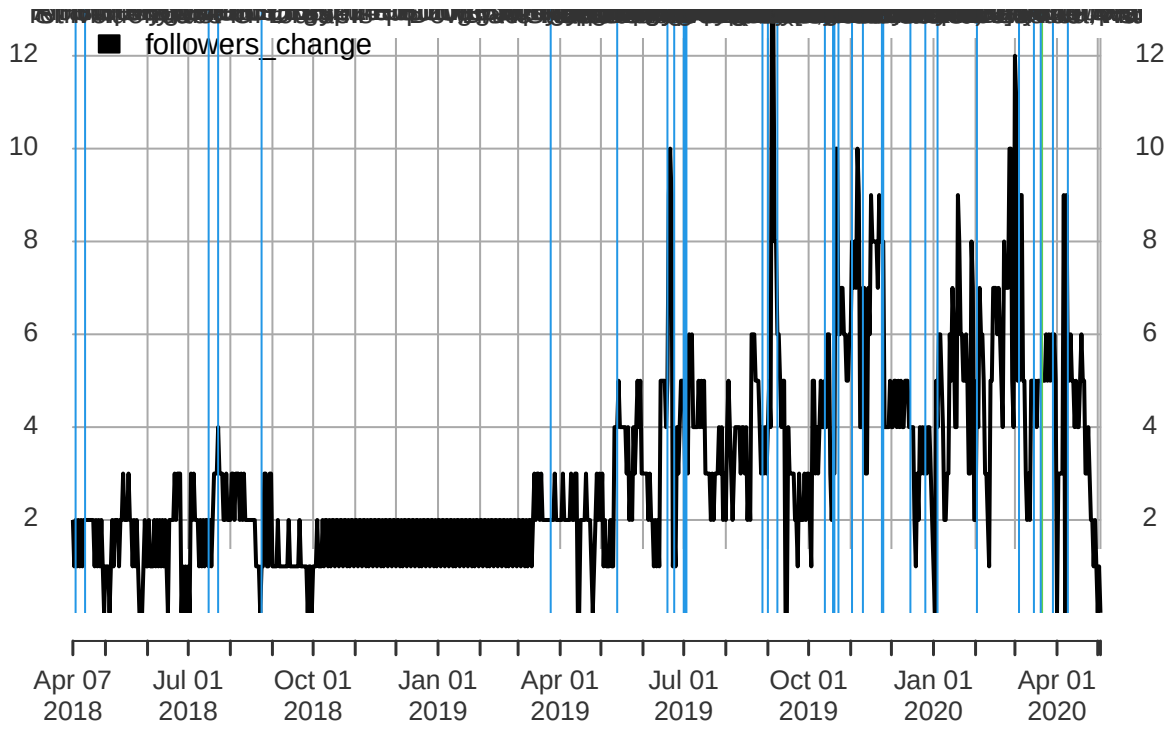


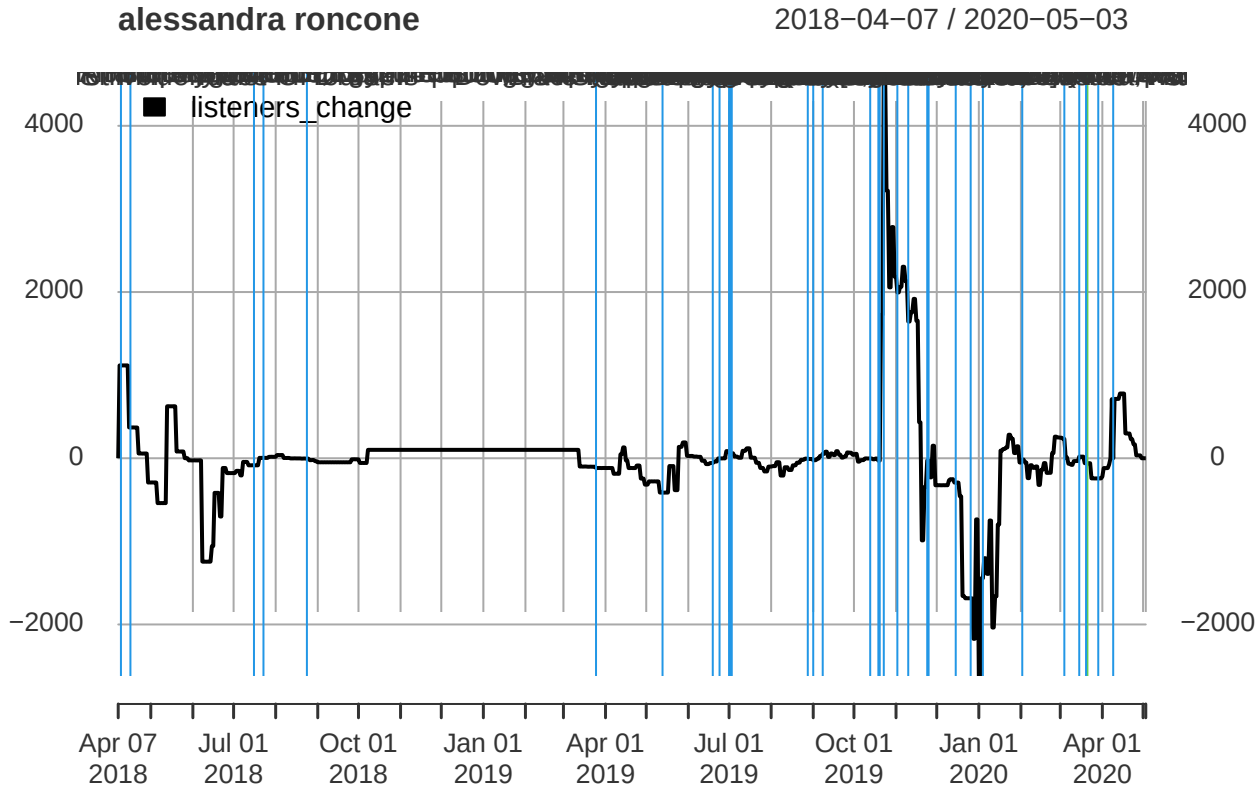

```
## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <80>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'Awakenings: Day 2 - Drumcode
## 2012' in 'mbcsToSbcs': dot substituted for <94>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : font metrics unknown for Unicode character U+2014
```

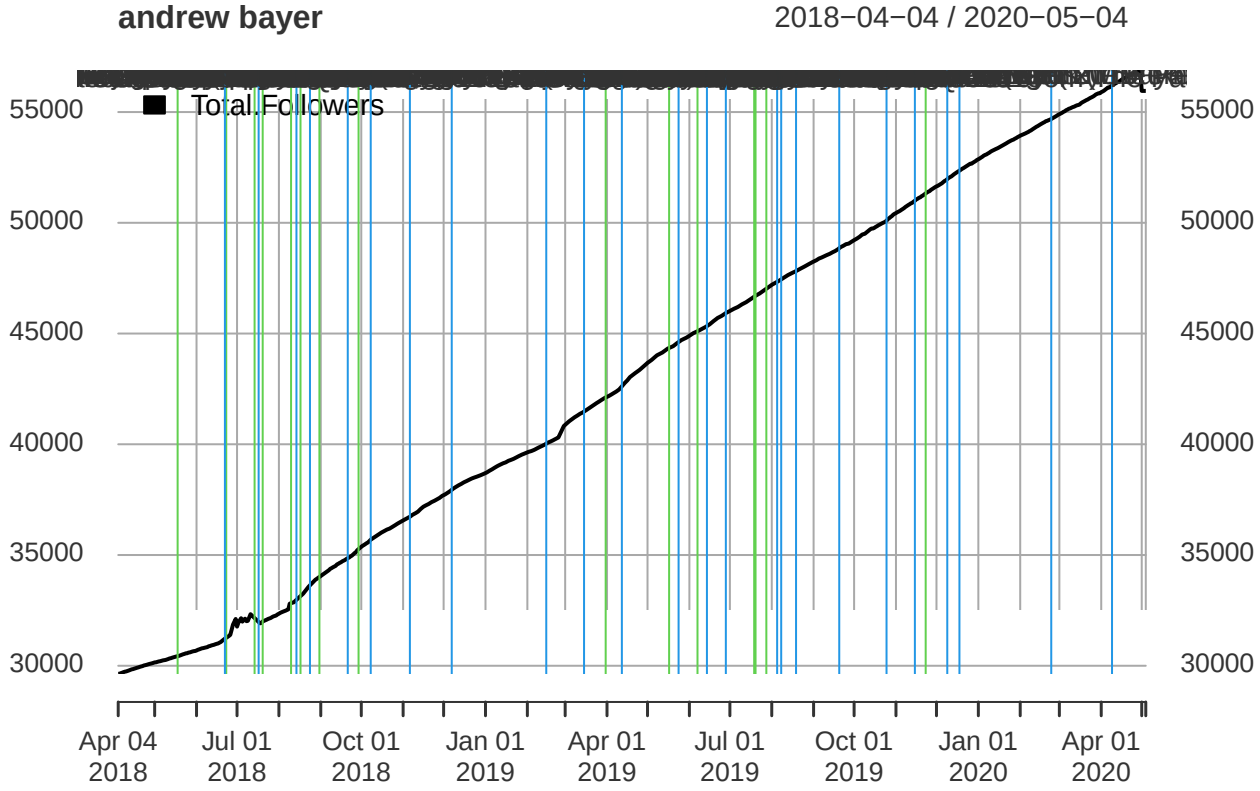

alan fitzpatrick
2018−04−04 / 2020−05−04
listeners_change
15000
10000
5000
0
−5000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

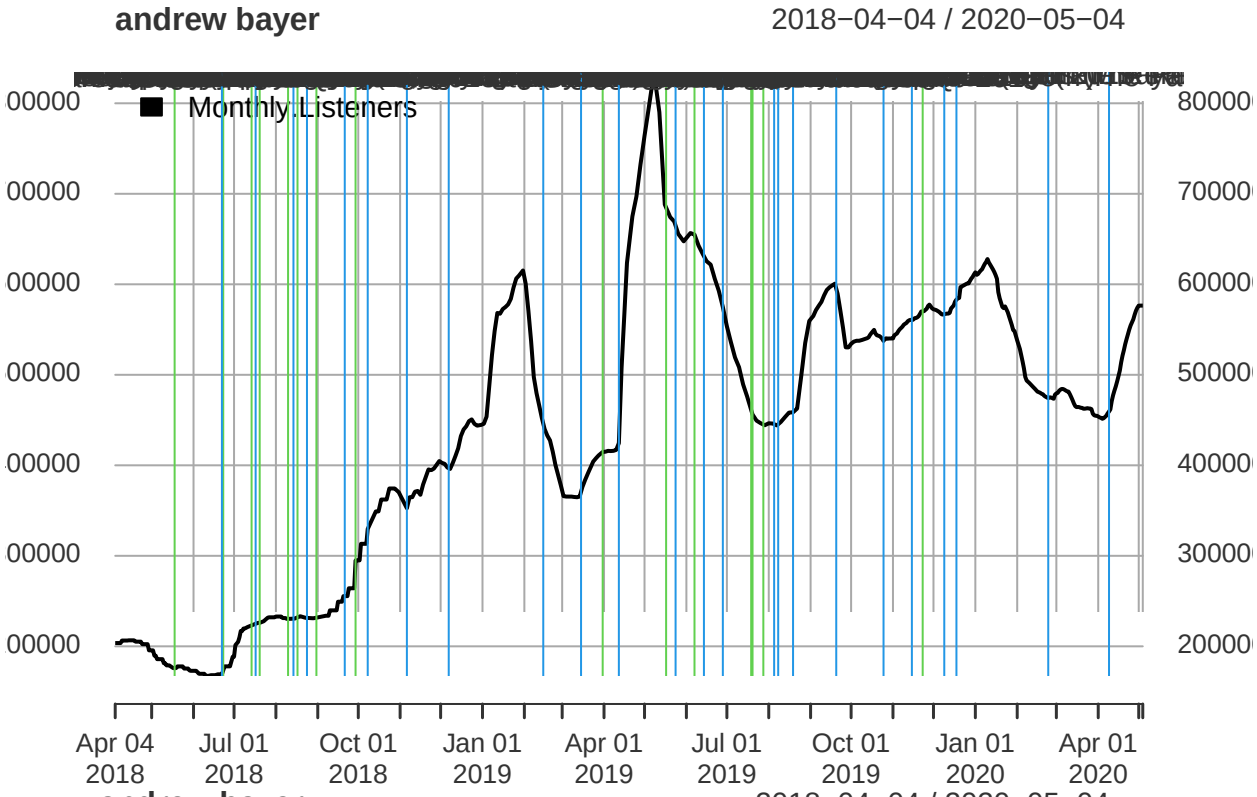

alessandra roncone
2018−04−07 / 2020−05−03
Total.Followers
2500
2000
1500
1000
500
Apr 07 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

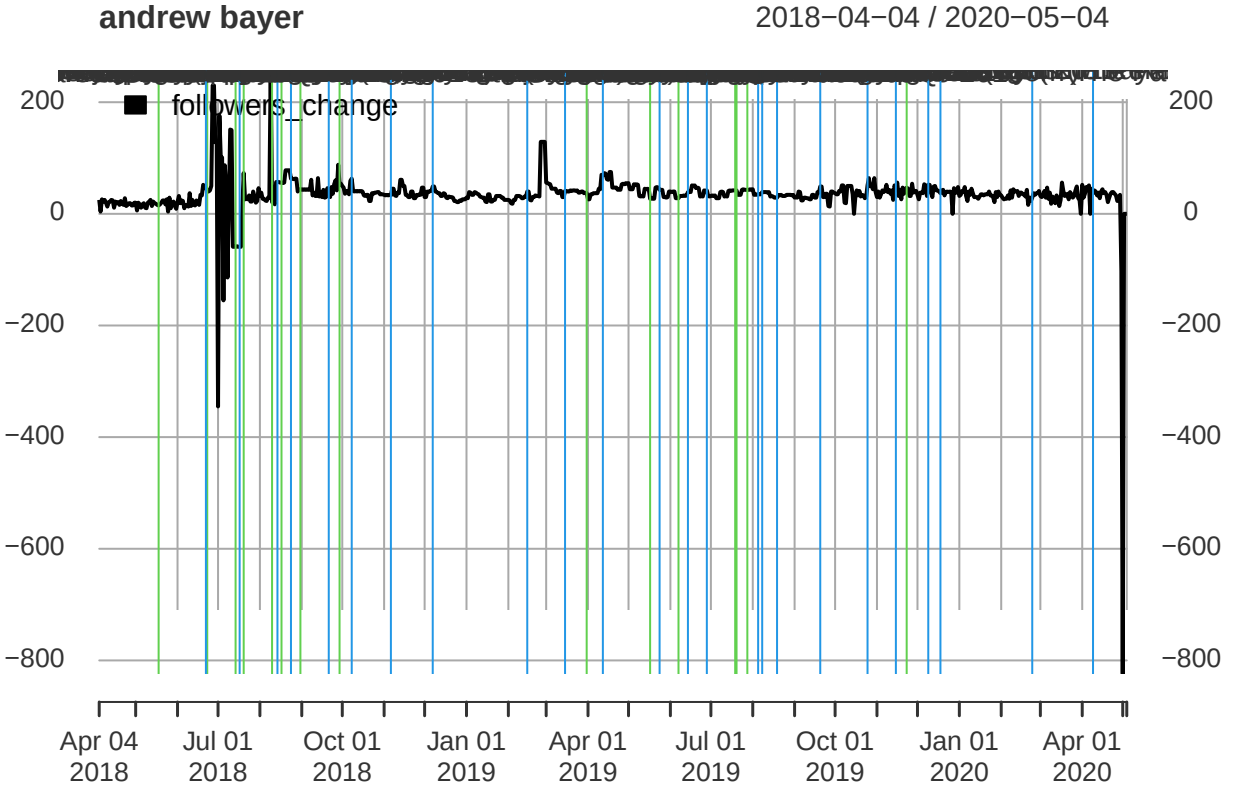

alessandra roncone
2018−04−07 / 2020−05−03
Monthly.Listeners
70000
60000
50000
40000
30000
20000
10000
Apr 07 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

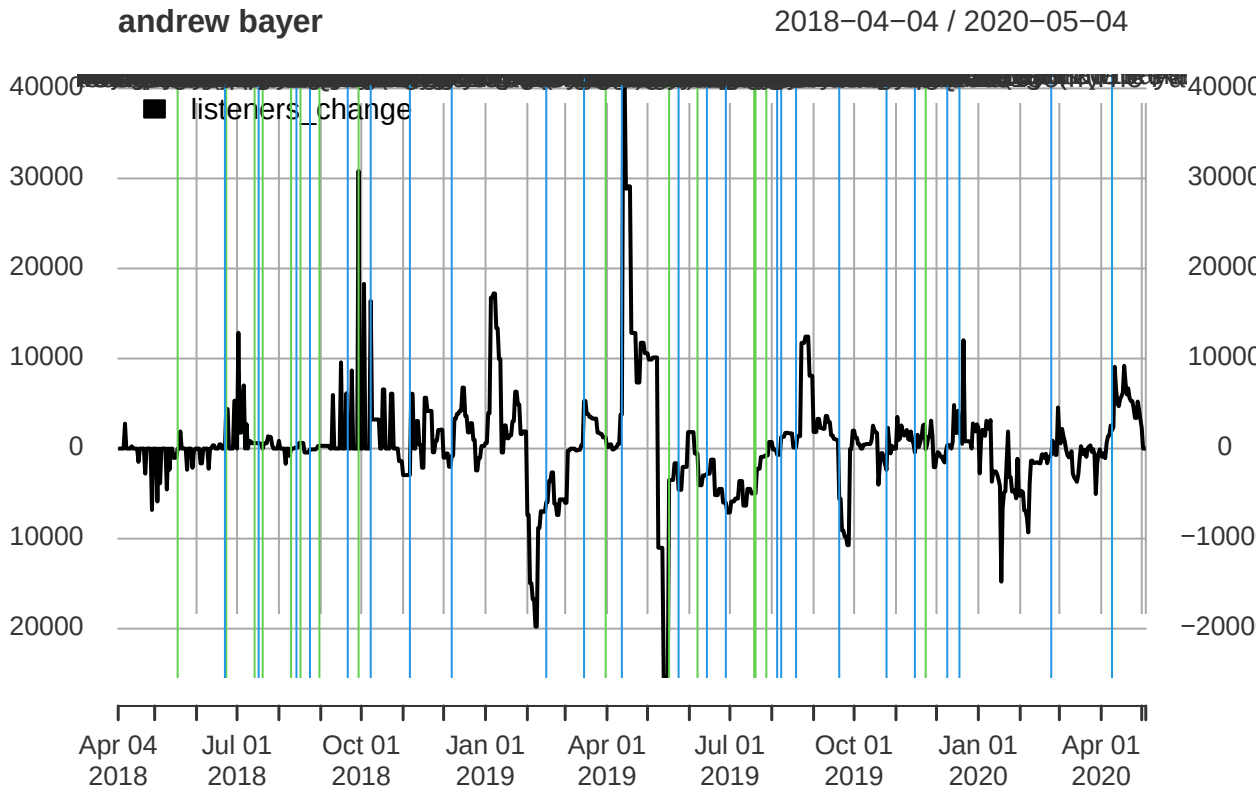

alessandra roncone
2018−04−07 / 2020−05−03
followers_change
12
10
8
6
4
2
Apr 07 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

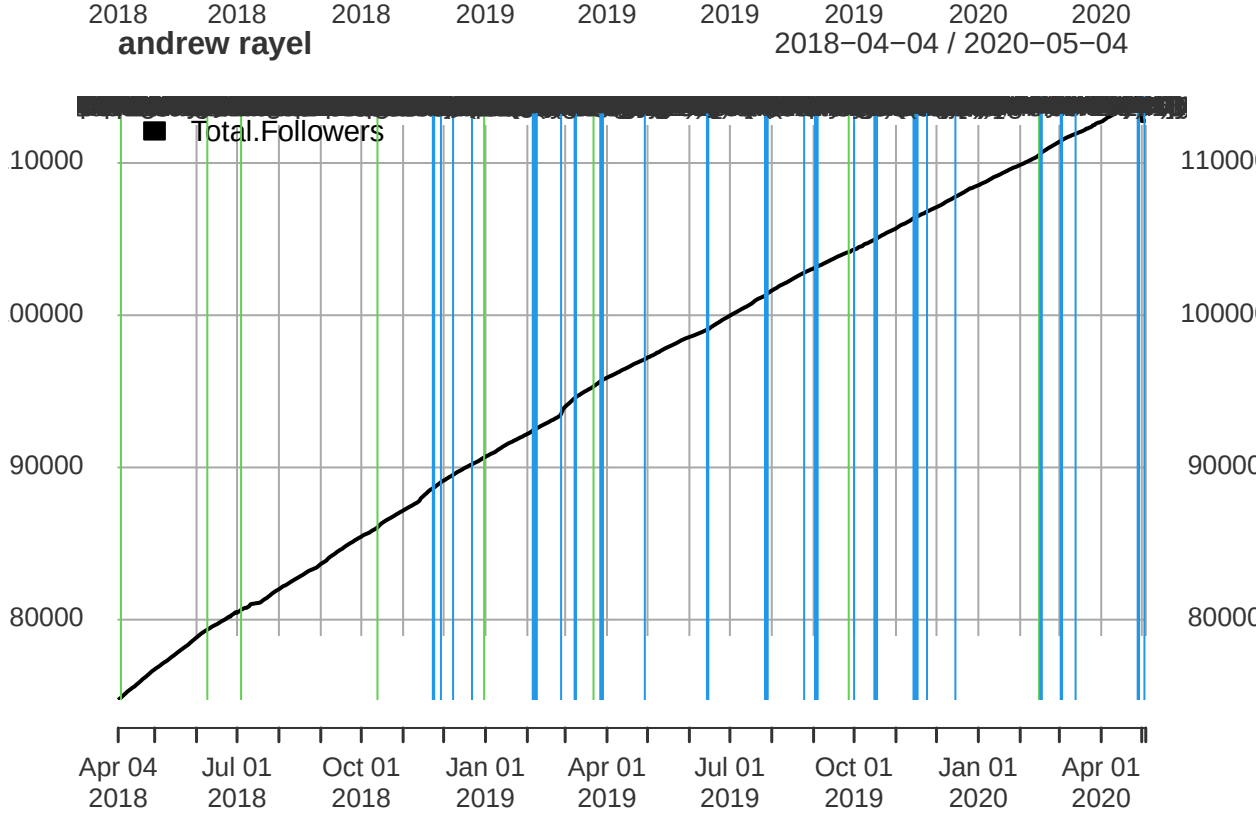

alessandra roncone
2018−04−07 / 2020−05−03
listeners_change
4000
2000
0
−2000
Apr 07 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

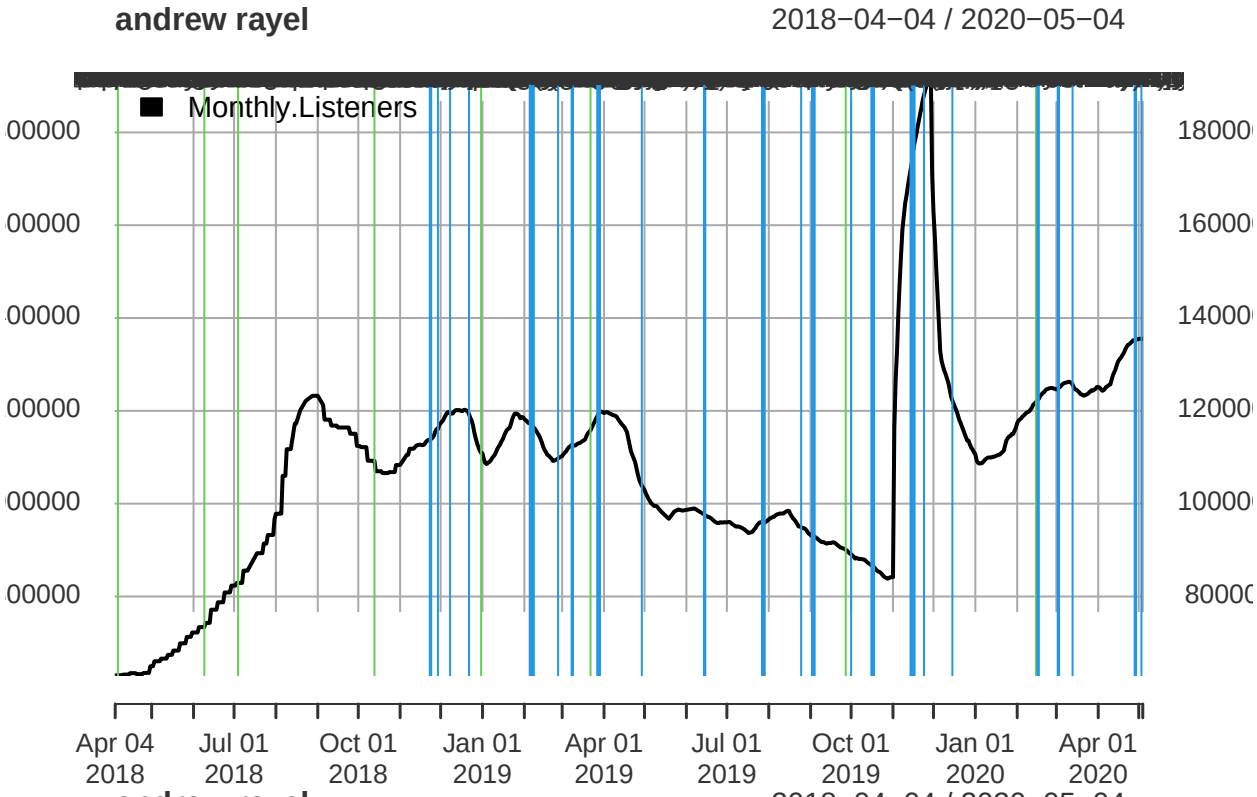

andrew bayer
2018−04−04 / 2020−05−04
Total.Followers
55000
50000
45000
40000
35000
30000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

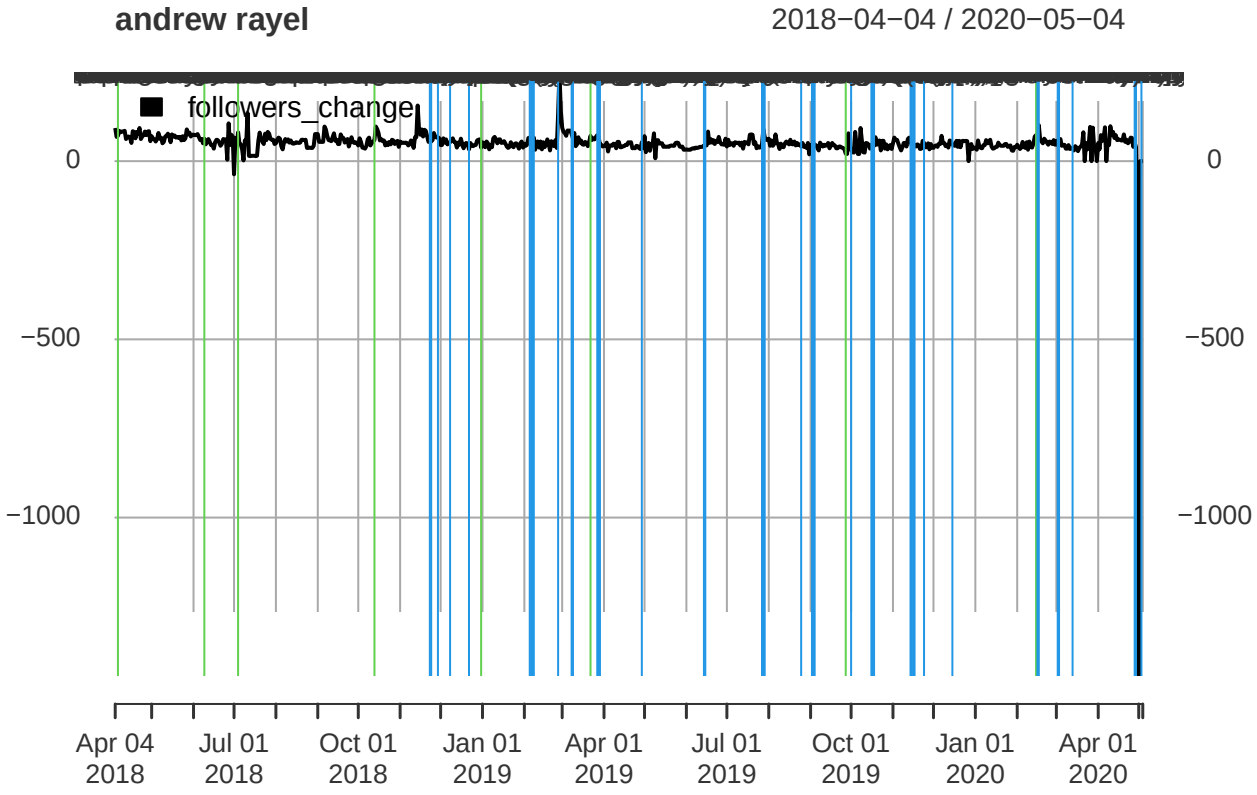

andrew bayer
2018−04−04 / 2020−05−04
Monthly.Listeners
00000
00000
00000
00000
00000
00000
80000
70000
60000
50000
40000
30000
20000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

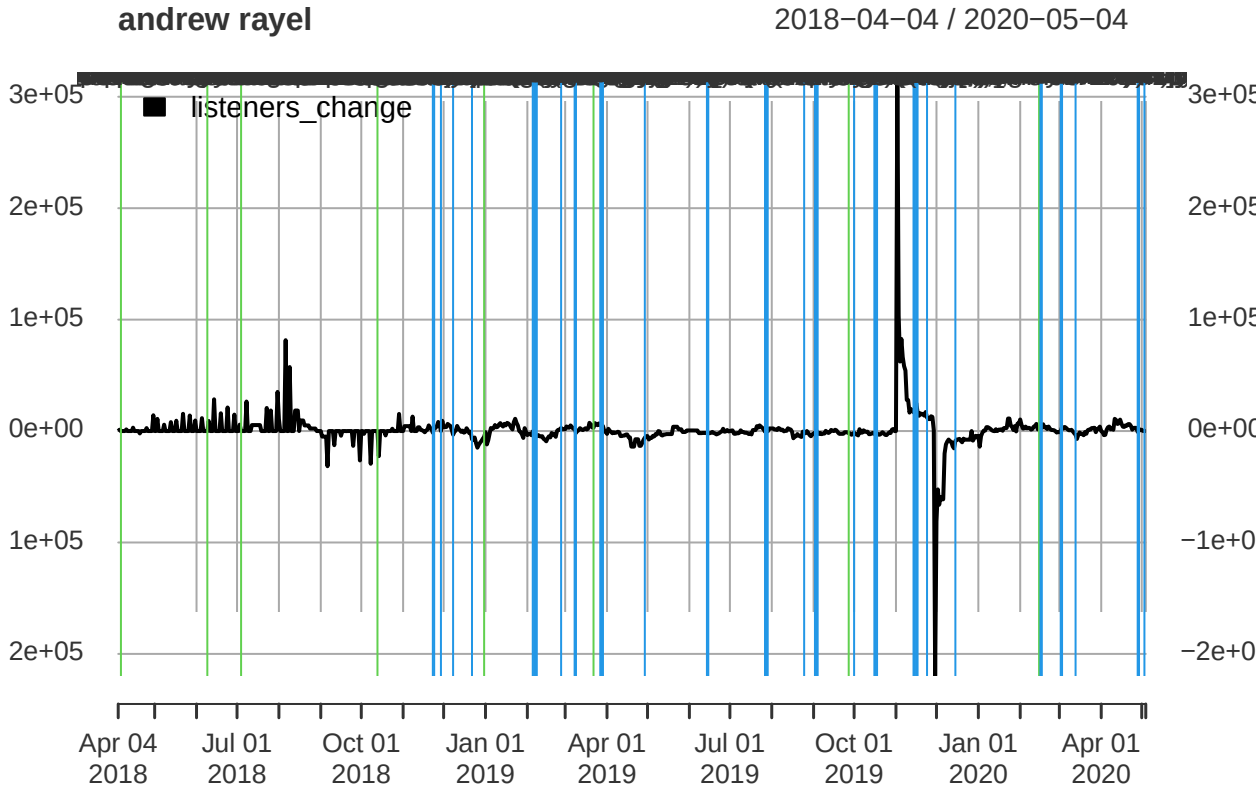

andrew bayer
2018−04−04 / 2020−05−04
followers_change
200
0
−200
−400
−600
−800
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

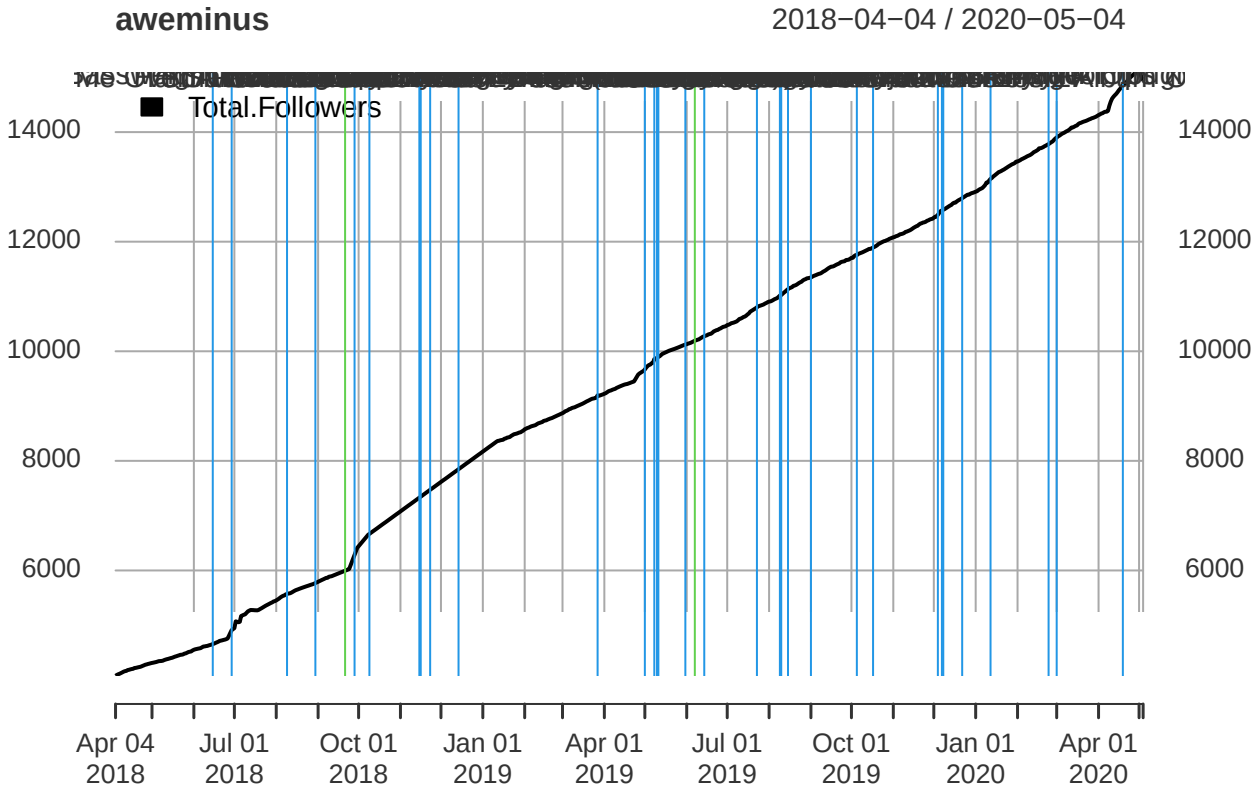

andrew bayer
2018−04−04 / 2020−05−04
listeners_change
40000
30000
20000
10000
0
10000
20000
−1000
−2000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

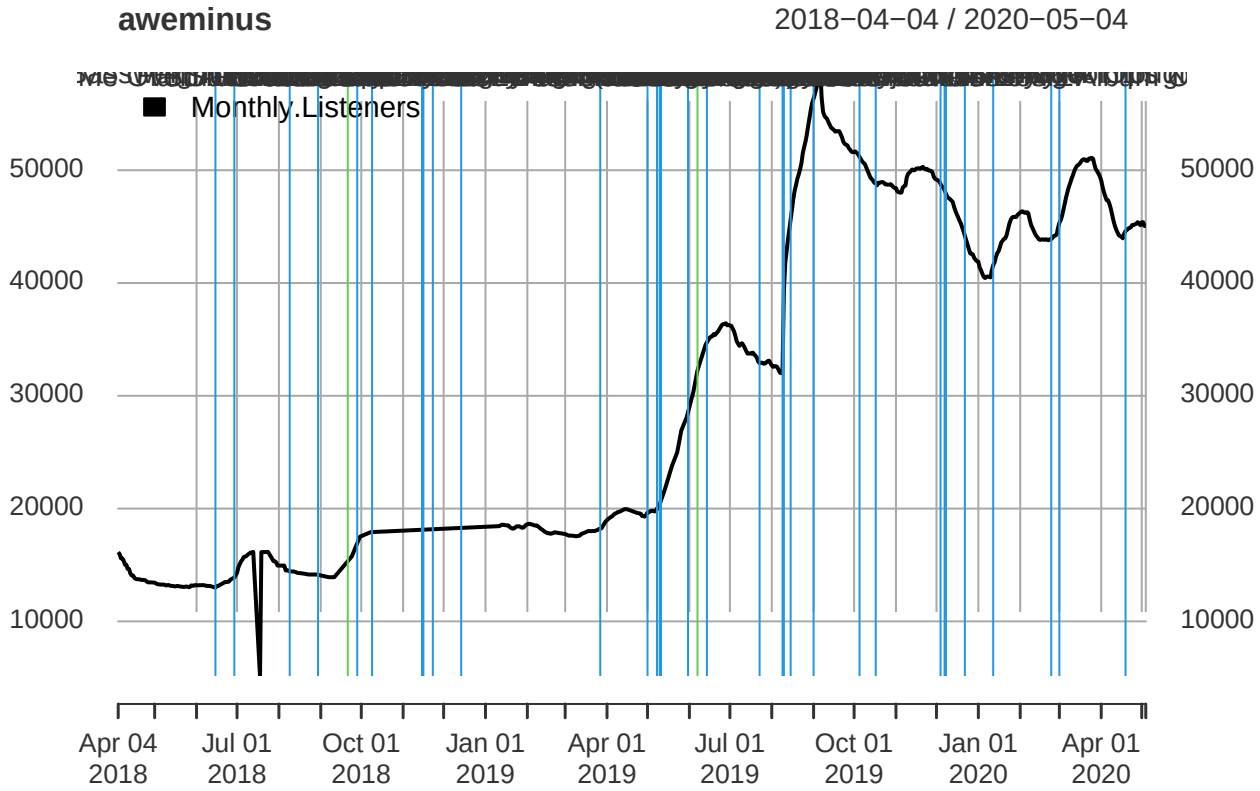

andrew rayel
2018−04−04 / 2020−05−04
Total.Followers
11000
10000
90000
80000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020

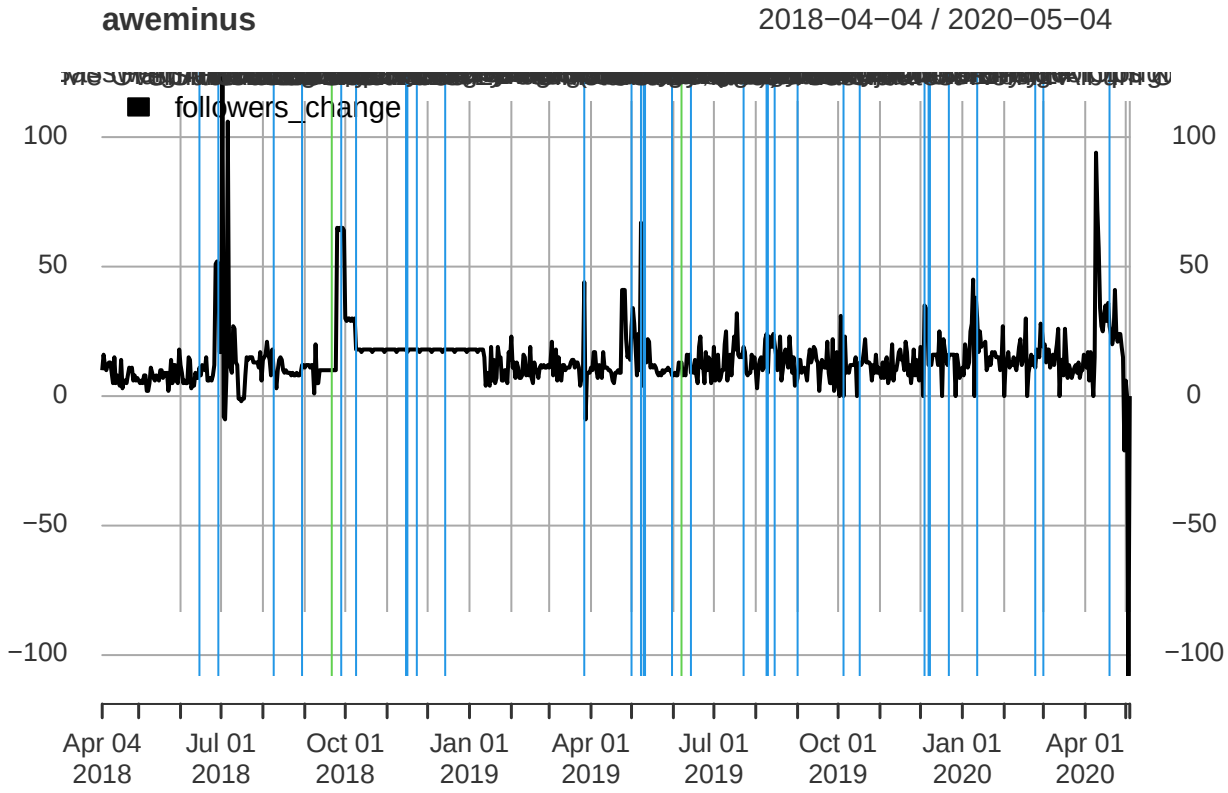

andrew rayel
2018−04−04 / 2020−05−04
Monthly.Listeners
00000
00000
00000
00000
00000
00000
18000
16000
14000
12000
10000
80000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


andrew rayel
2018−04−04 / 2020−05−04
followers_change
0
−500
−1000
0
−500
−1000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


andrew rayel
2018−04−04 / 2020−05−04
listeners_change
3e+05
2e+05
1e+05
0e+00
1e+05
2e+05
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


aweminus
2018−04−04 / 2020−05−04
Total.Followers
14000
12000
10000
8000
6000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


aweminus
2018−04−04 / 2020−05−04
Monthly.Listeners
50000
40000
30000
20000
10000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


aweminus
2018−04−04 / 2020−05−04
followers_change
100
50
0
−50
−100
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
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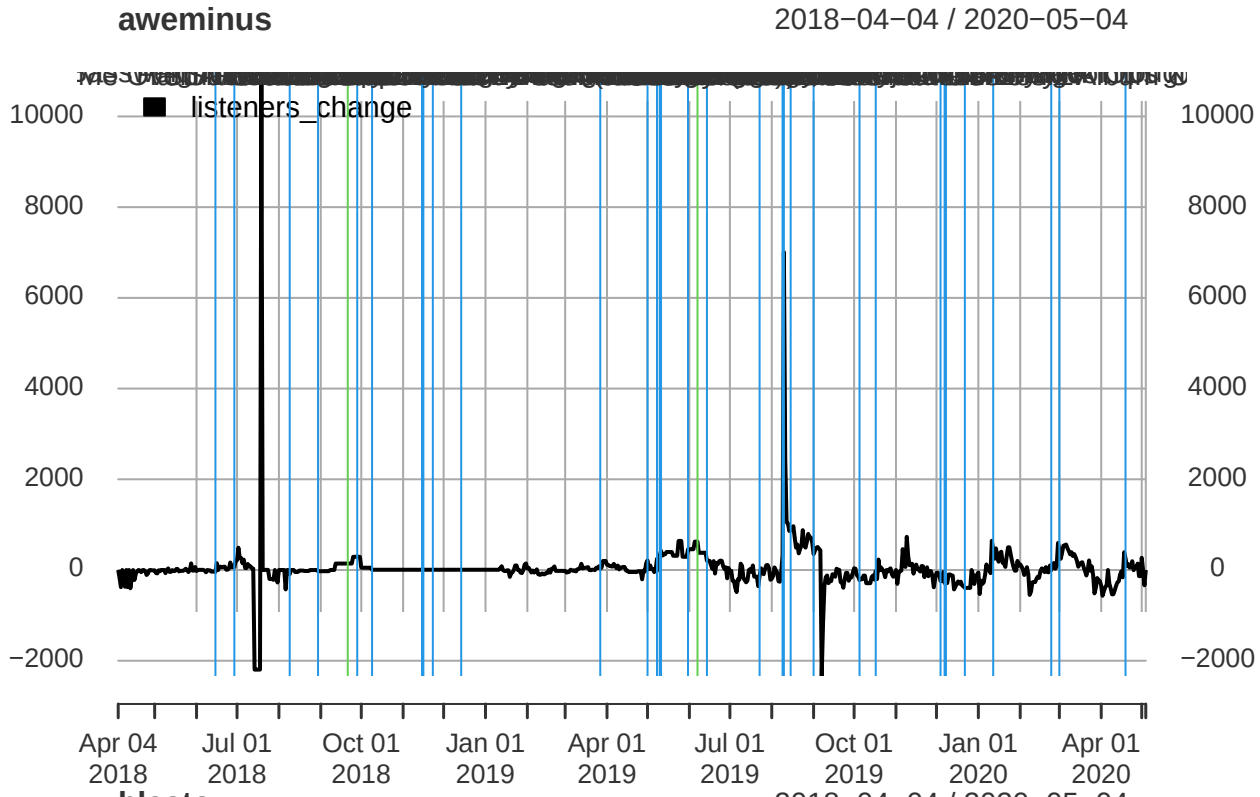
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2018−04−04 / 2020−05−04
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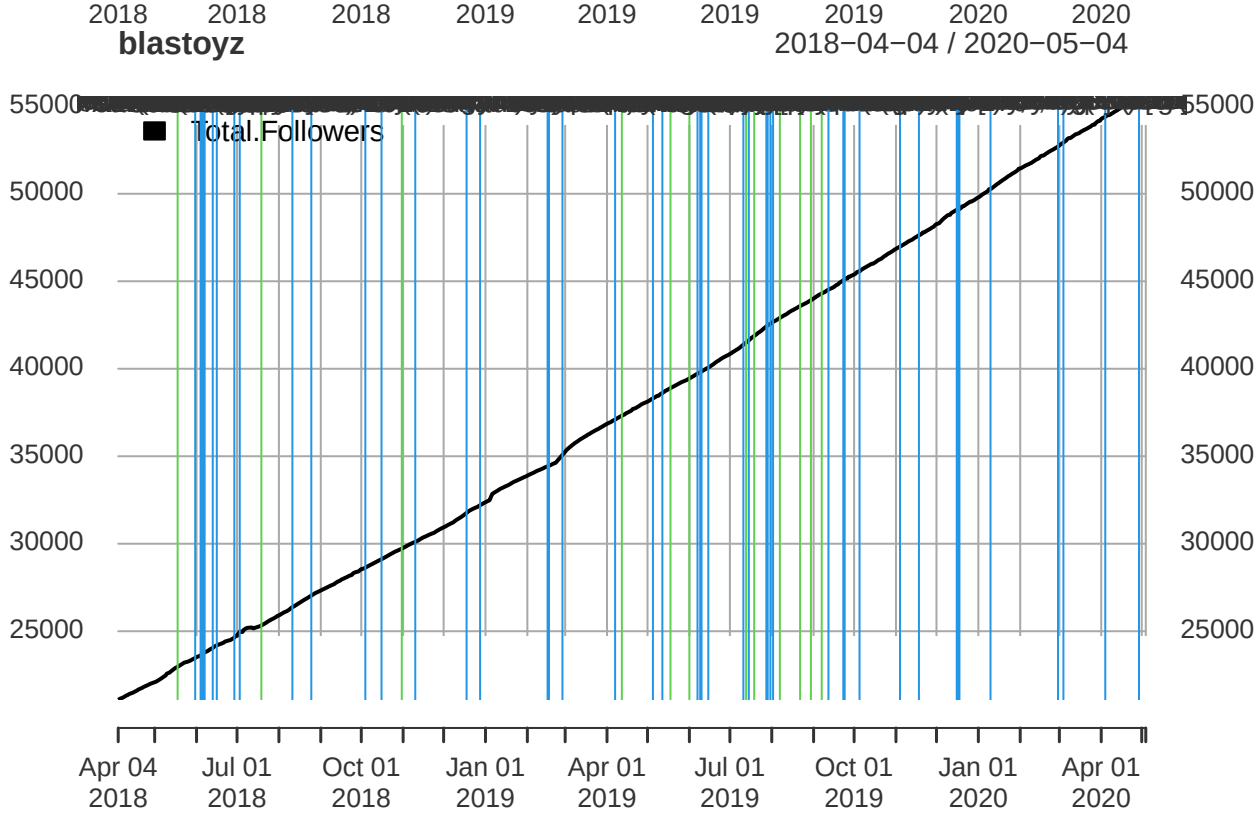
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2018−04−04 / 2020−05−04
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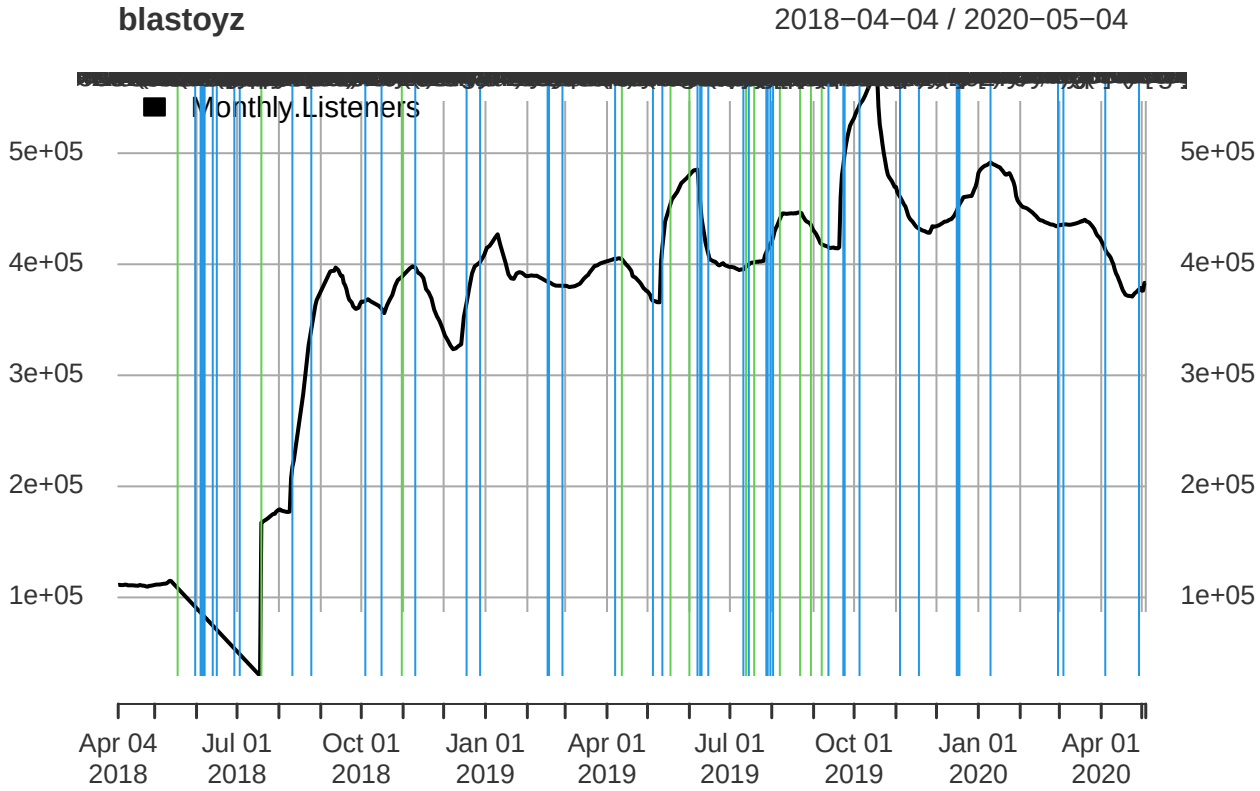
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2018−04−04 / 2020−05−04
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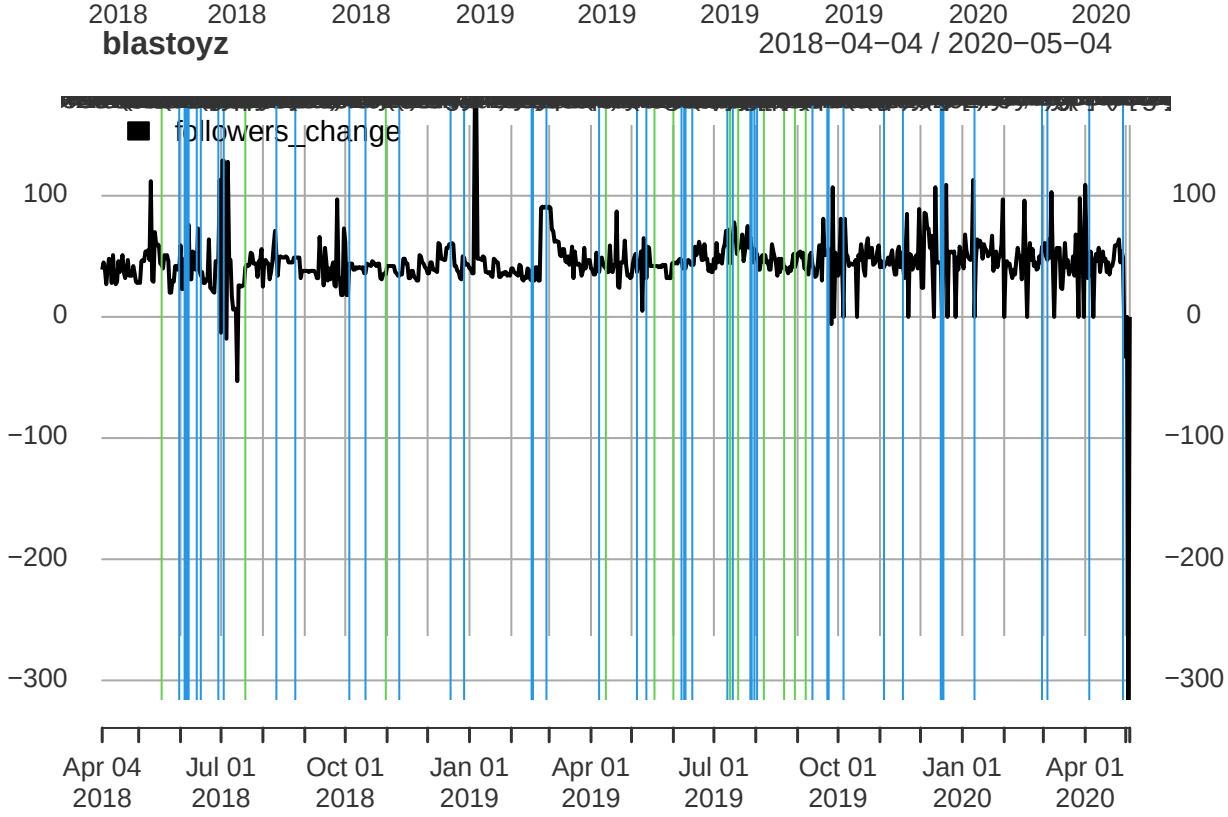
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2018−04−04 / 2020−05−04
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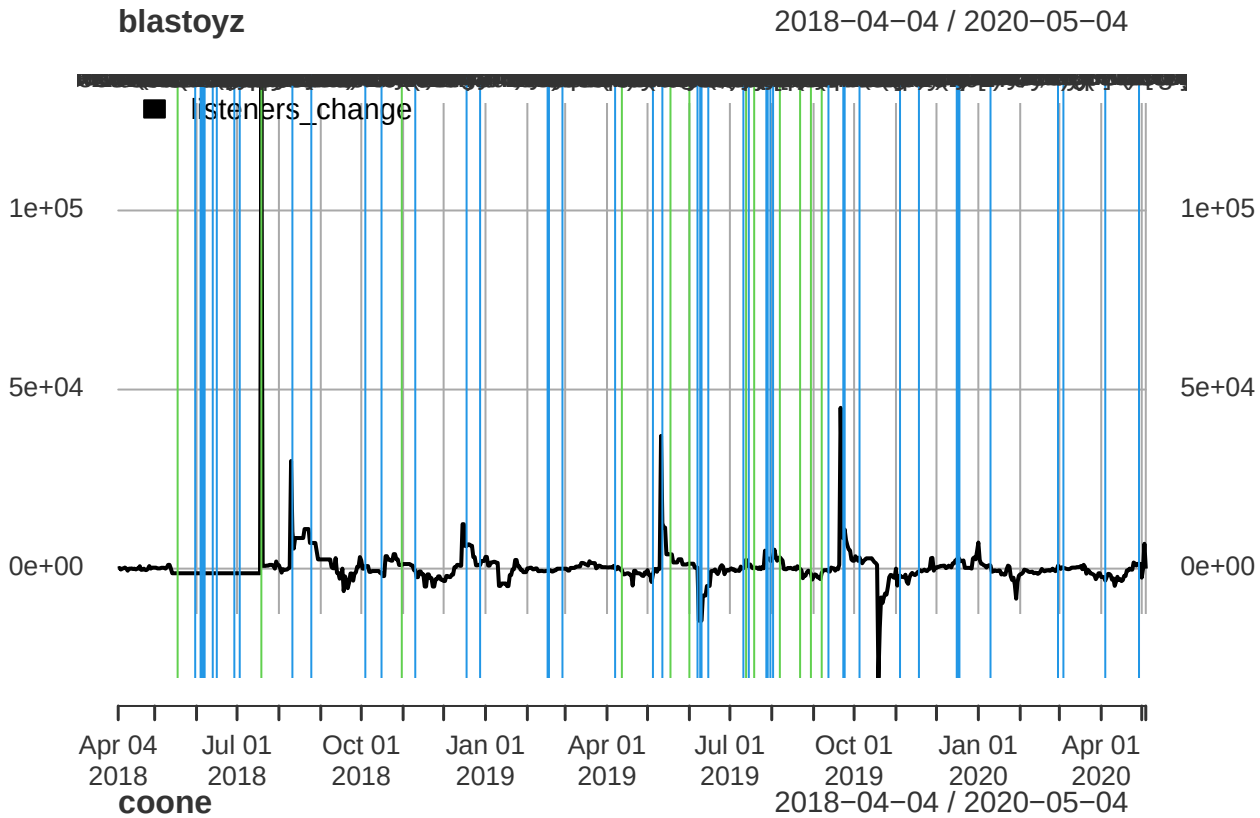
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2018−04−04 / 2020−05−04
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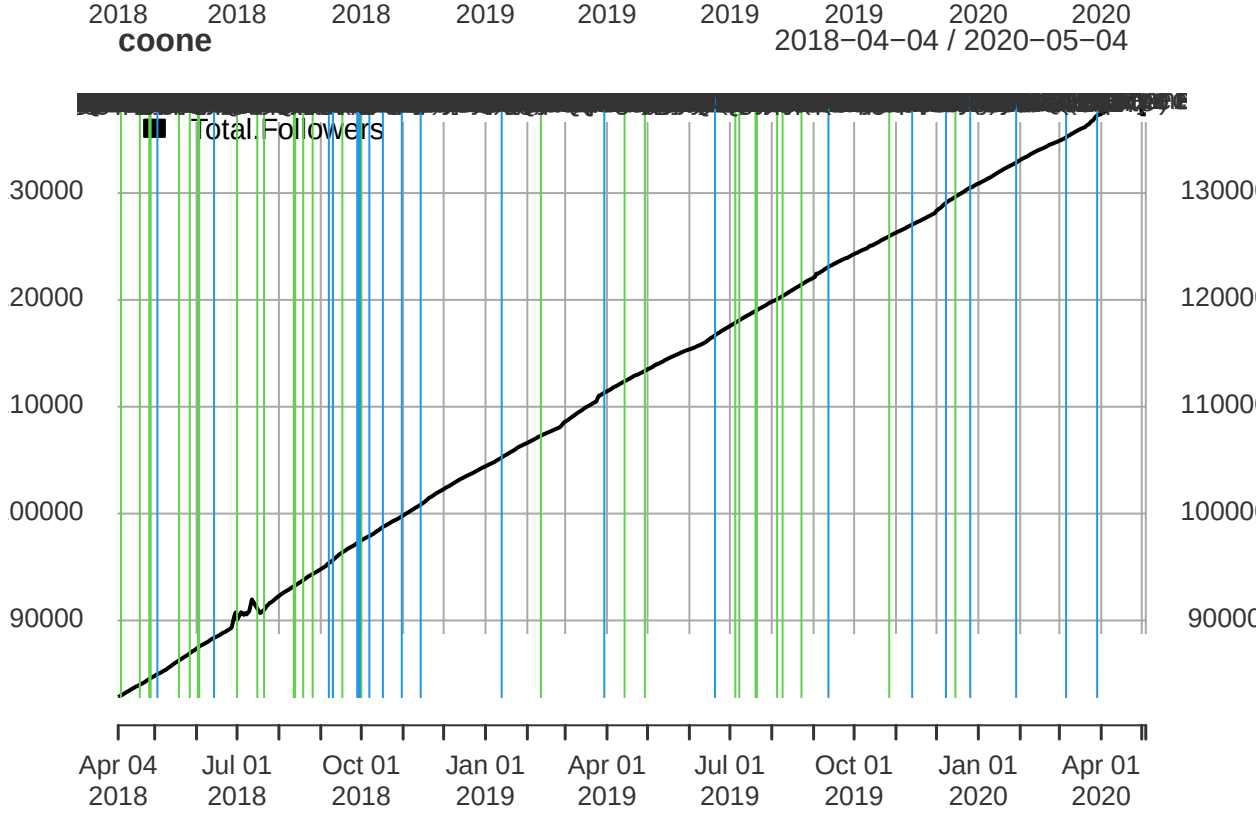
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2018−04−04 / 2020−05−04
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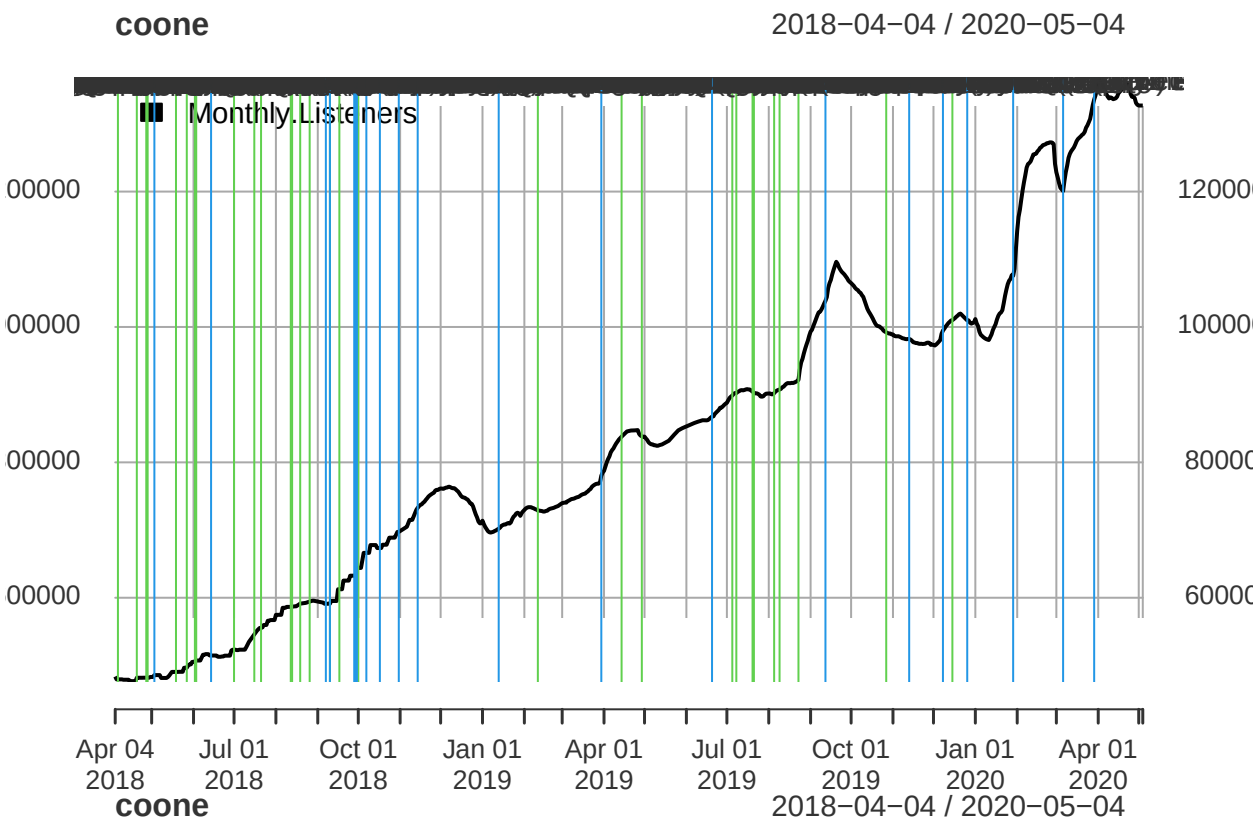
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2018−04−04 / 2020−05−04
Monthly.Listeners
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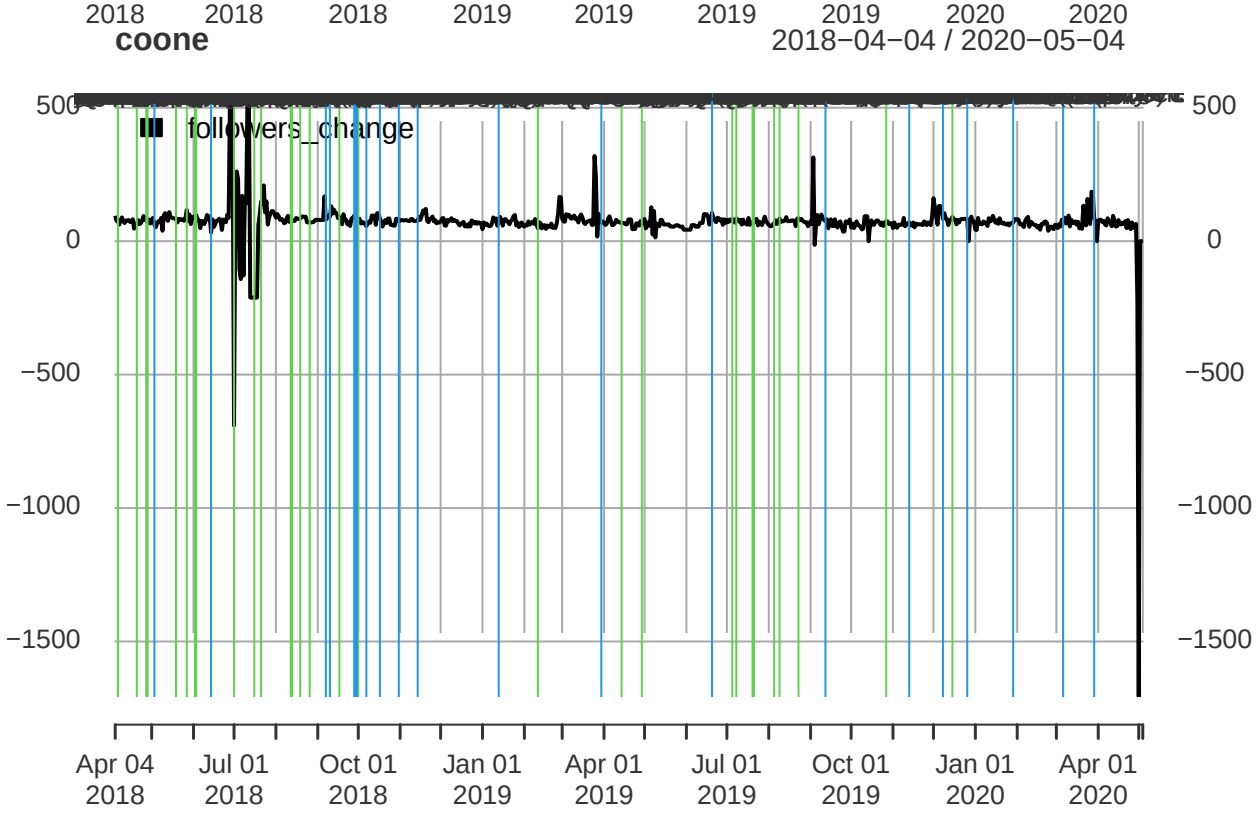
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2018−04−04 / 2020−05−04
followers_change
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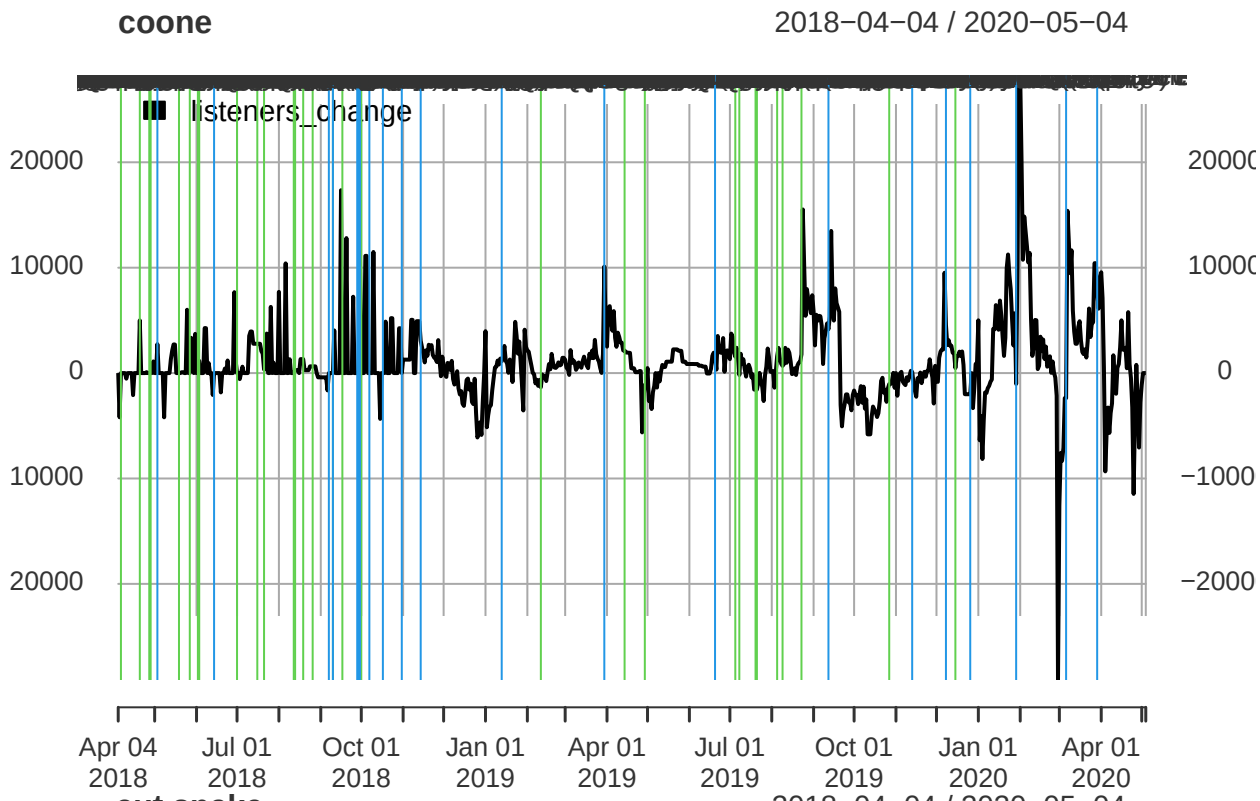
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2018−04−04 / 2020−05−04
listeners_change
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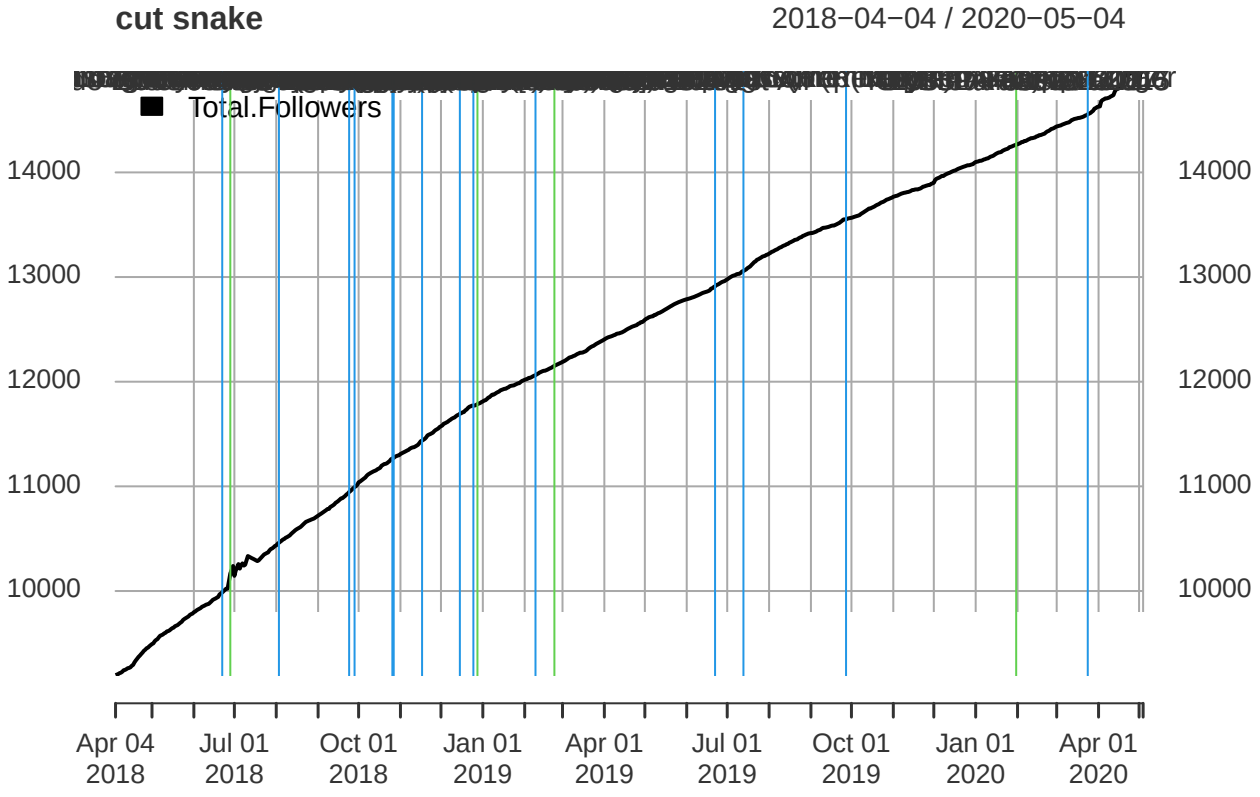
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12000
11000
10000
14000
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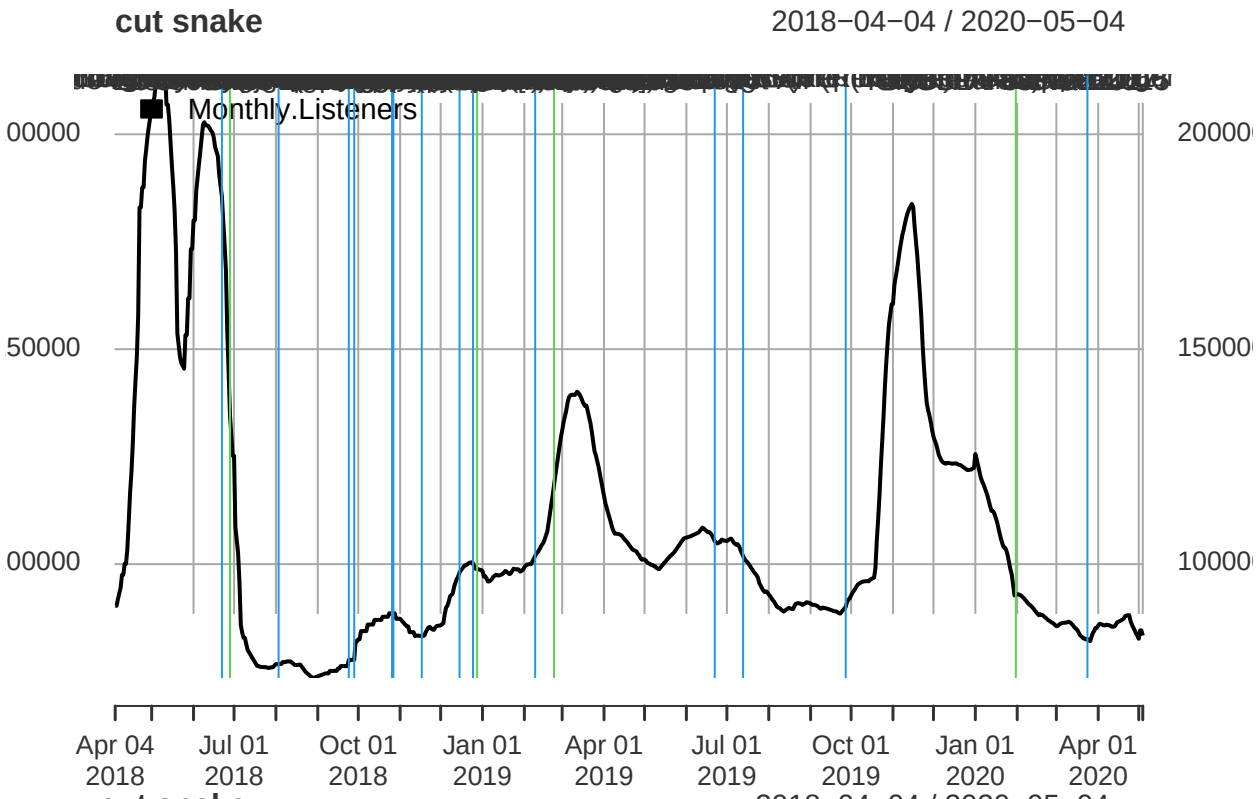
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2018−04−04 / 2020−05−04
Monthly.Listeners
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10000
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Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
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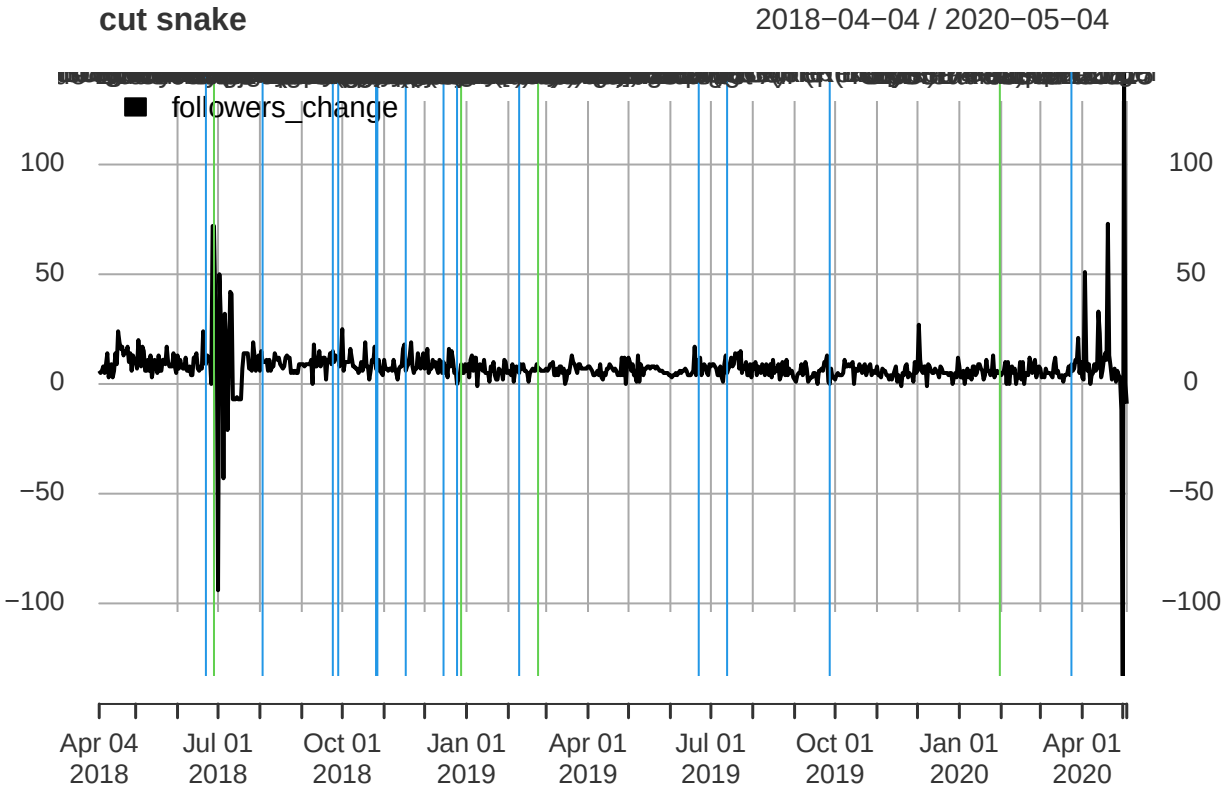
Jan 01 2020
Apr 01 2020


cut snake
2018−04−04 / 2020−05−04
followers_change
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Jan 01 2019
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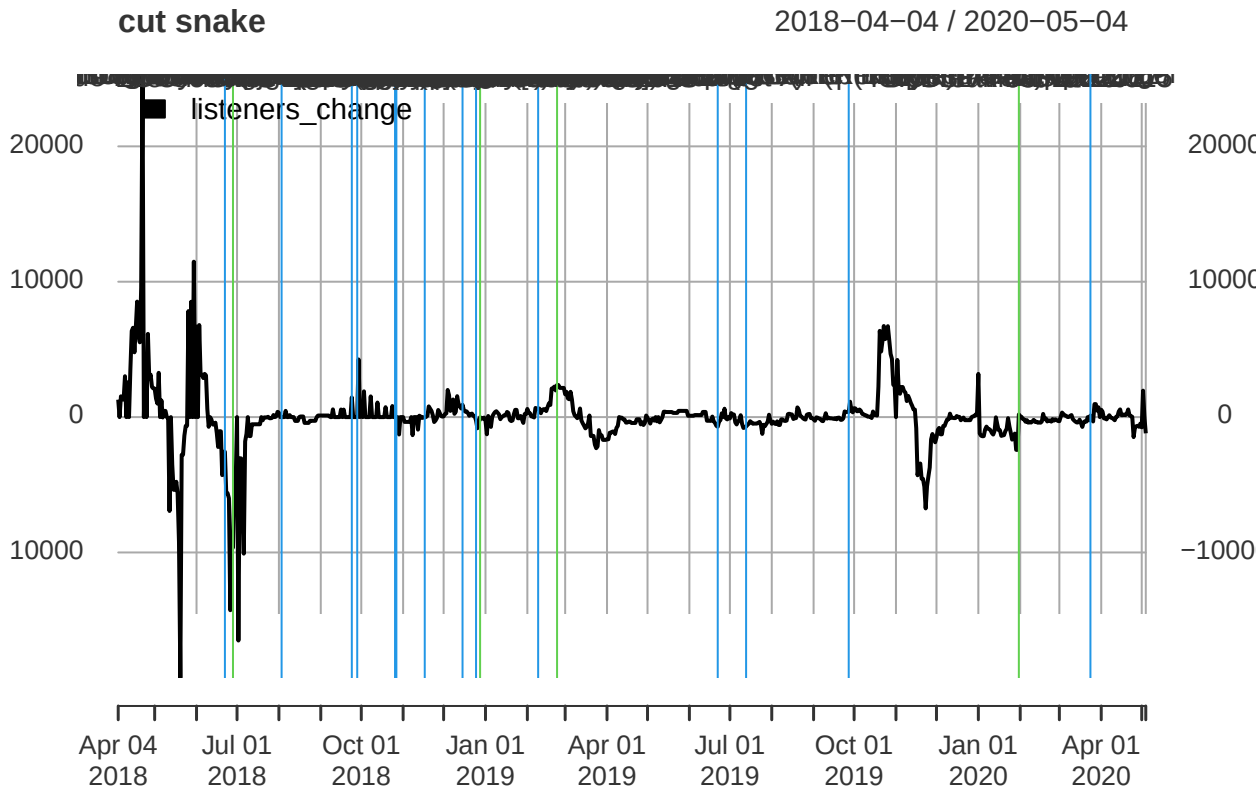
Apr 01 2020


cut snake
2018−04−04 / 2020−05−04
listeners_change
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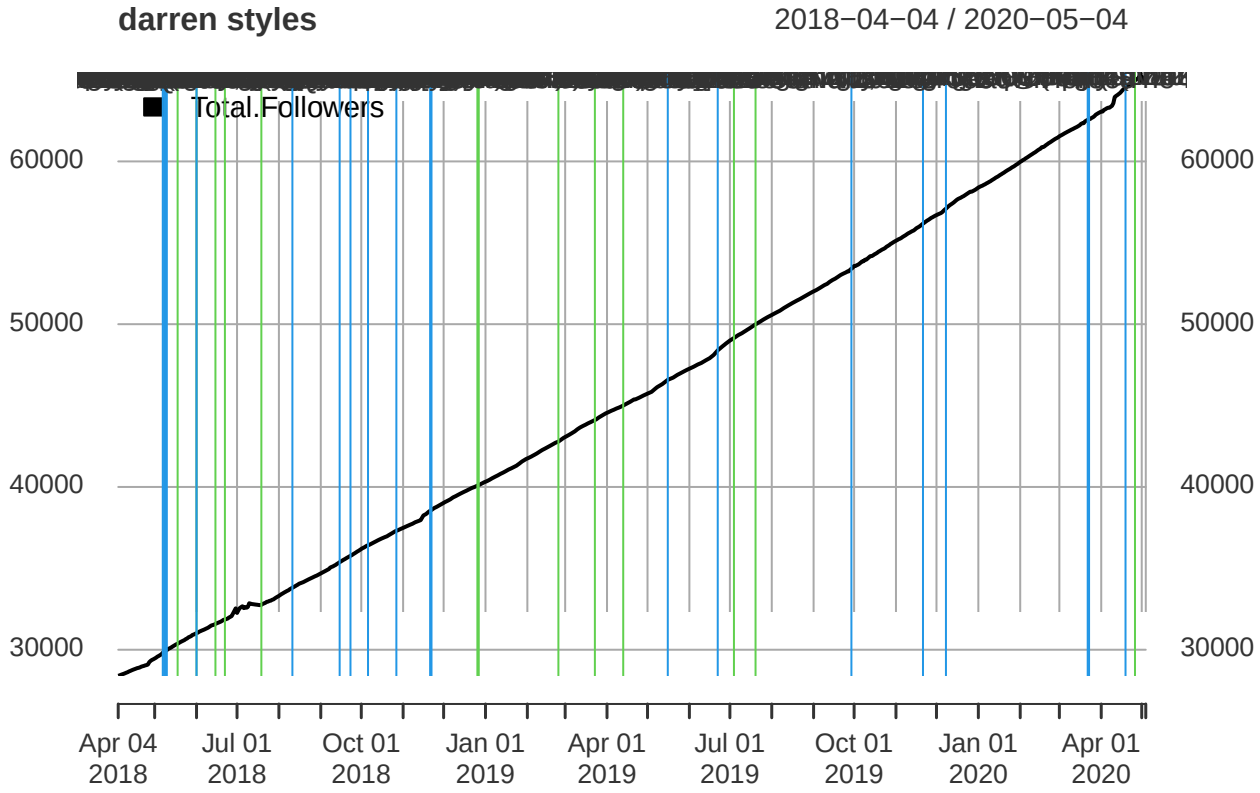
Apr 01 2020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2018−04−04 / 2020−05−04
Total.Followers
60000
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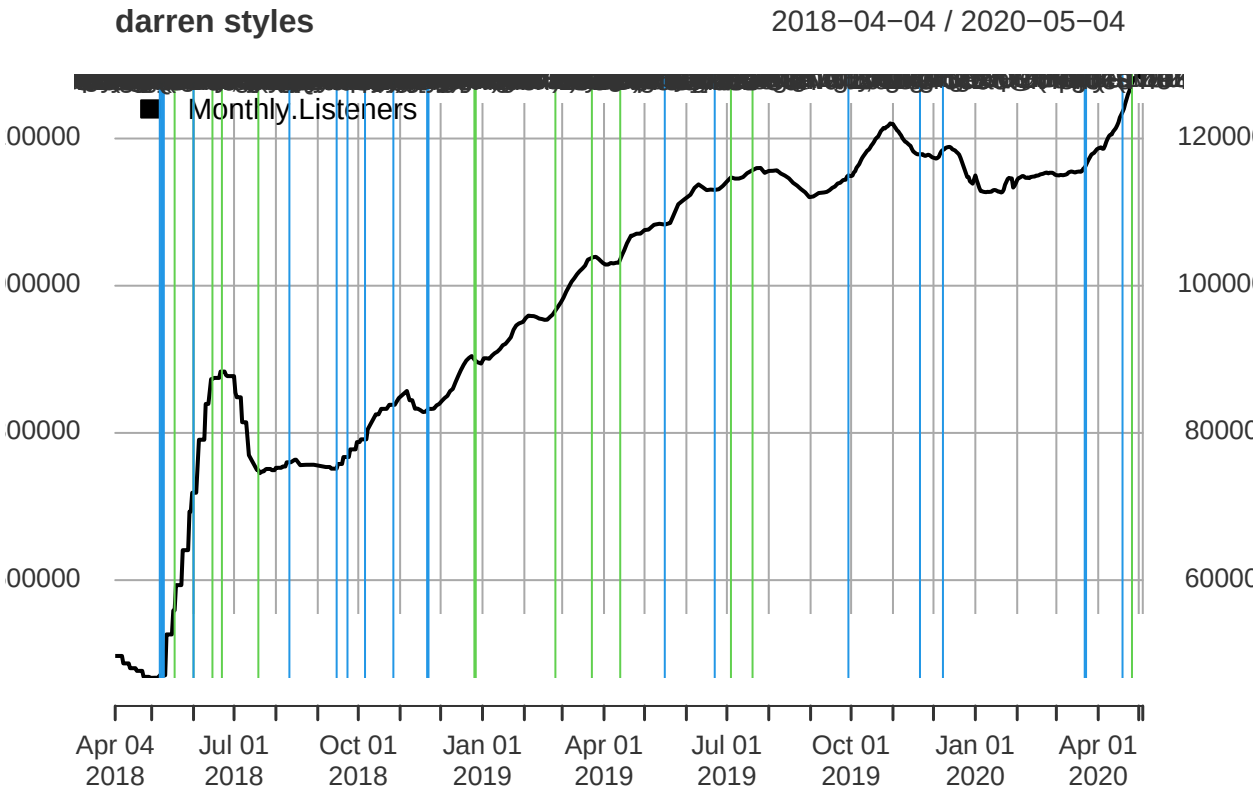
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2018−04−04 / 2020−05−04
Monthly.Listeners
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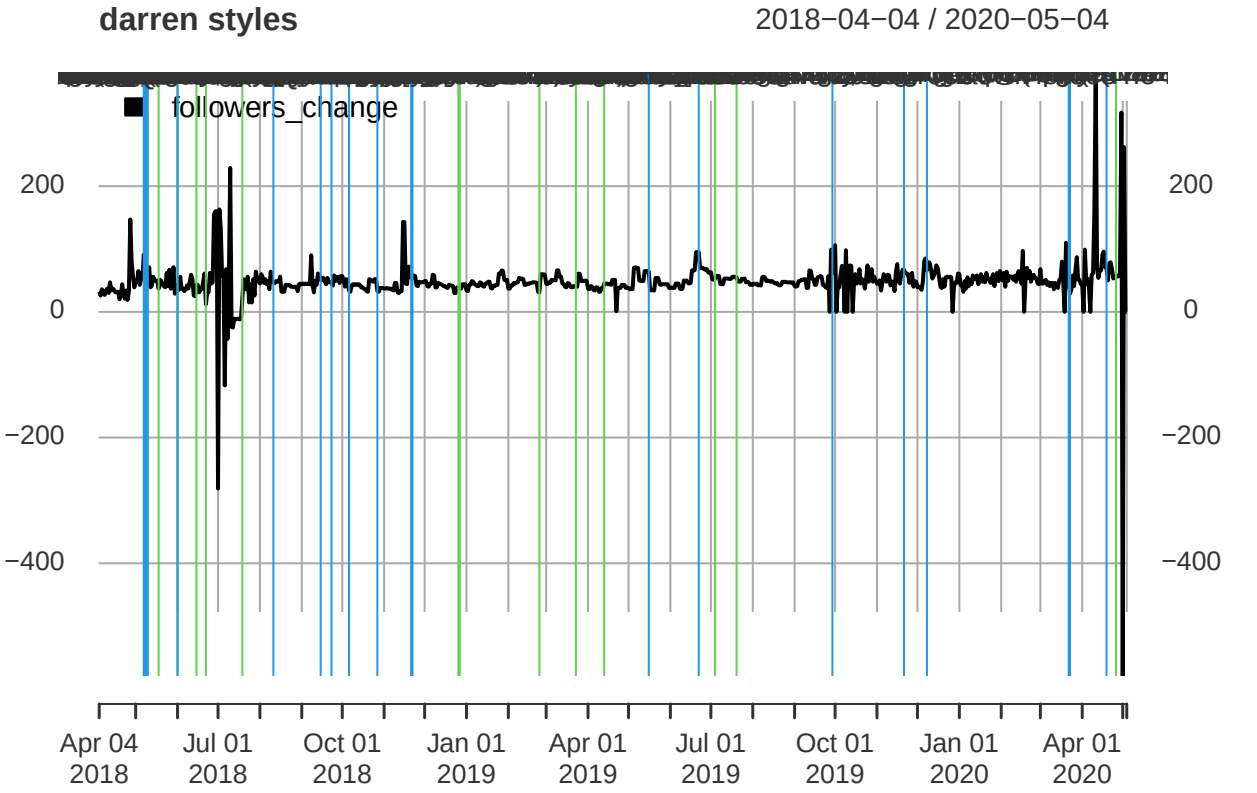
darren styles
2018−04−04 / 2020−05−04
followers_change
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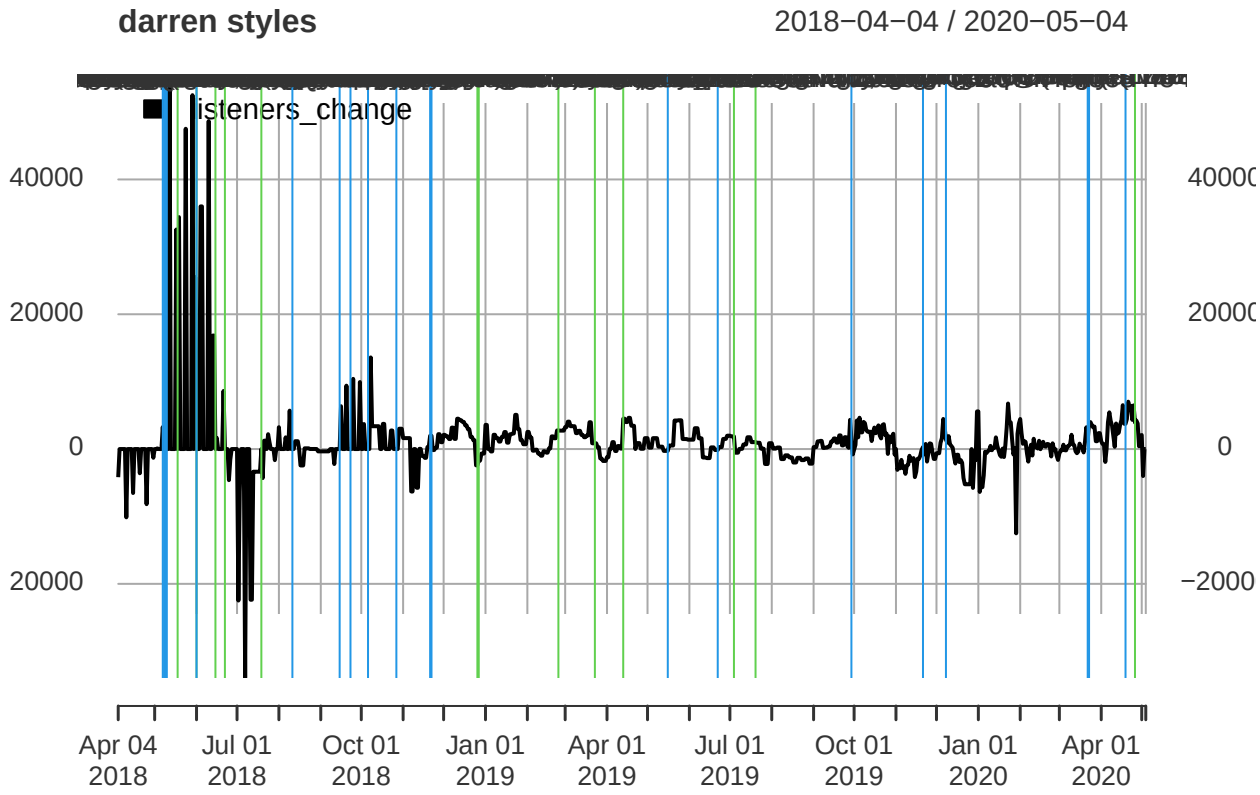


```
## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'We Love... Coloursound End of Term
## Festival 2011' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
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## Festival 2011' in 'mbcsToSbcs': dot substituted for <80>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
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## Festival 2011' in 'mbcsToSbcs': dot substituted for <a6>

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```

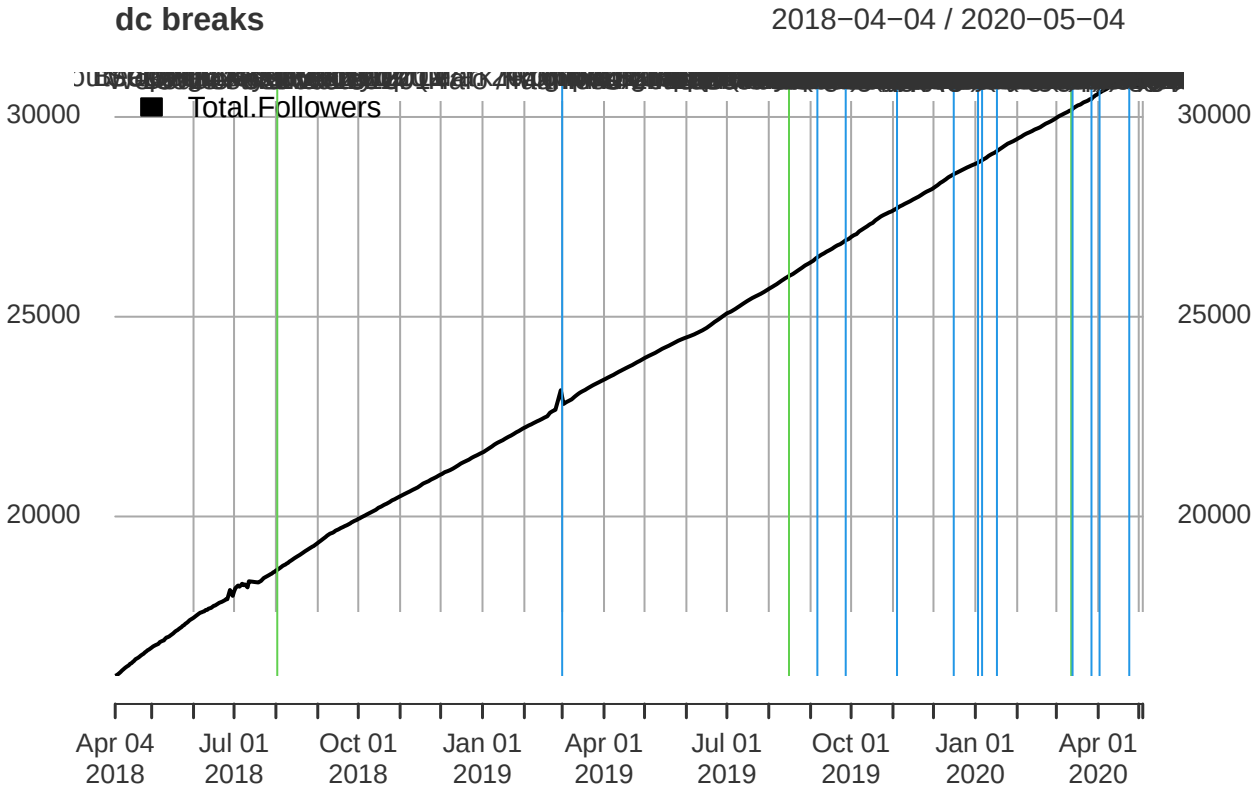


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## Festival 2011' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
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## Festival 2011' in 'mbcsToSbcs': dot substituted for <80>

## Warning in text.default(x = x$Env$xycoords$x[event.ind], y = ypos, labels =
## as.character(events[, : conversion failure on 'We Love... Coloursound End of Term
## Festival 2011' in 'mbcsToSbcs': dot substituted for <a6>

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## as.character(events[, : font metrics unknown for Unicode character U+2026
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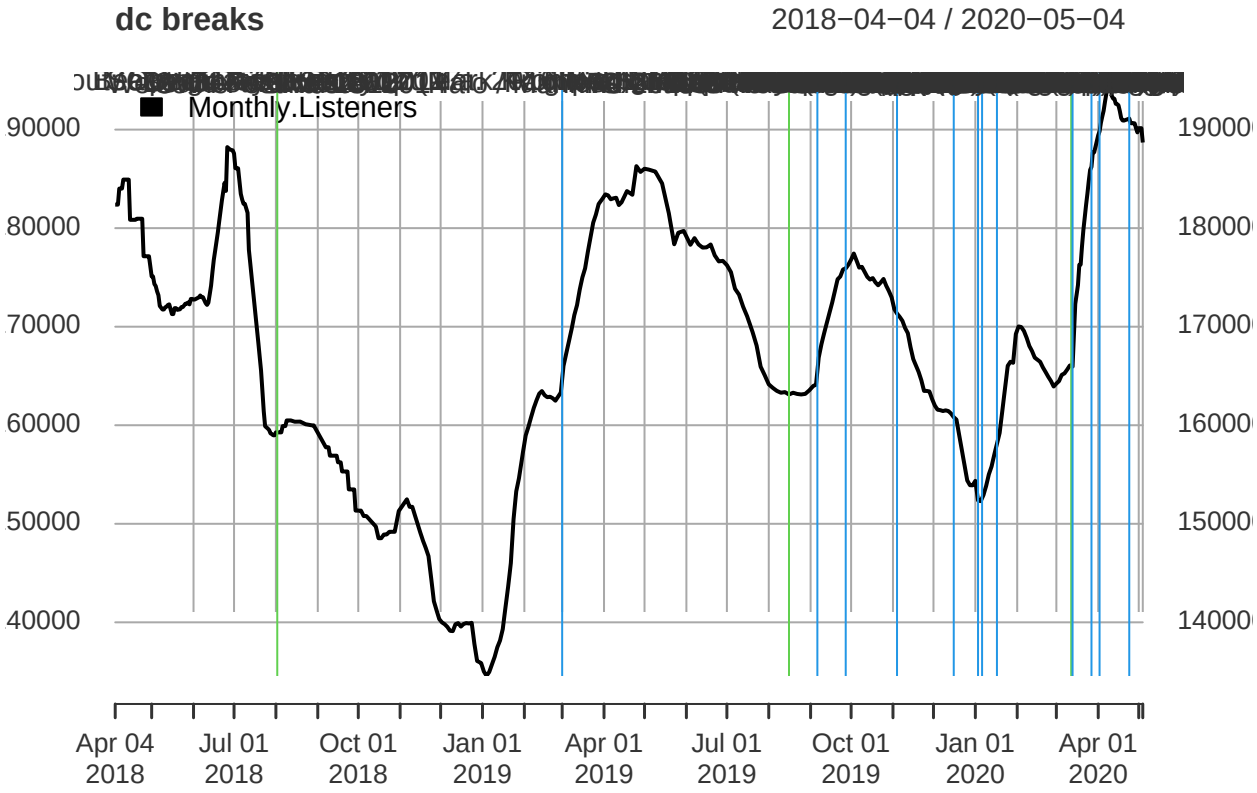


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## Festival 2011' in 'mbcsToSbcs': dot substituted for <e2>

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## Festival 2011' in 'mbcsToSbcs': dot substituted for <80>

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## Festival 2011' in 'mbcsToSbcs': dot substituted for <a6>

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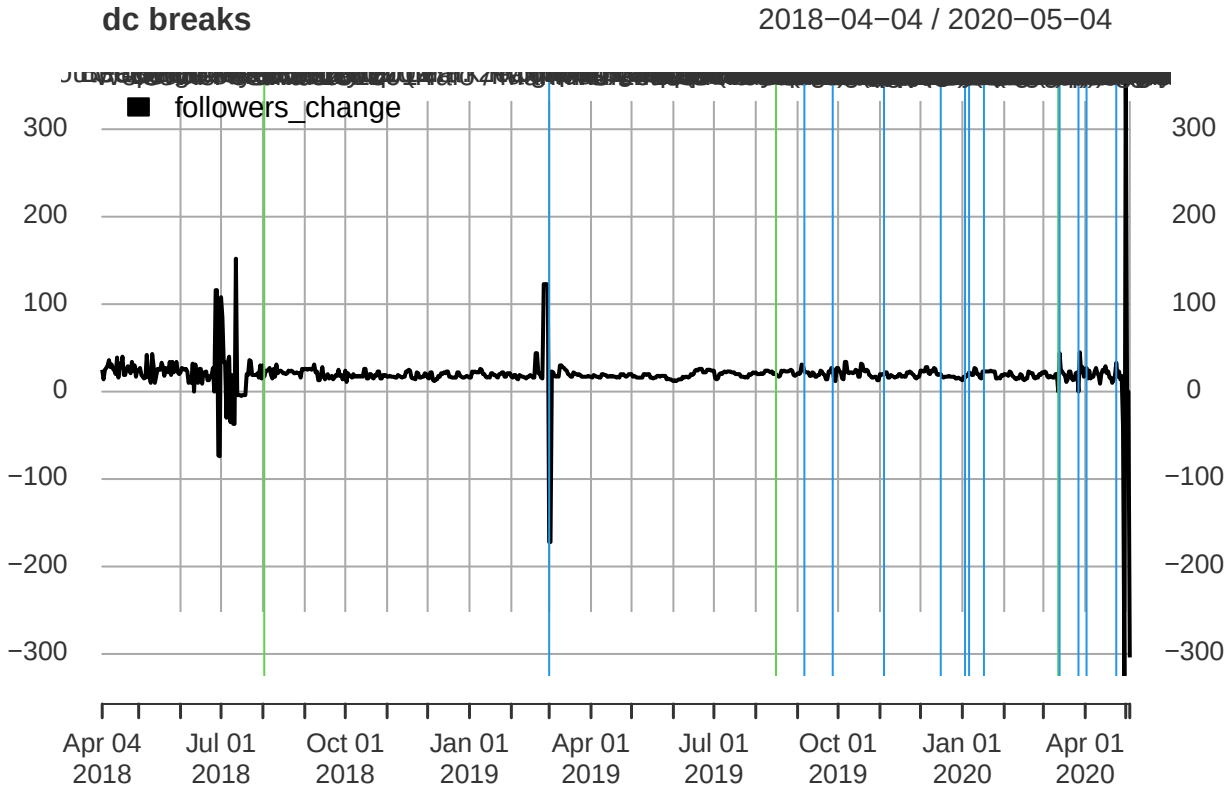


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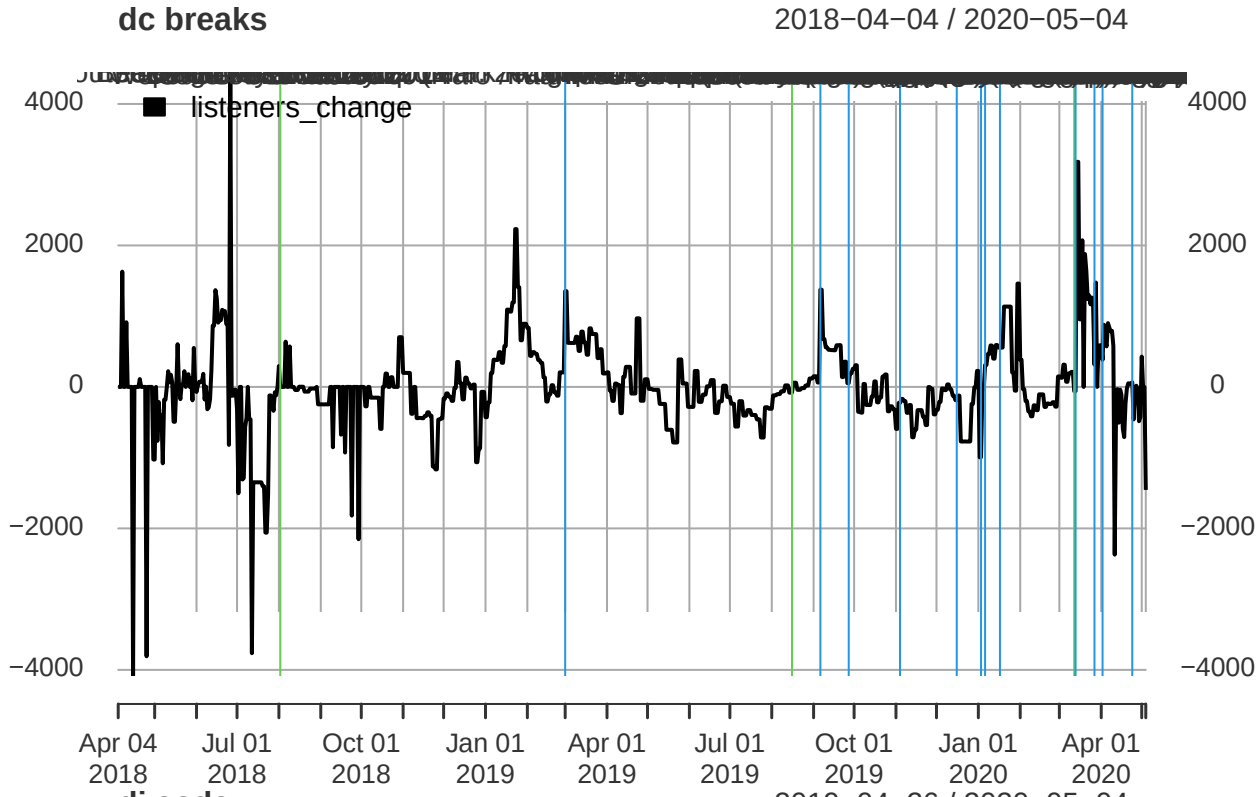
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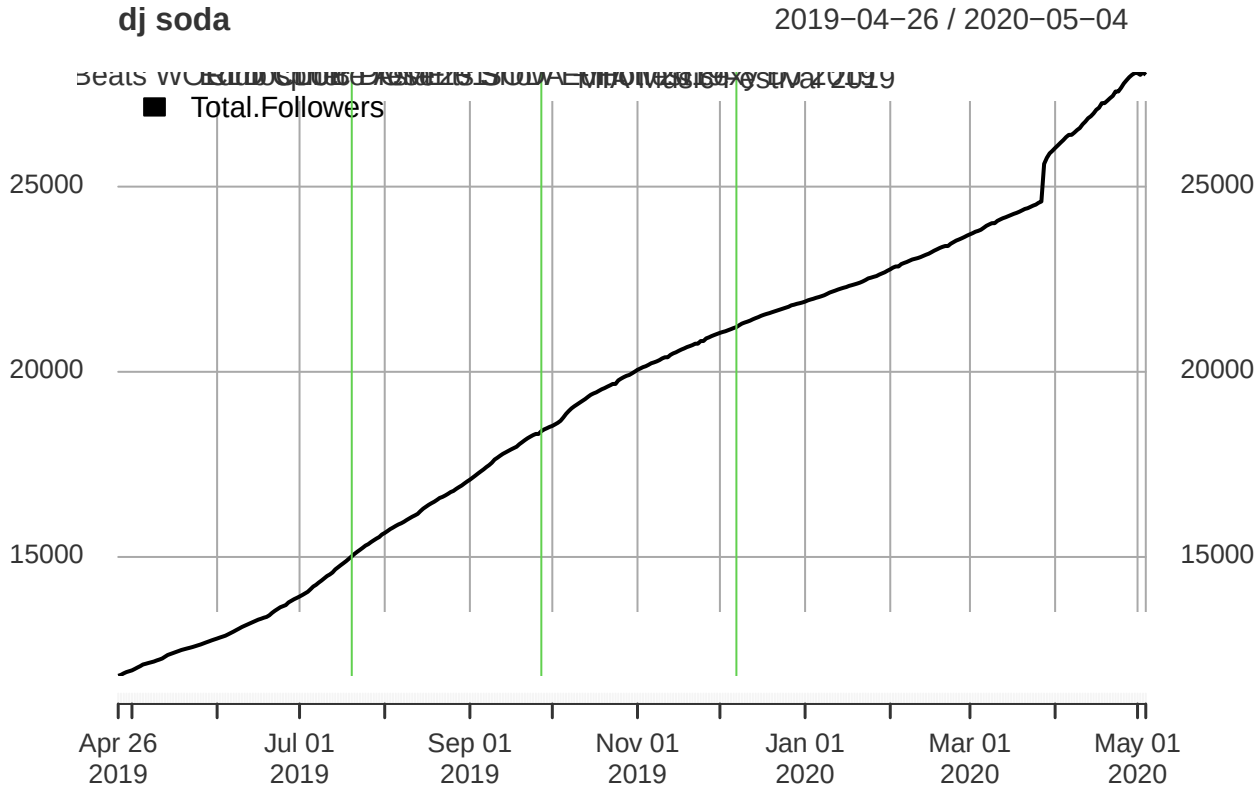
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2019−04−26 / 2020−05−04
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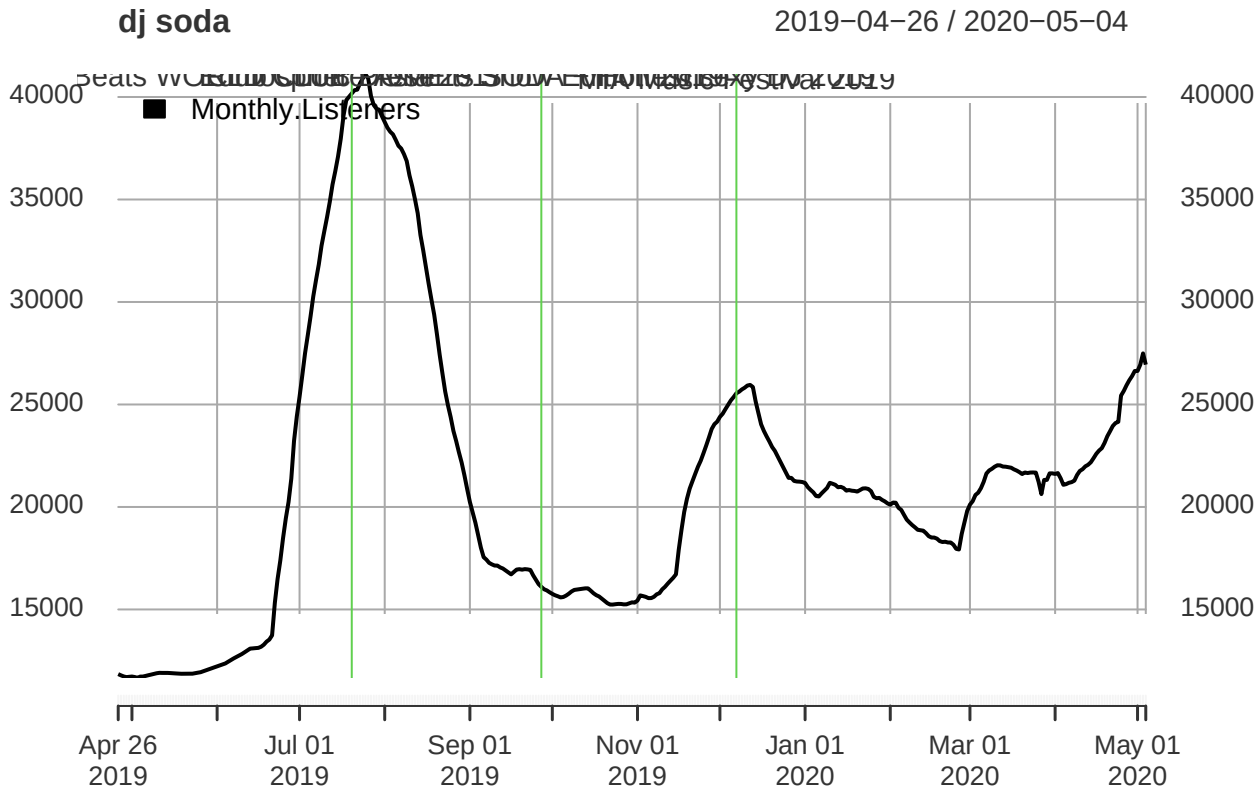
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2019−04−26 / 2020−05−04
Monthly.Listeners
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Sep 01 2019
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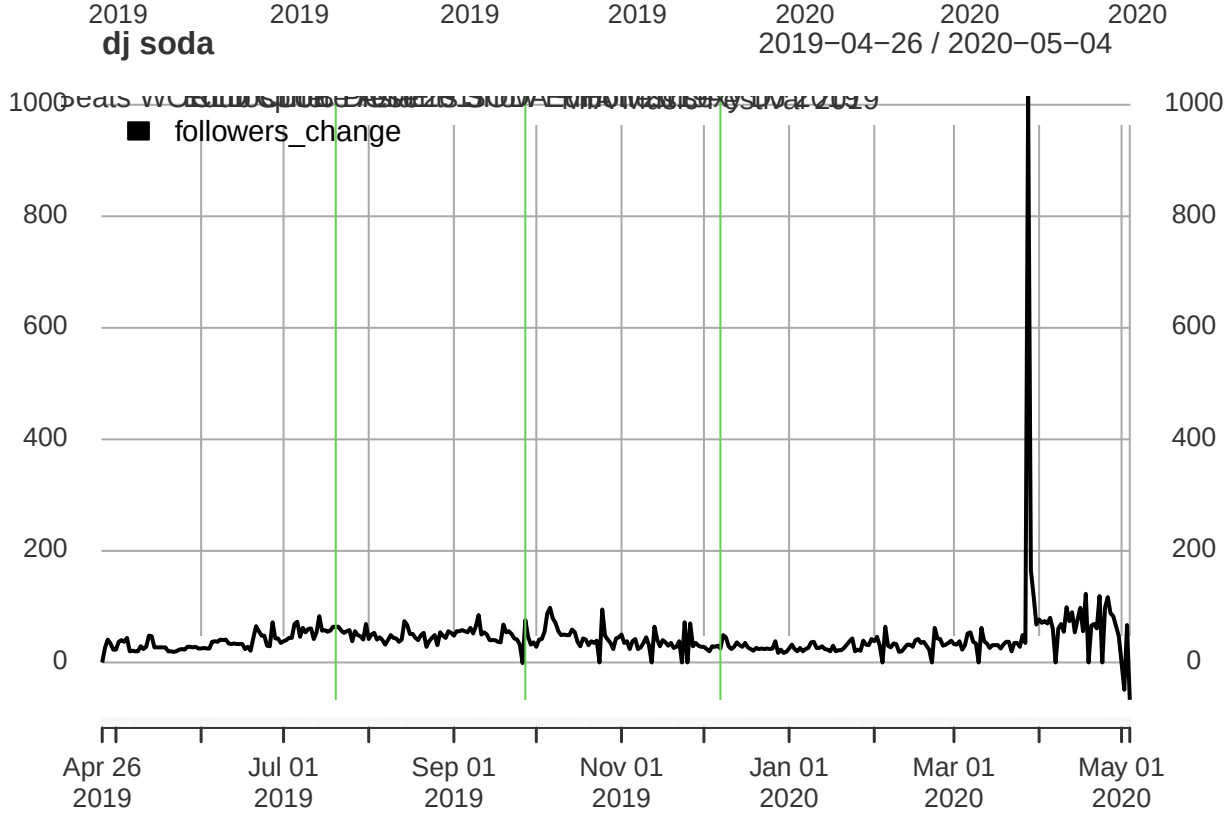
dj soda
2019−04−26 / 2020−05−04
followers_change
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600
400
200
0
Apr 26 2019
Jul 01 2019
Sep 01 2019
Nov 01 2019
Jan 01 2020
Mar 01 2020
May 01 2020

dj soda
2019−04−26 / 2020−05−04
listeners_change
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500
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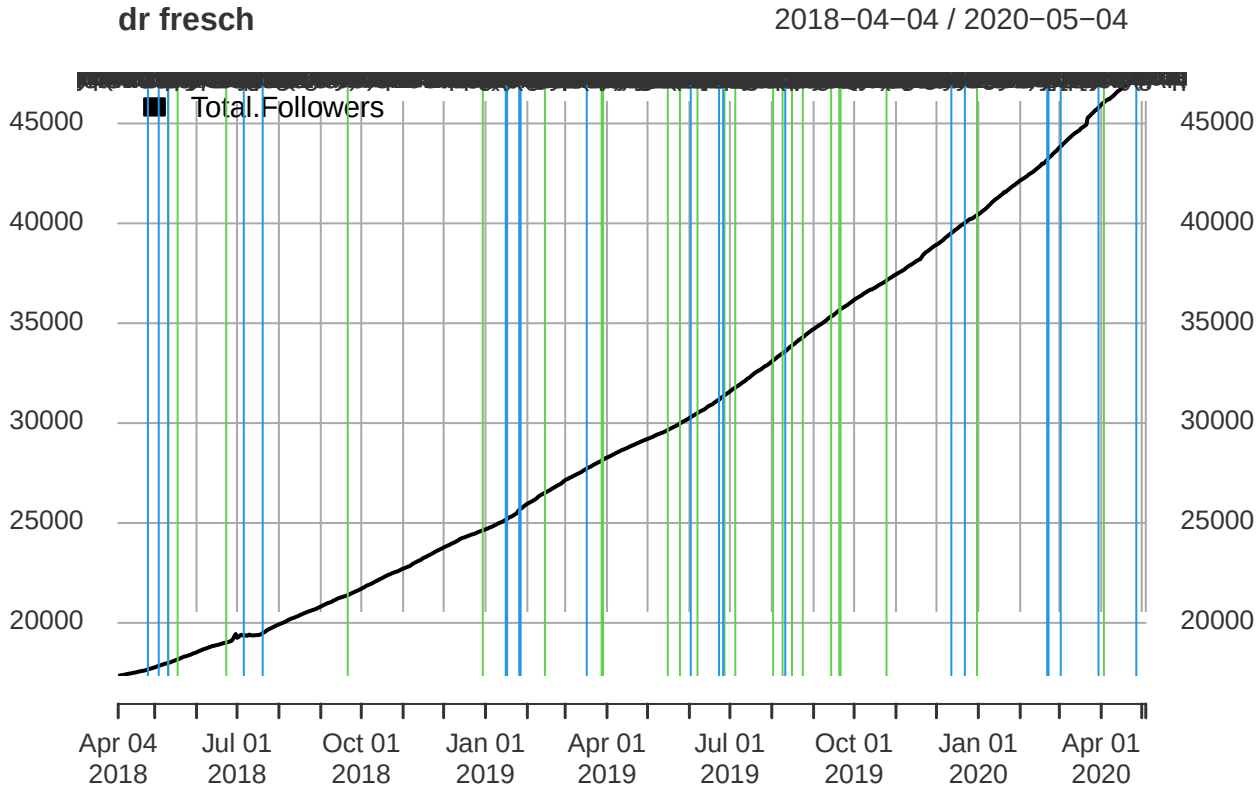
dr fresch
2018−04−04 / 2020−05−04
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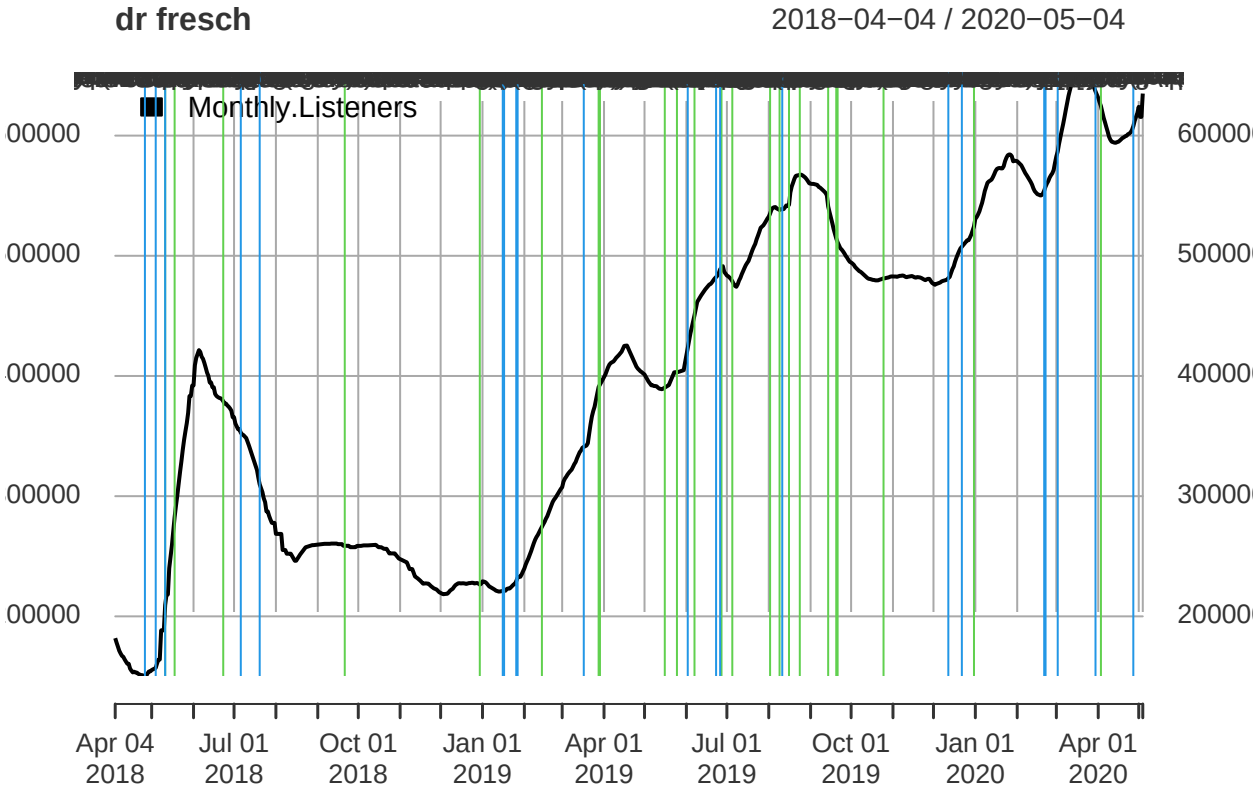
dr fresch
2018−04−04 / 2020−05−04
Monthly.Listeners
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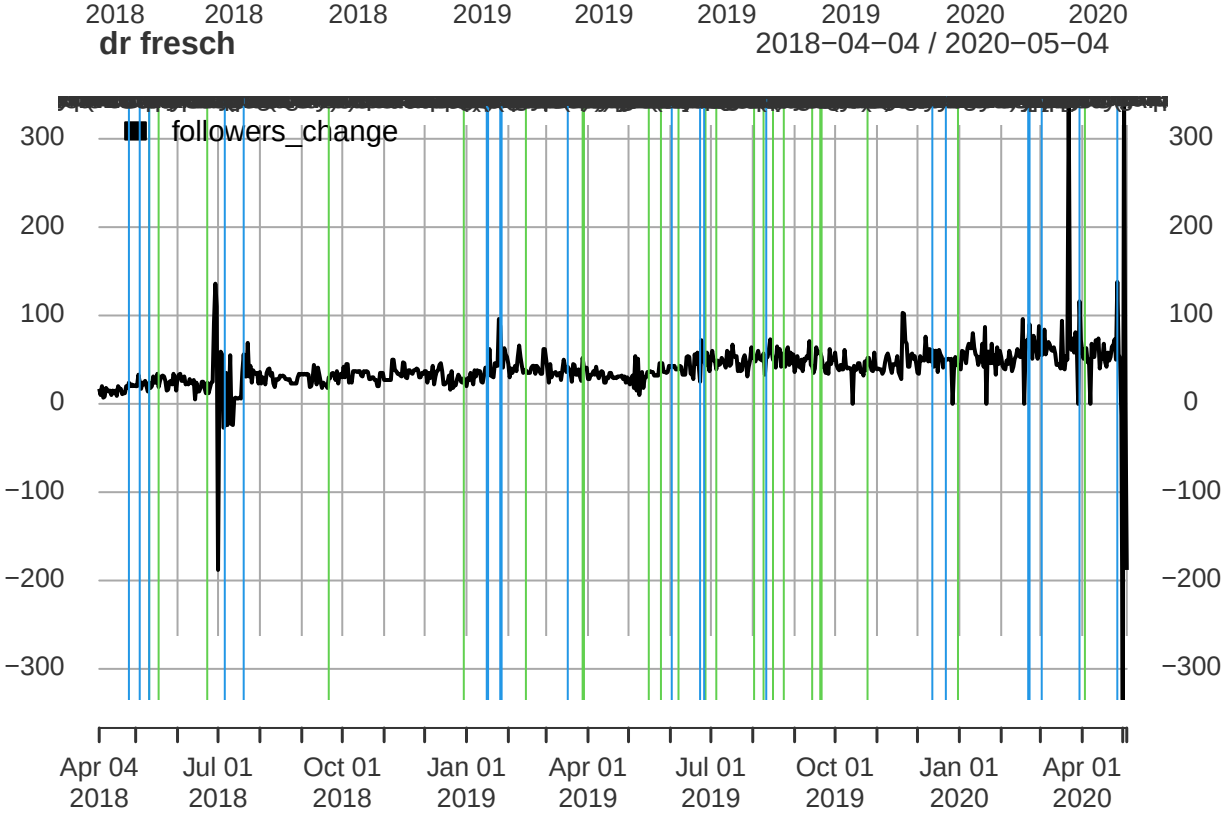
dr fresch
2018−04−04 / 2020−05−04
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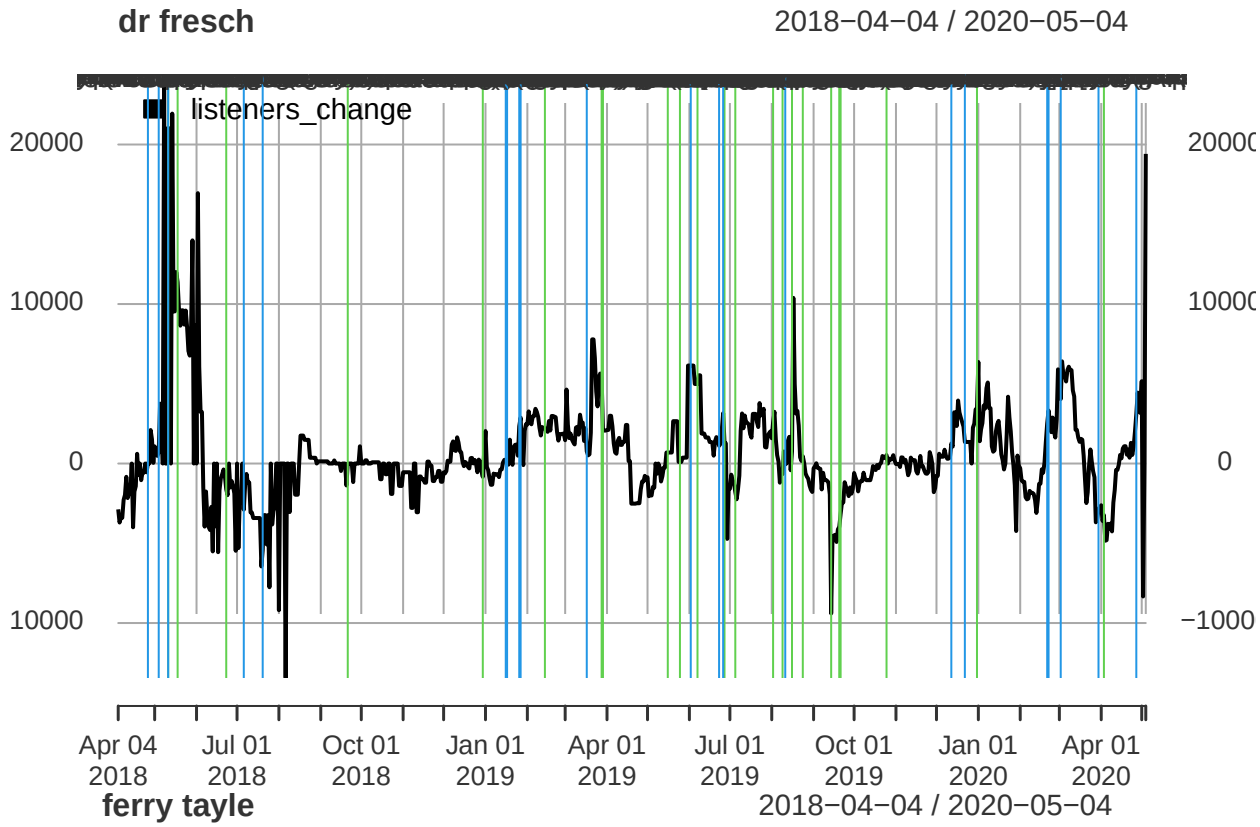
dr fresch
2018−04−04 / 2020−05−04
listeners_change
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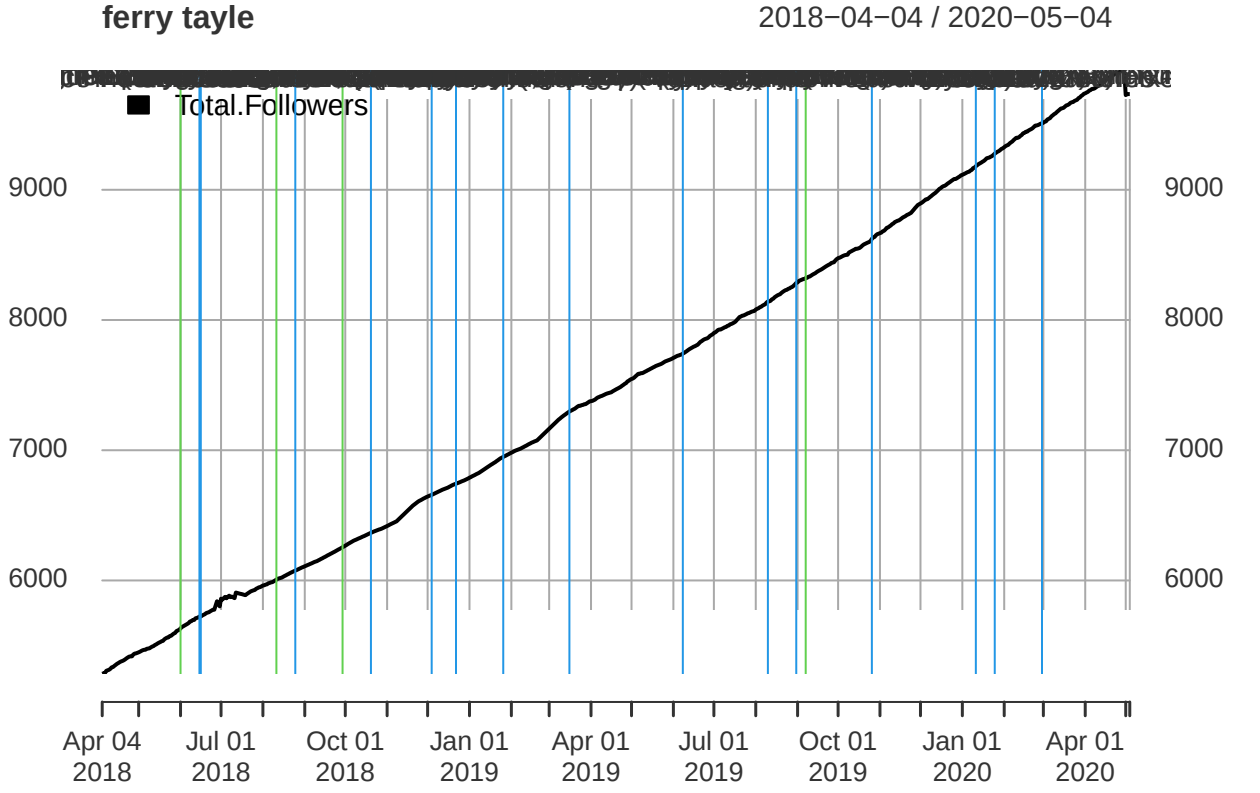
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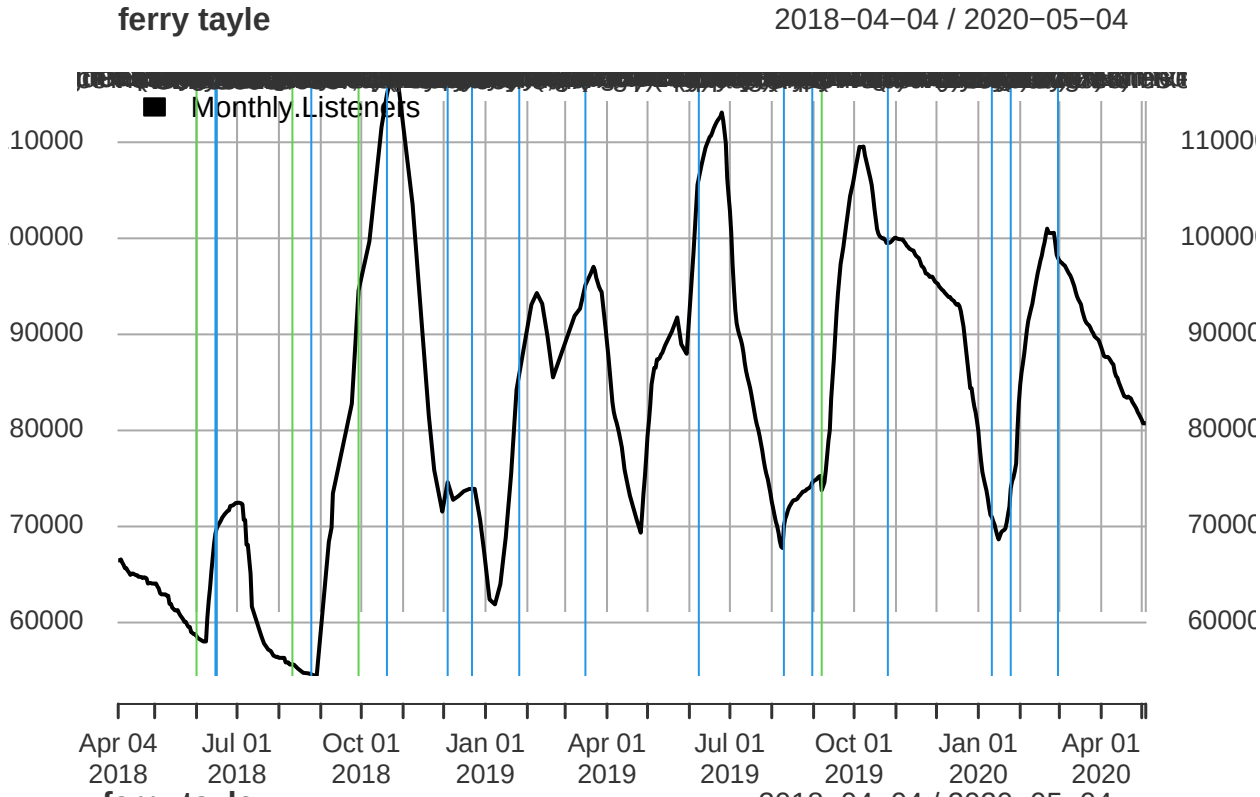
ferry tayle
2018−04−04 / 2020−05−04
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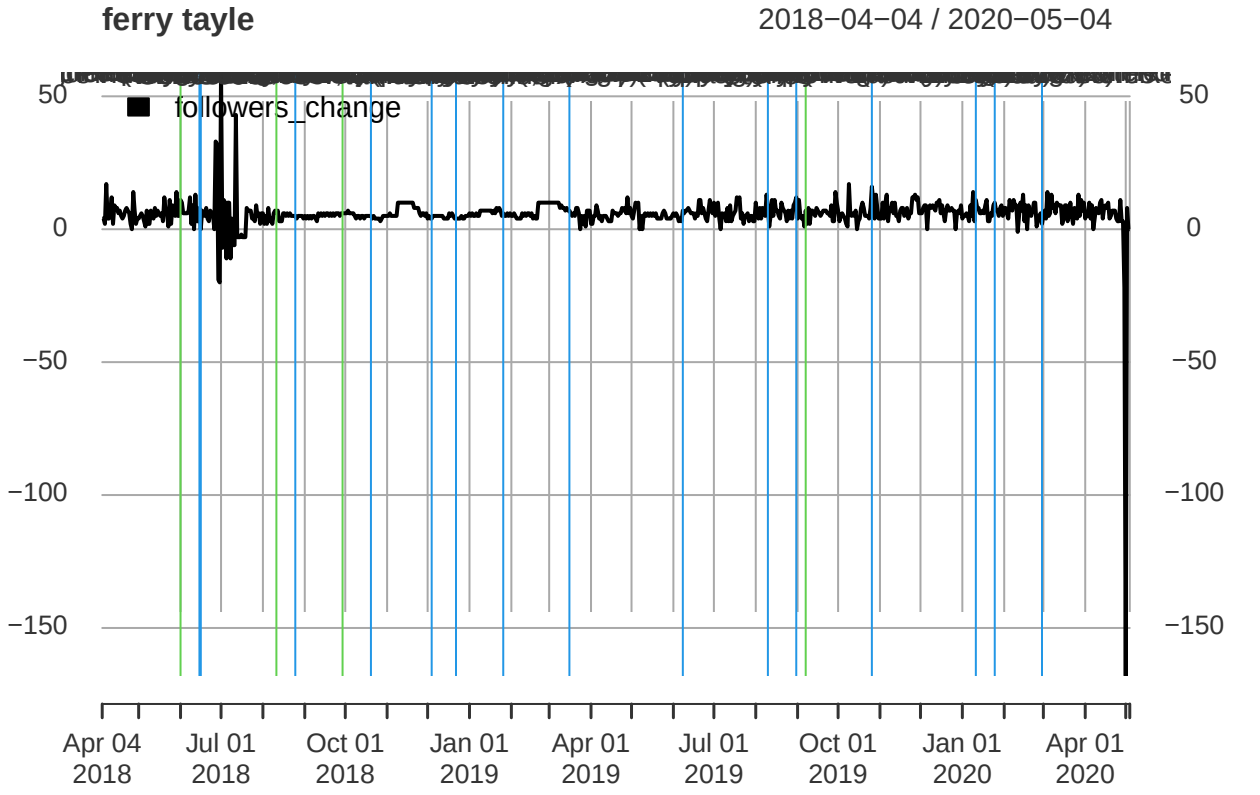
ferry tayle
2018−04−04 / 2020−05−04
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−50
−100
−150
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Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
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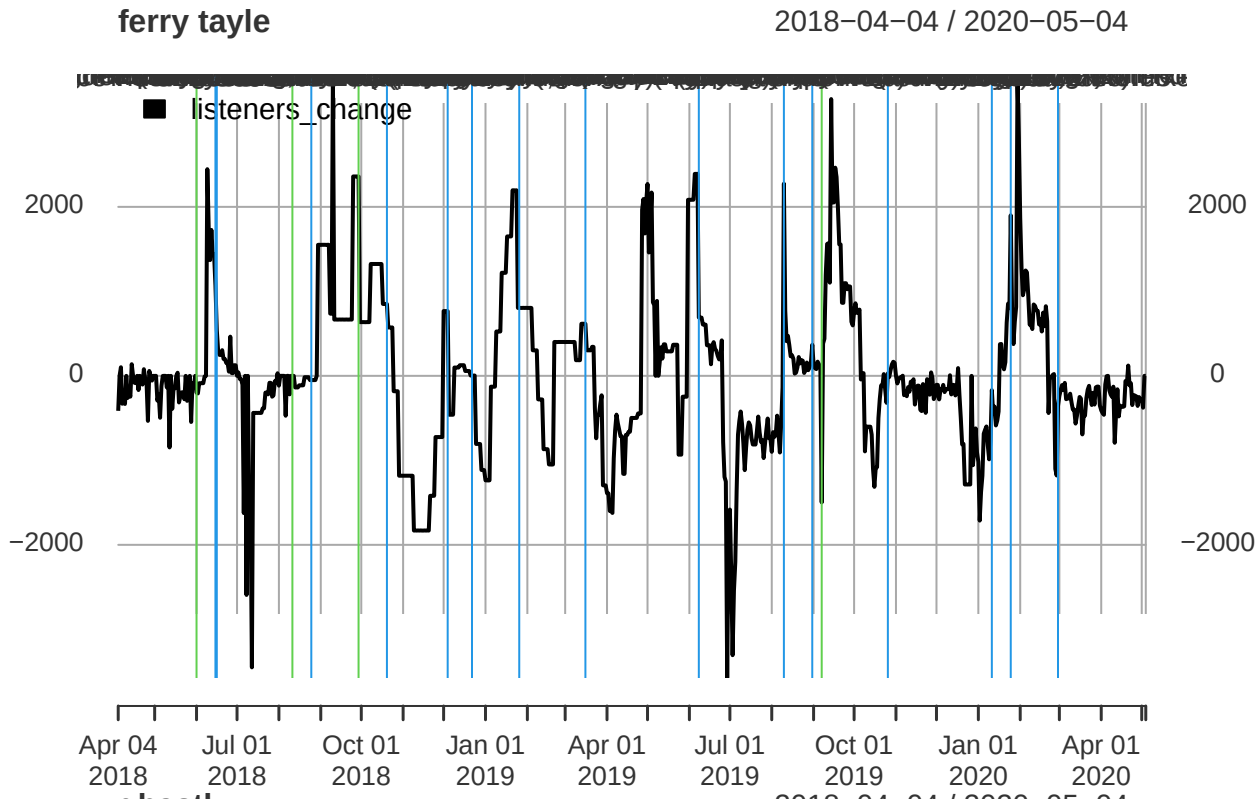
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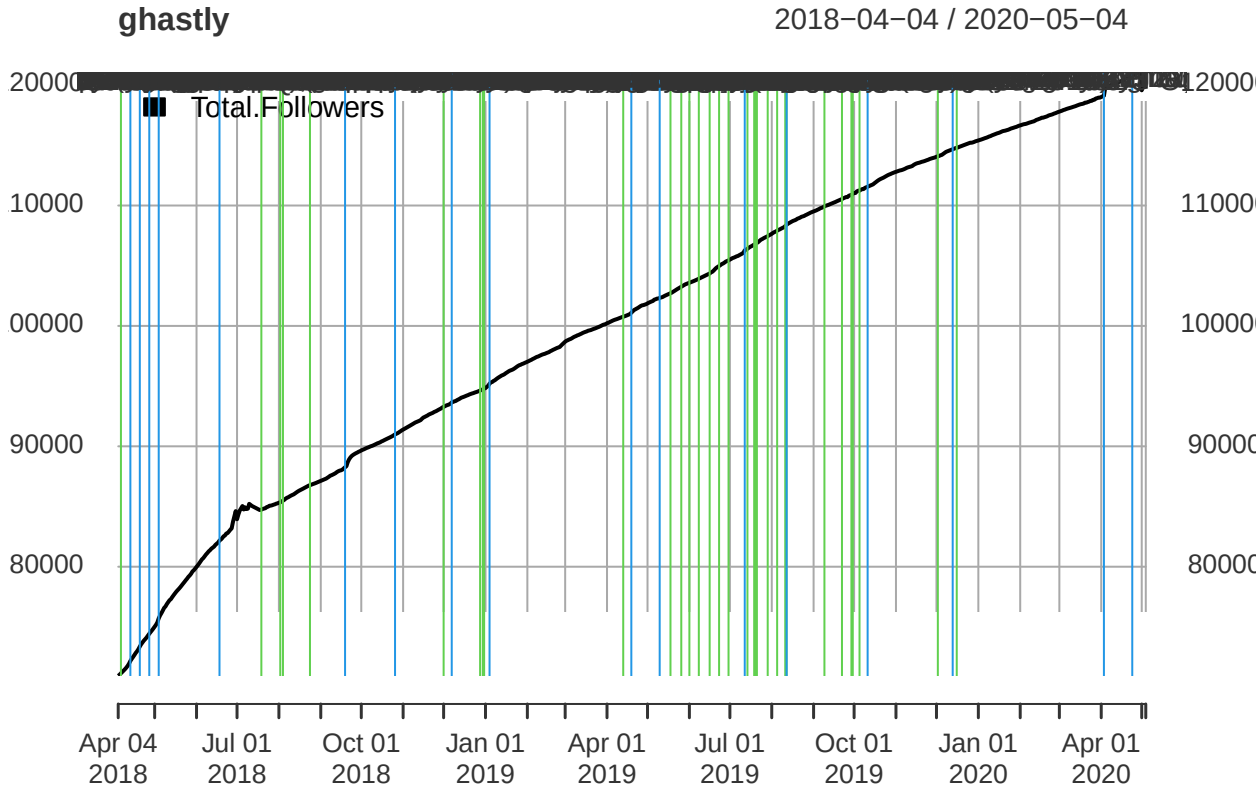
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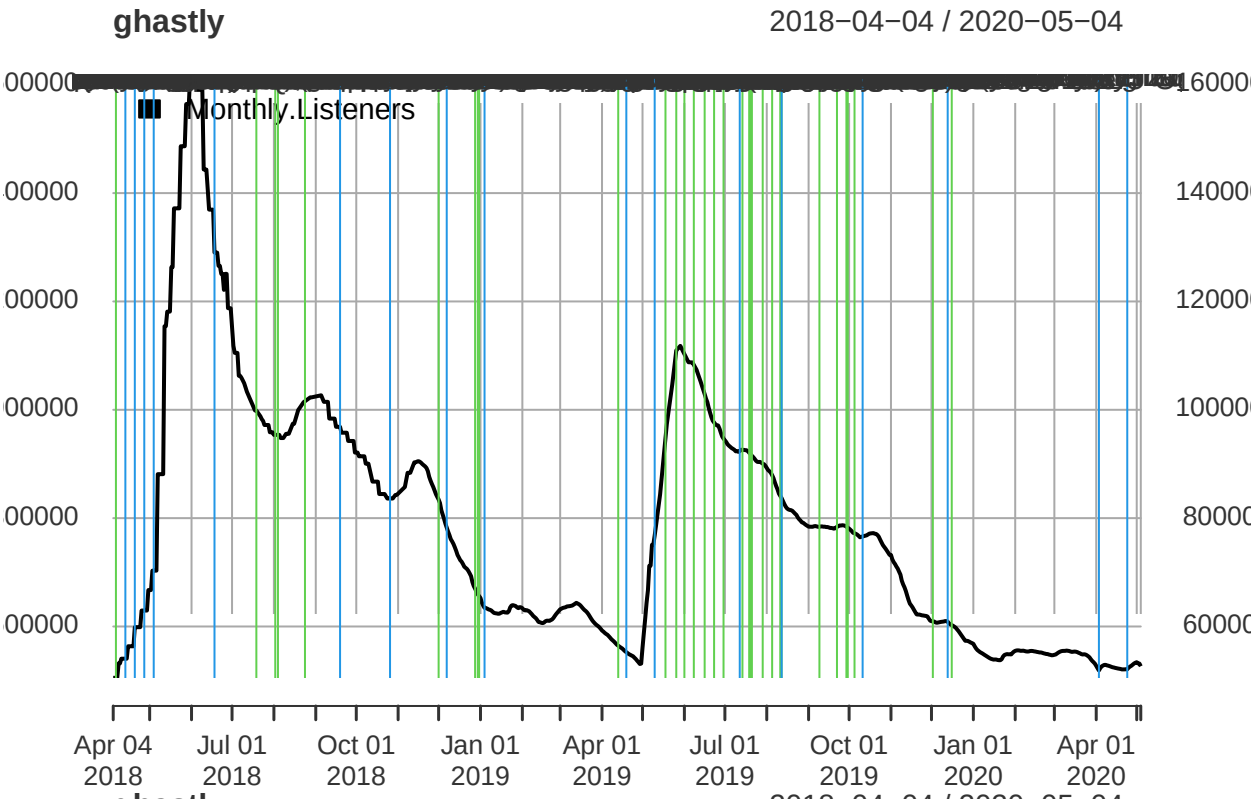
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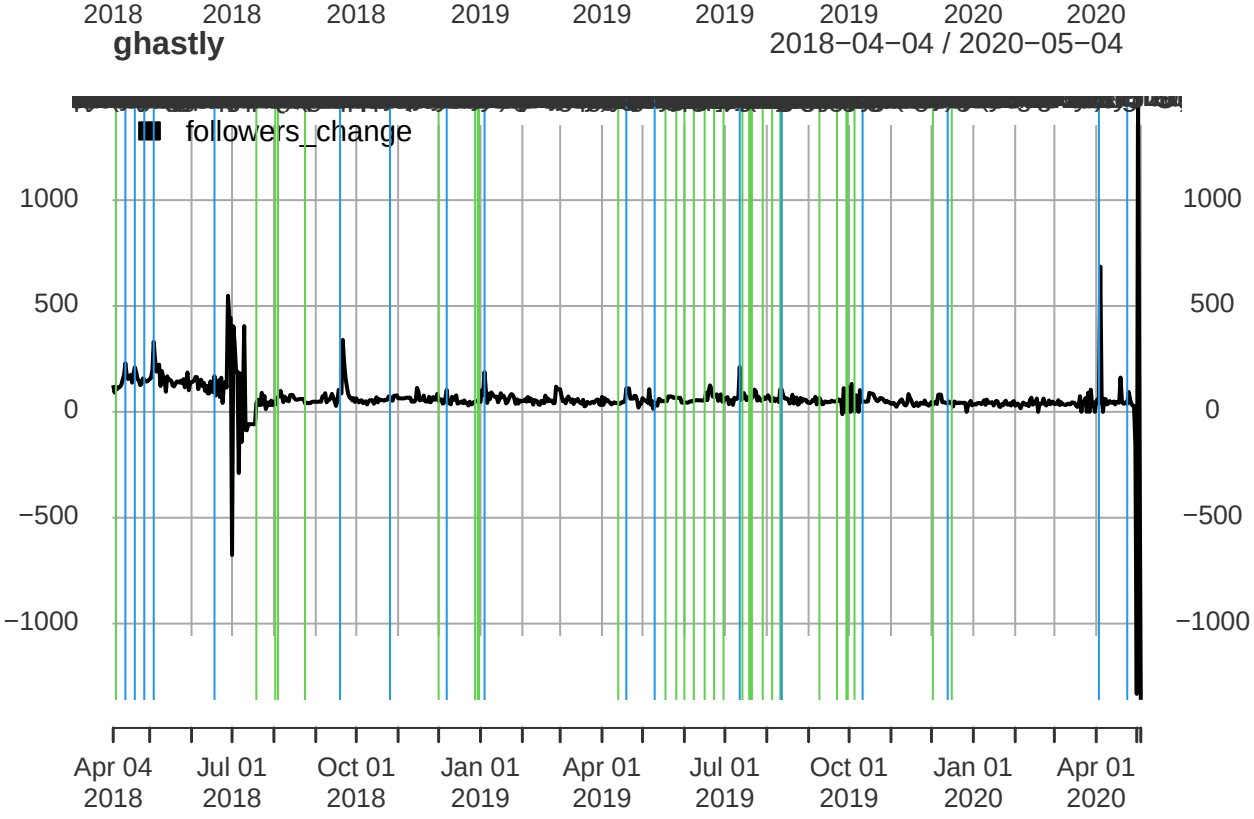
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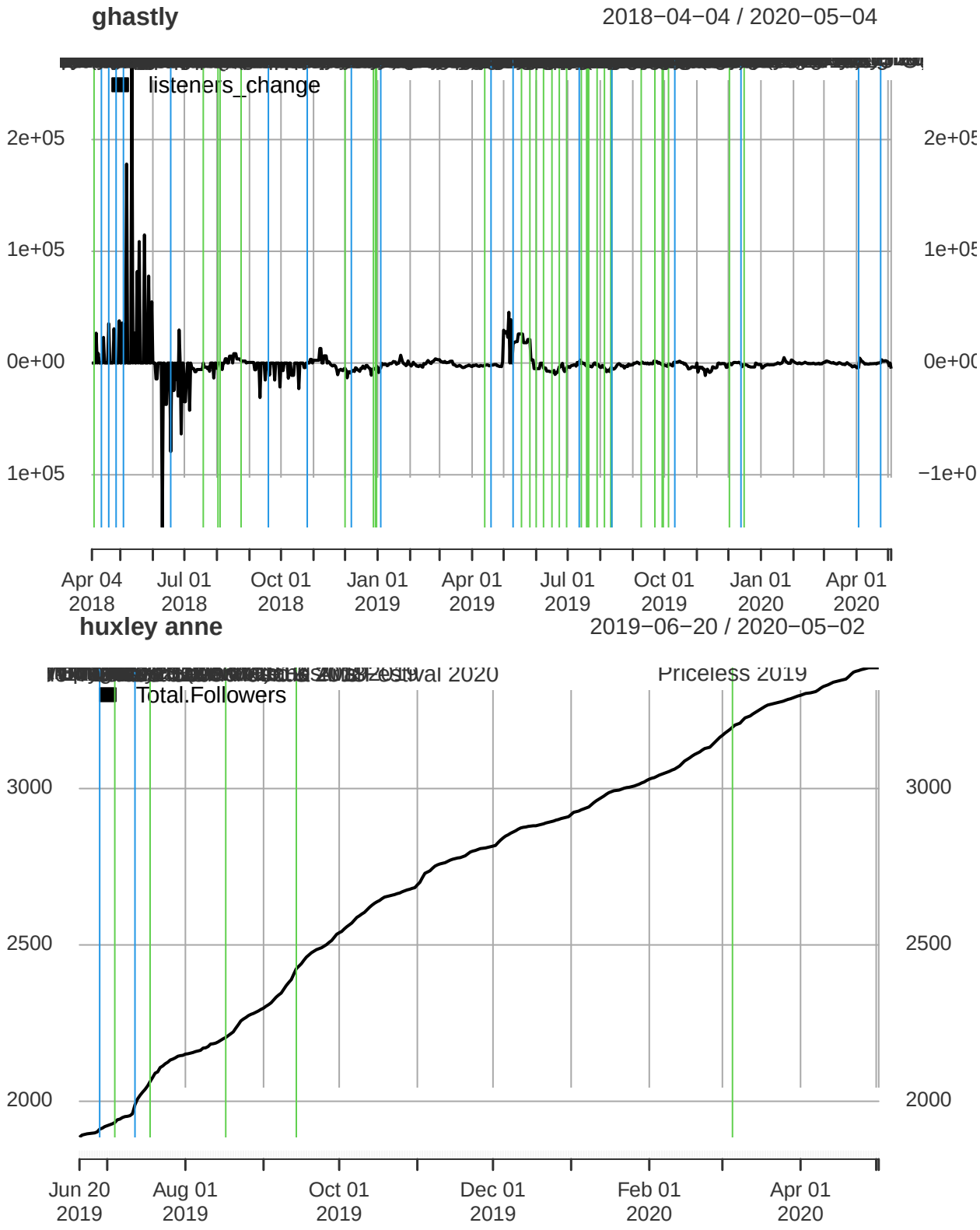
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2019−06−20 / 2020−05−02
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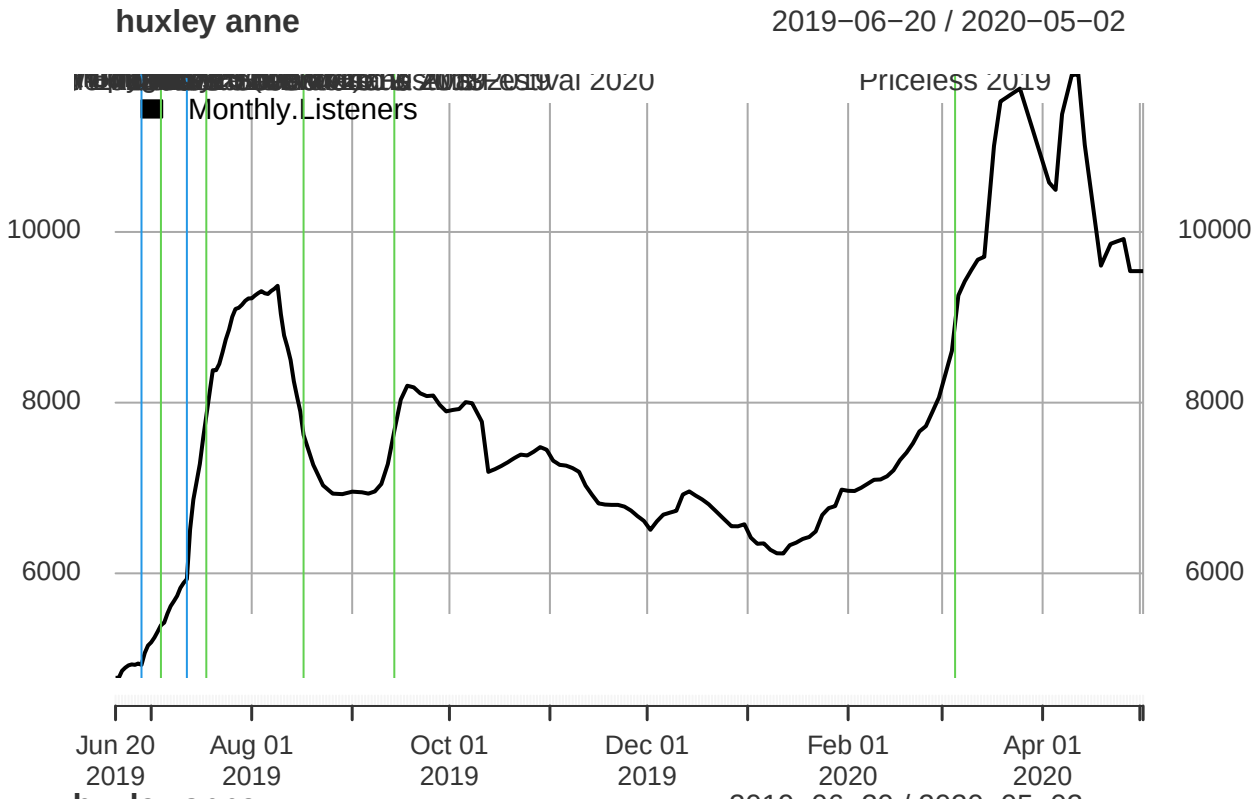
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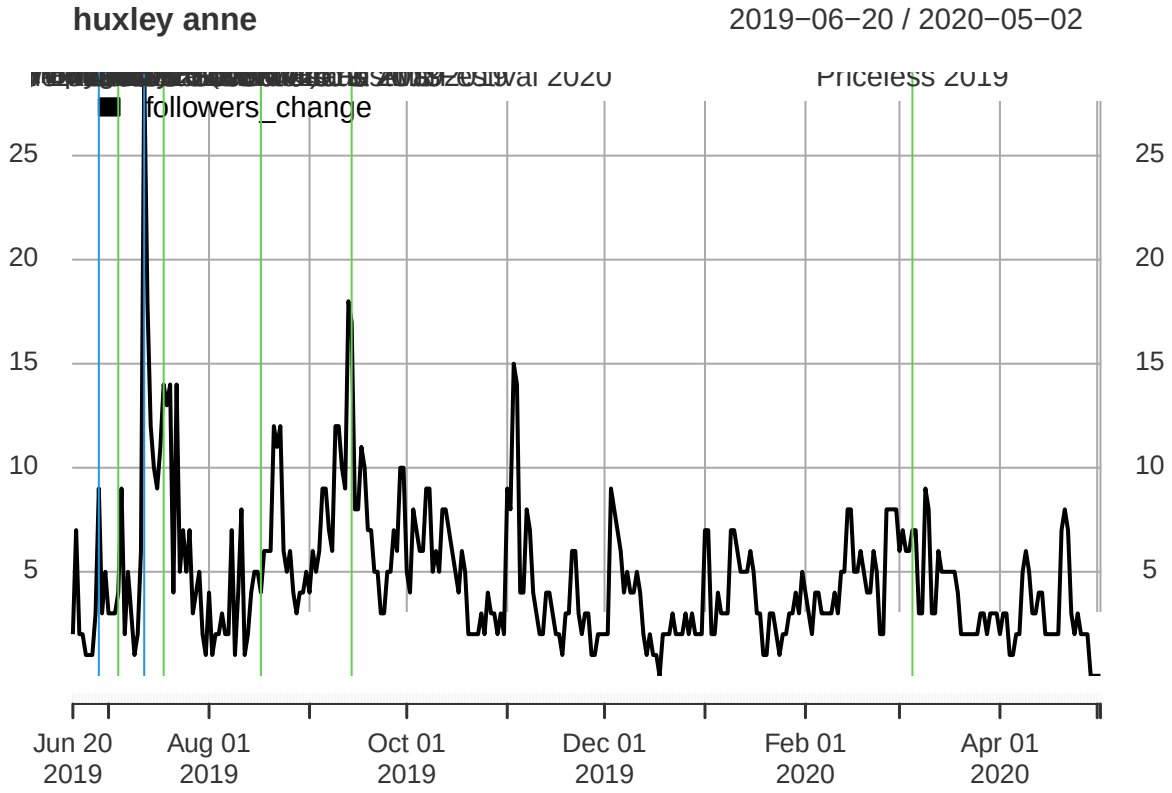
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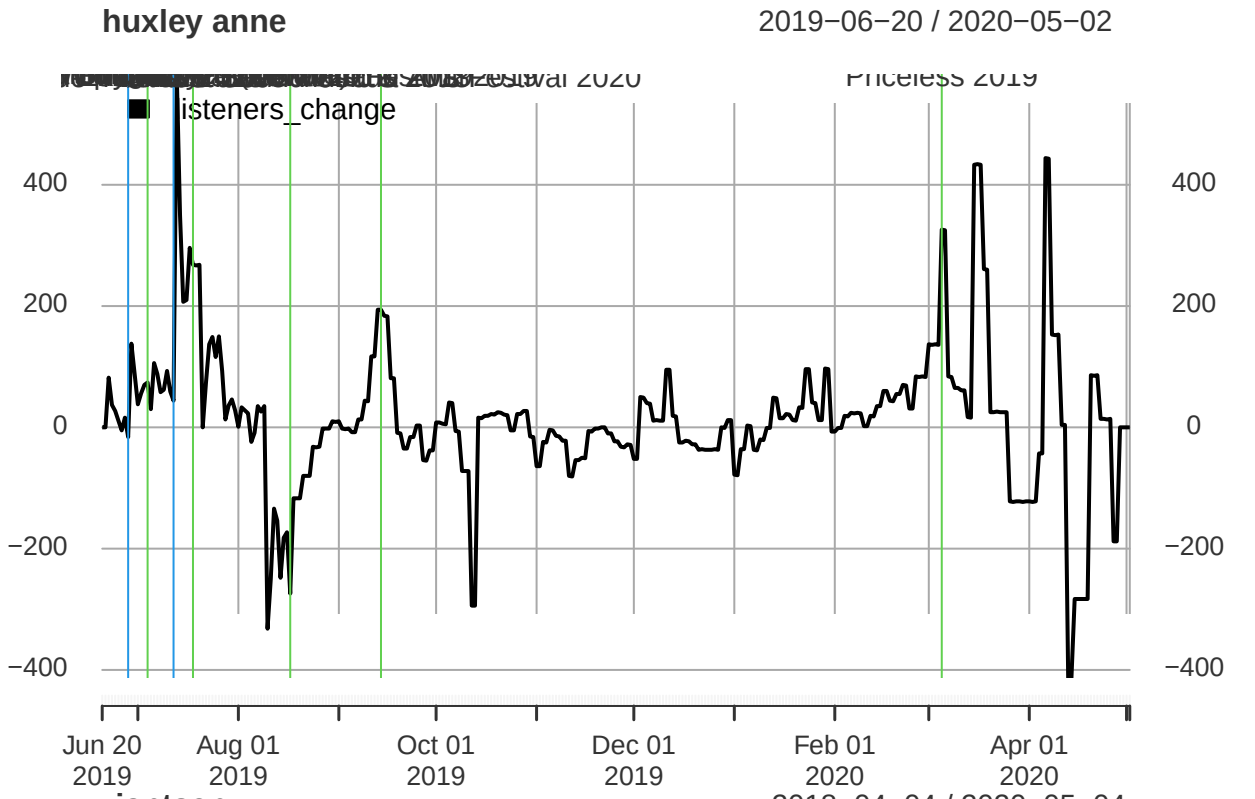
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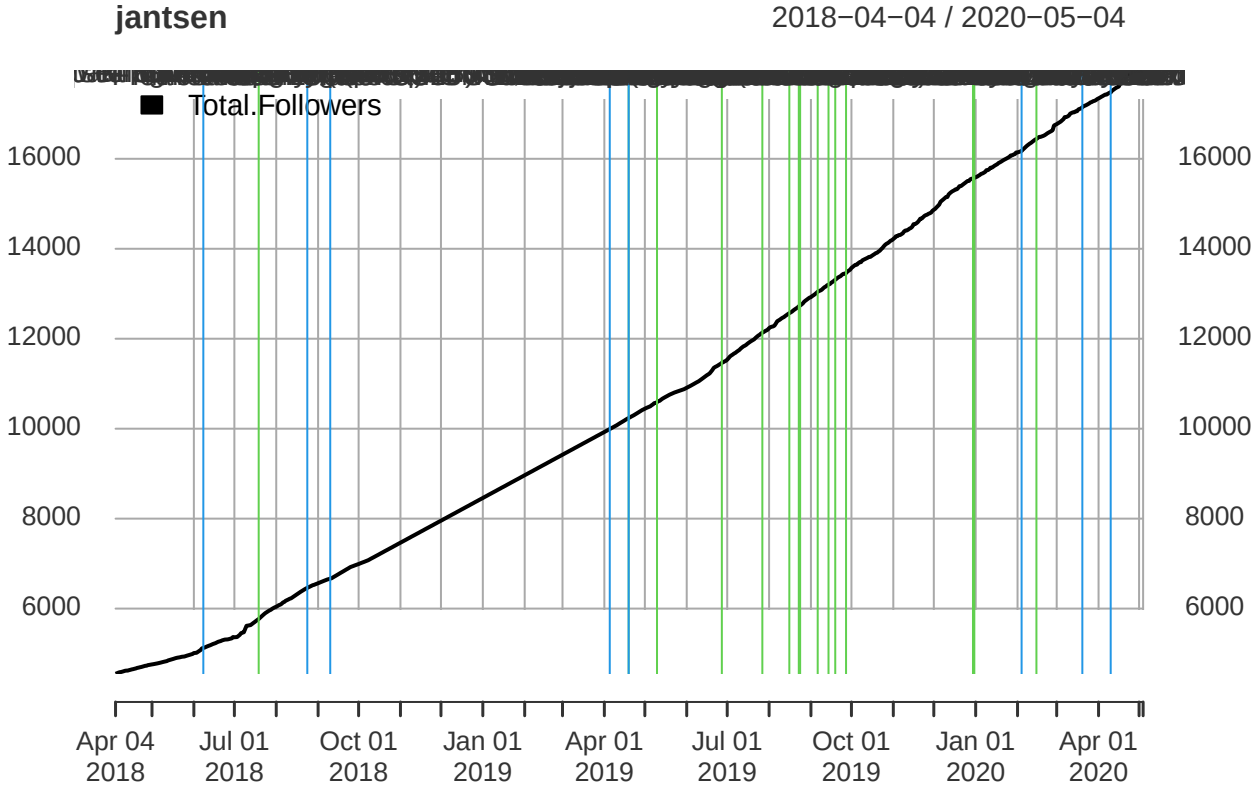
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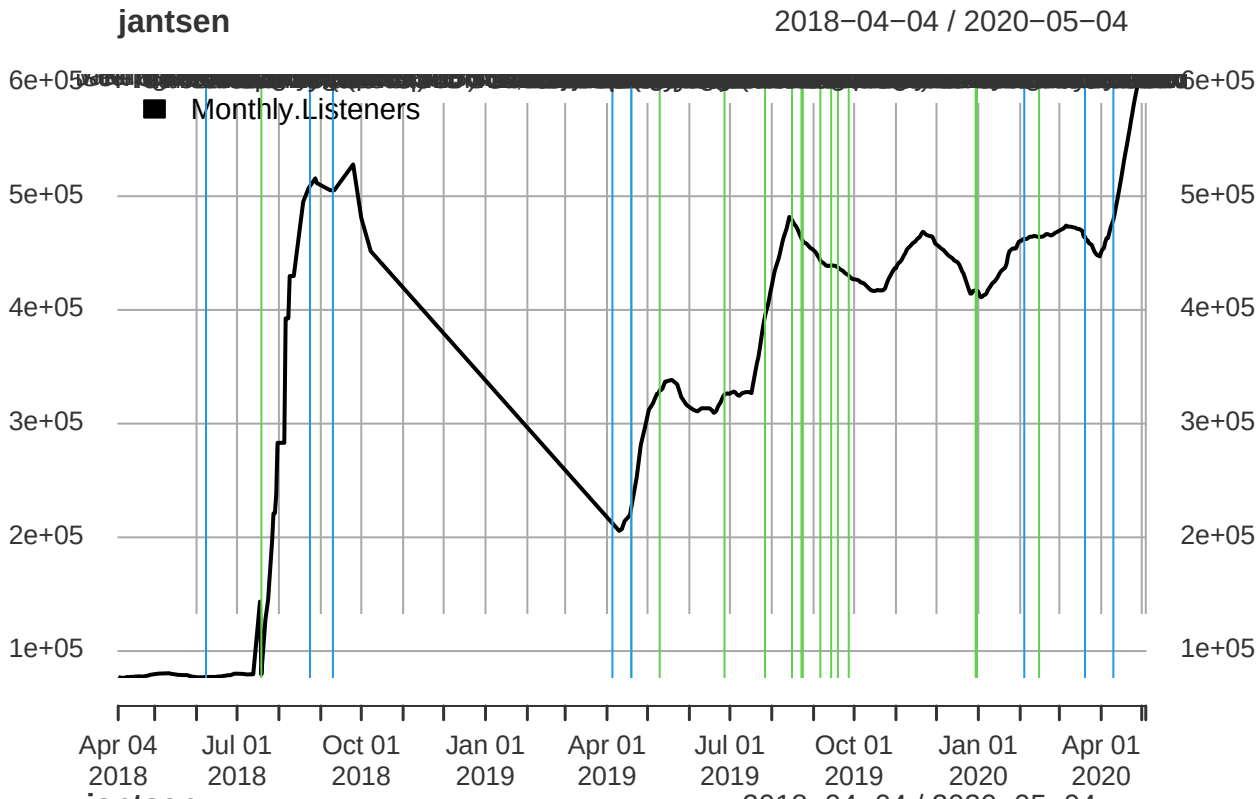
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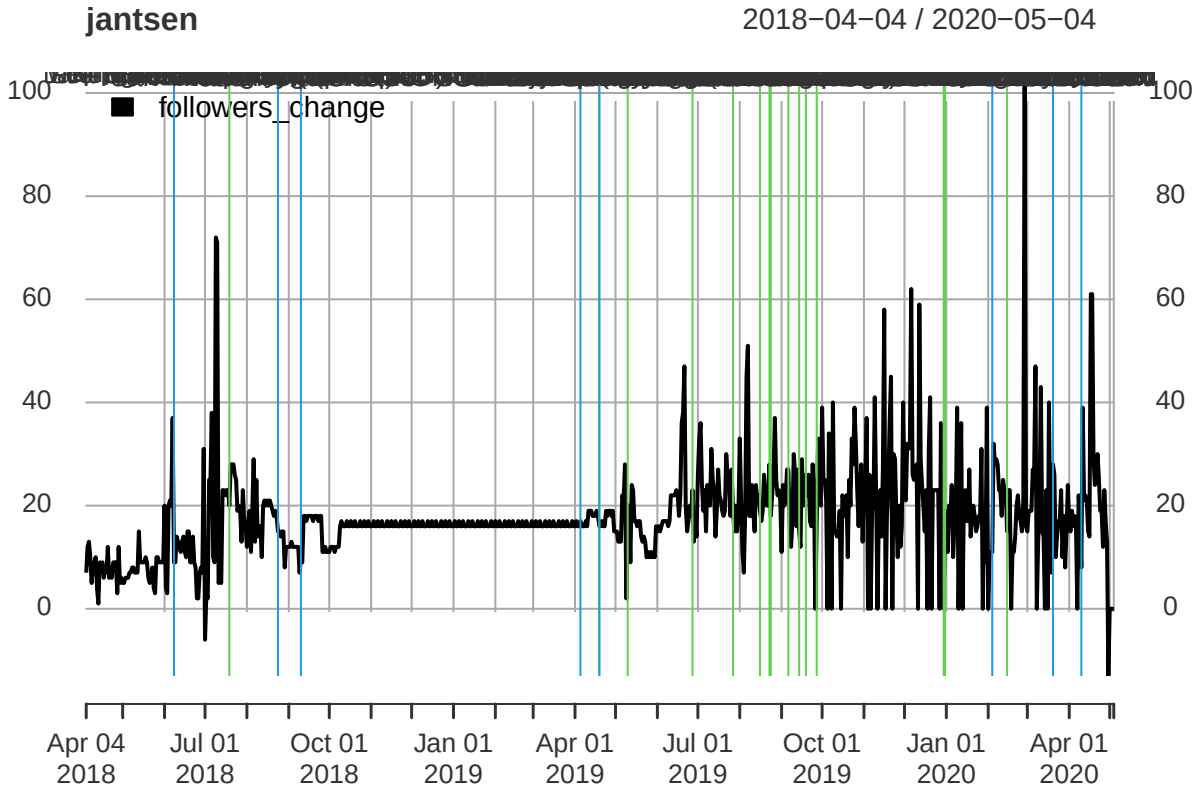
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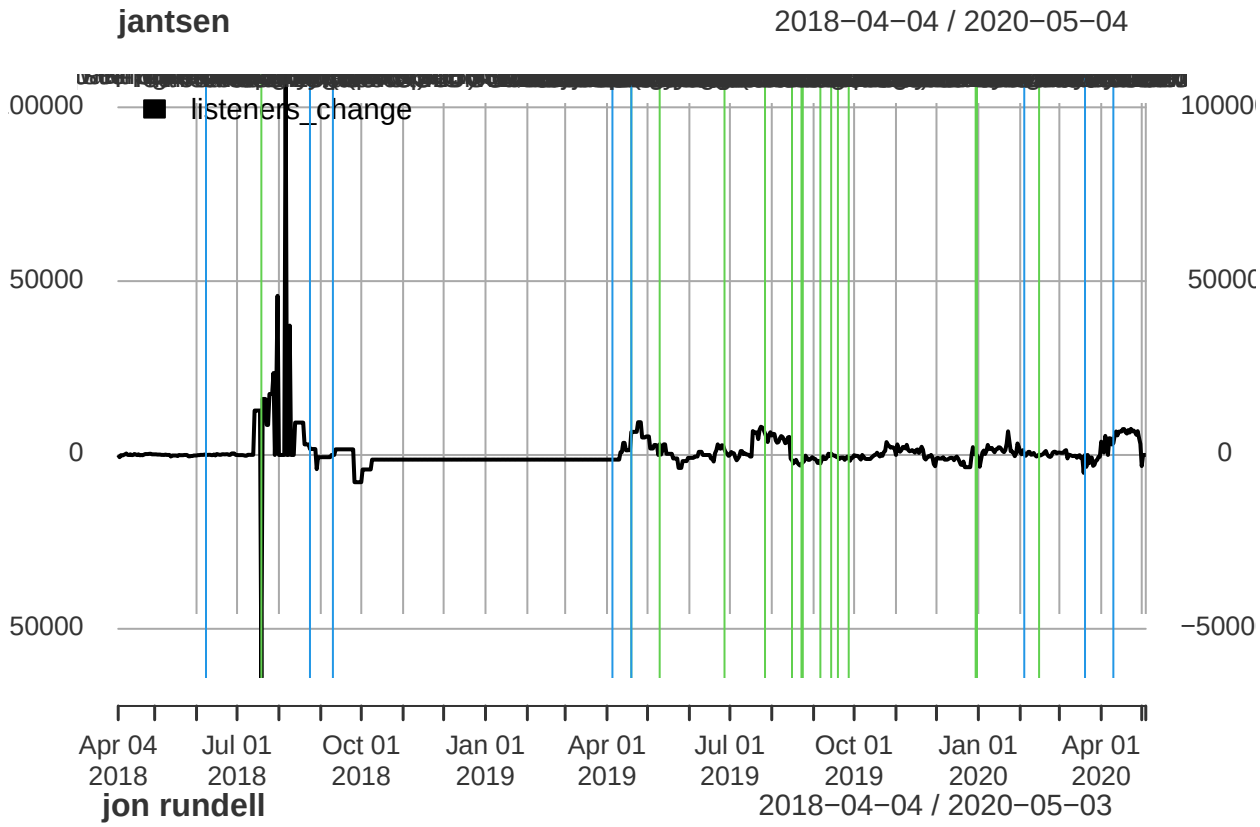
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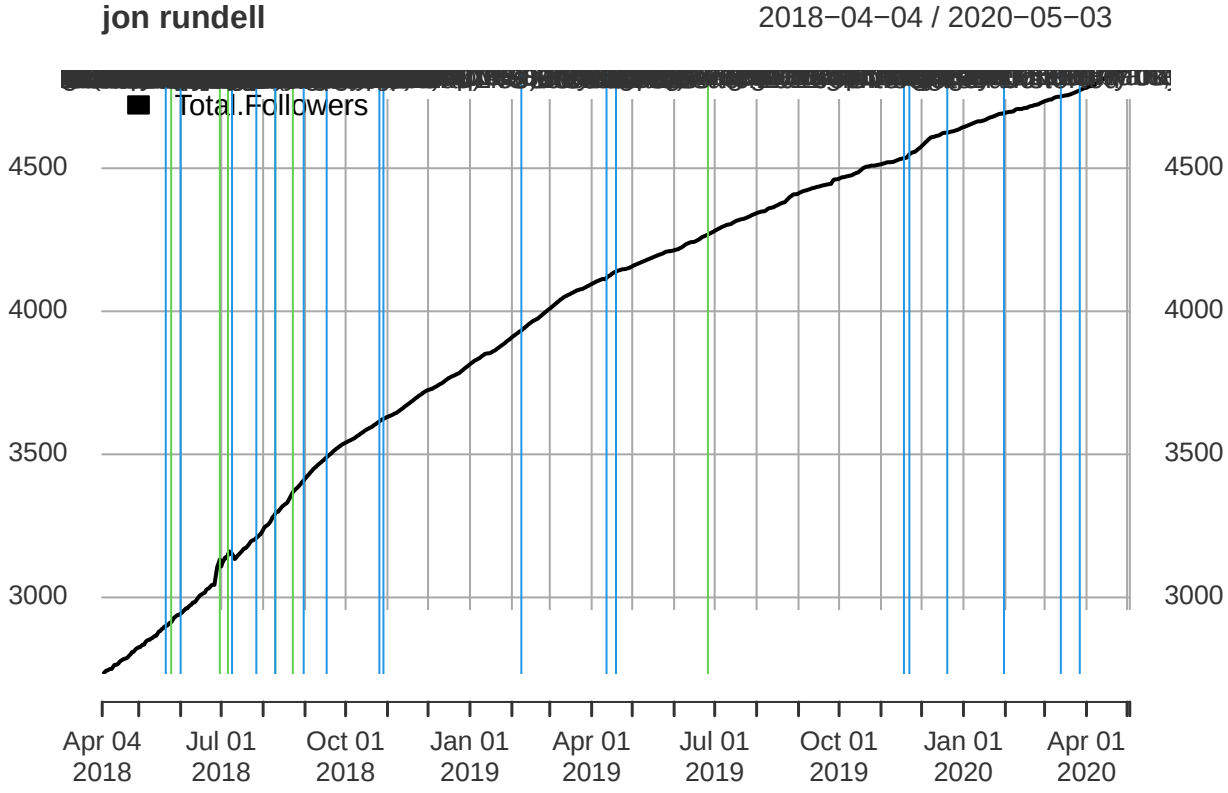
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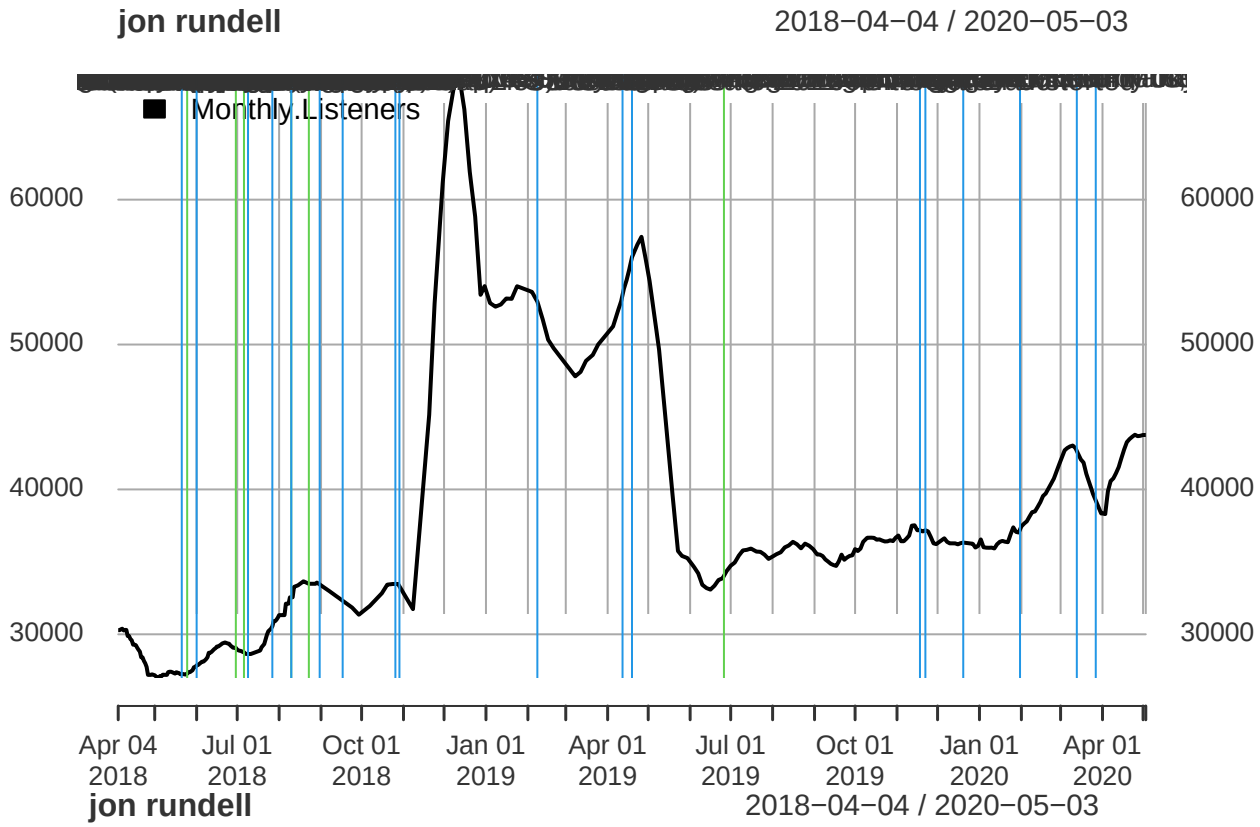
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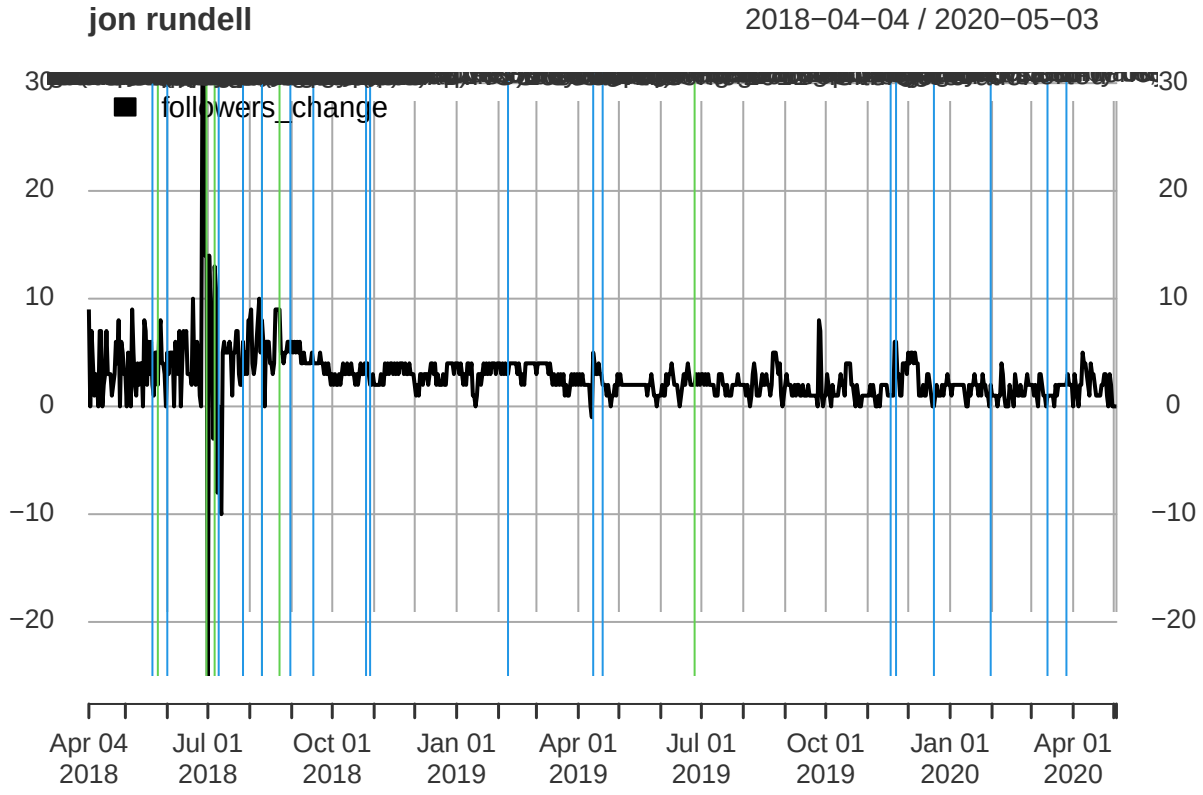
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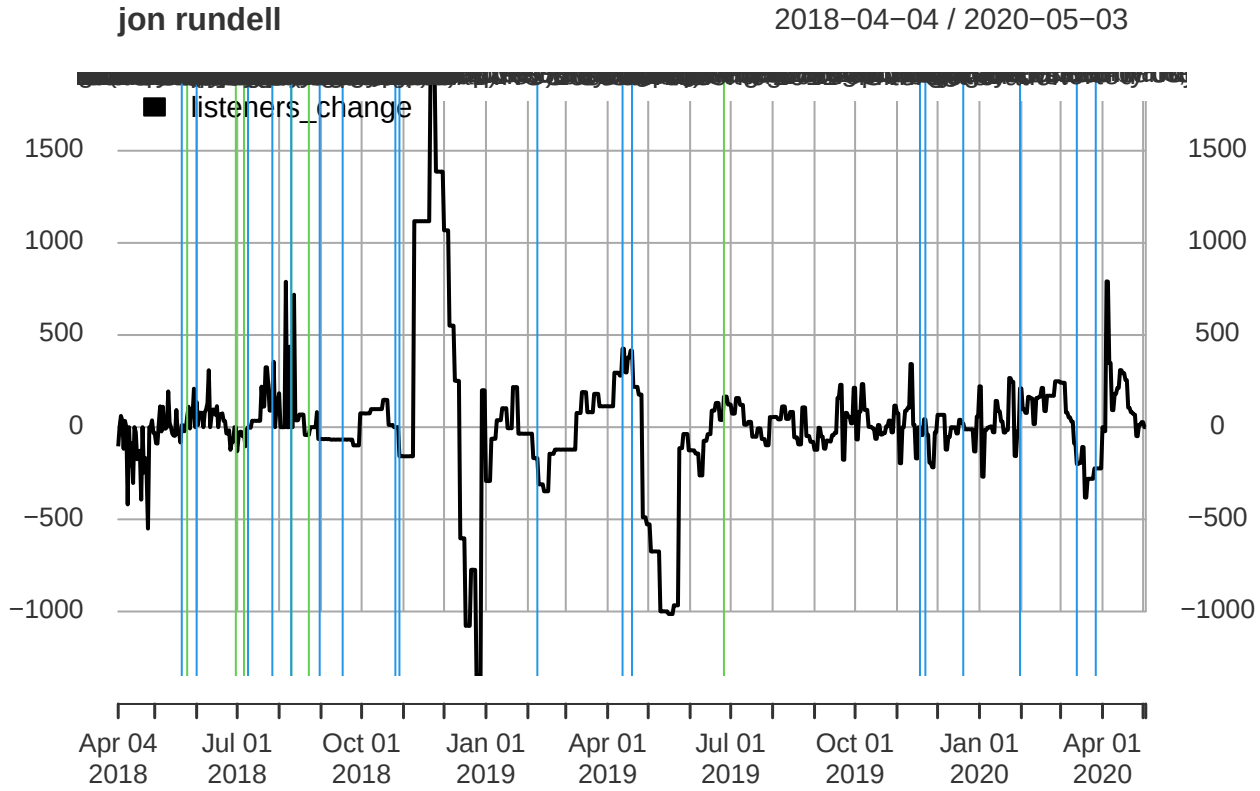
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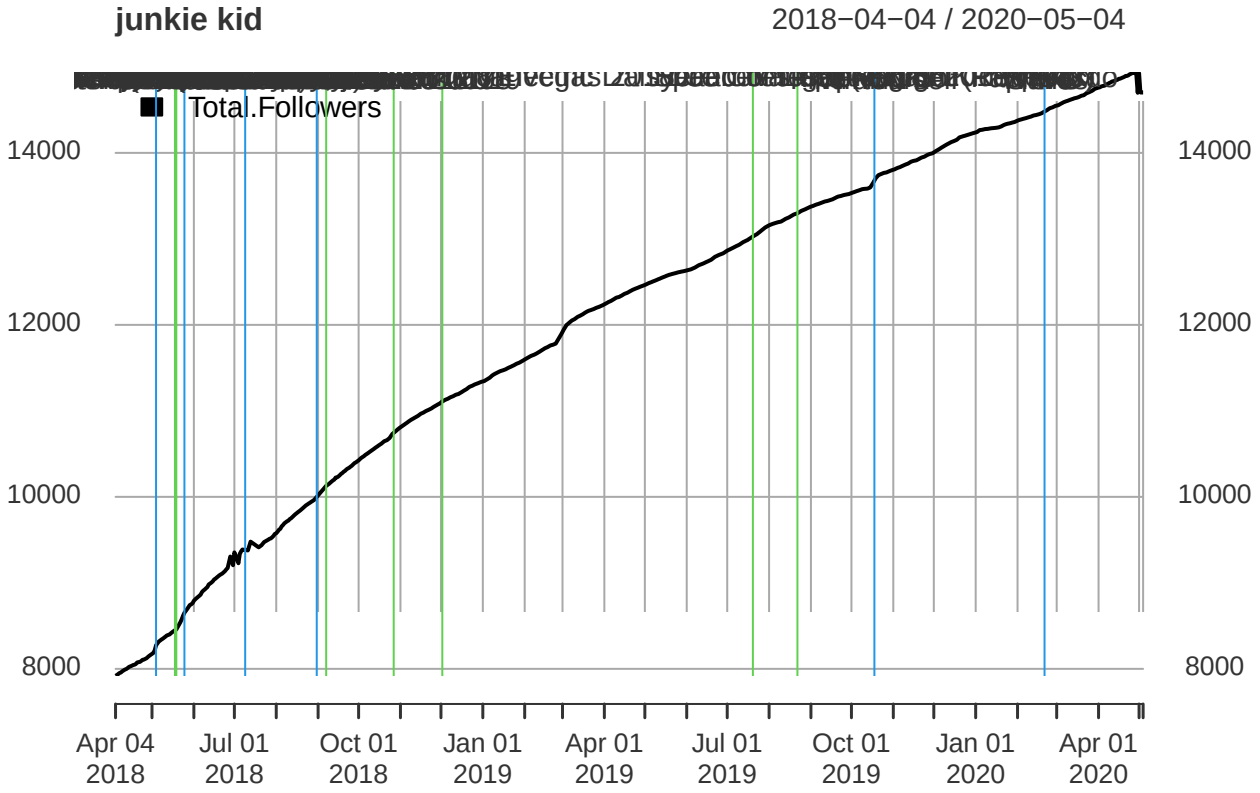
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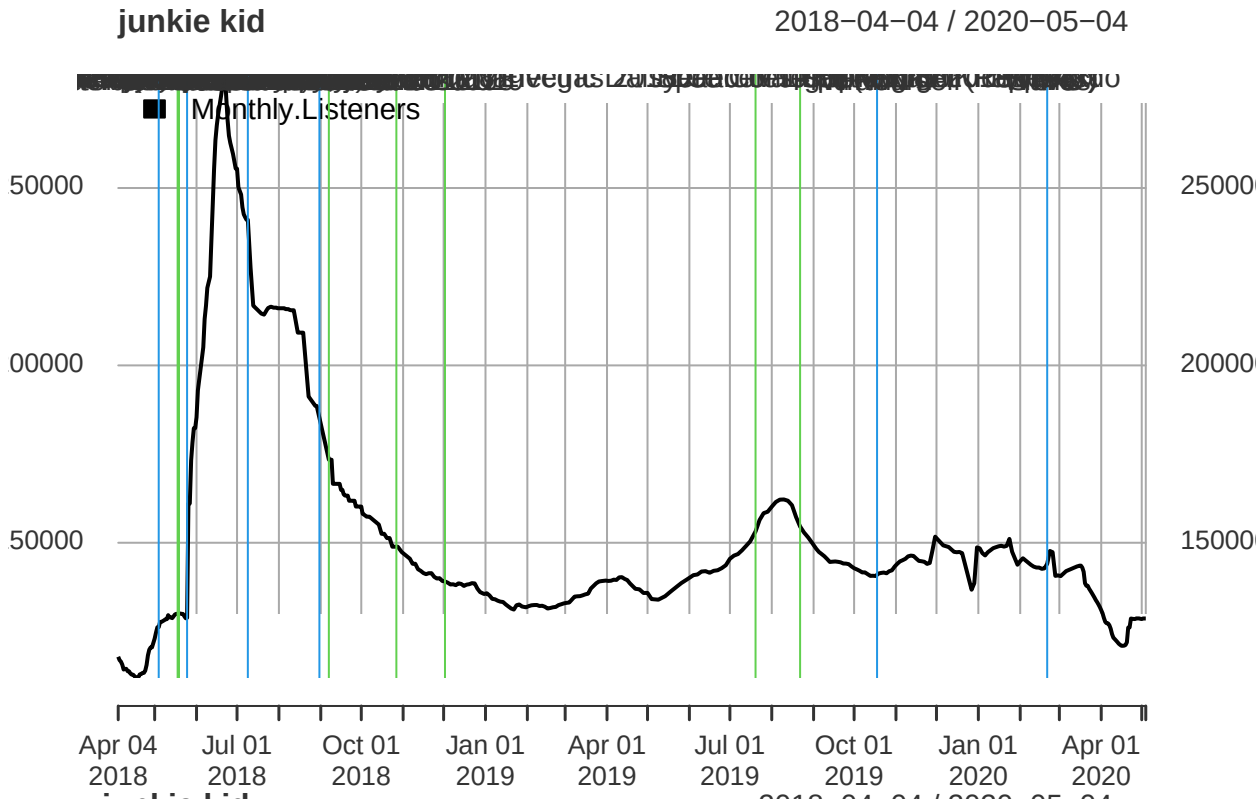
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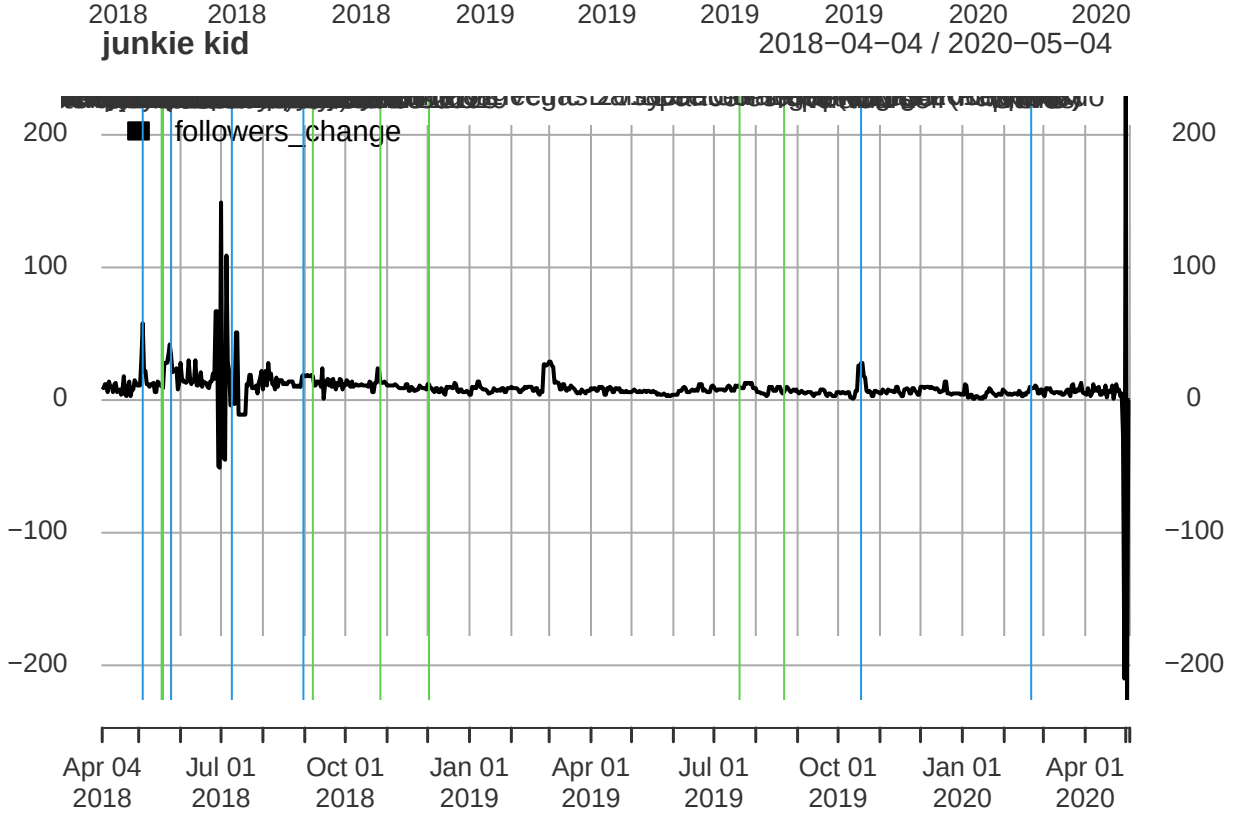
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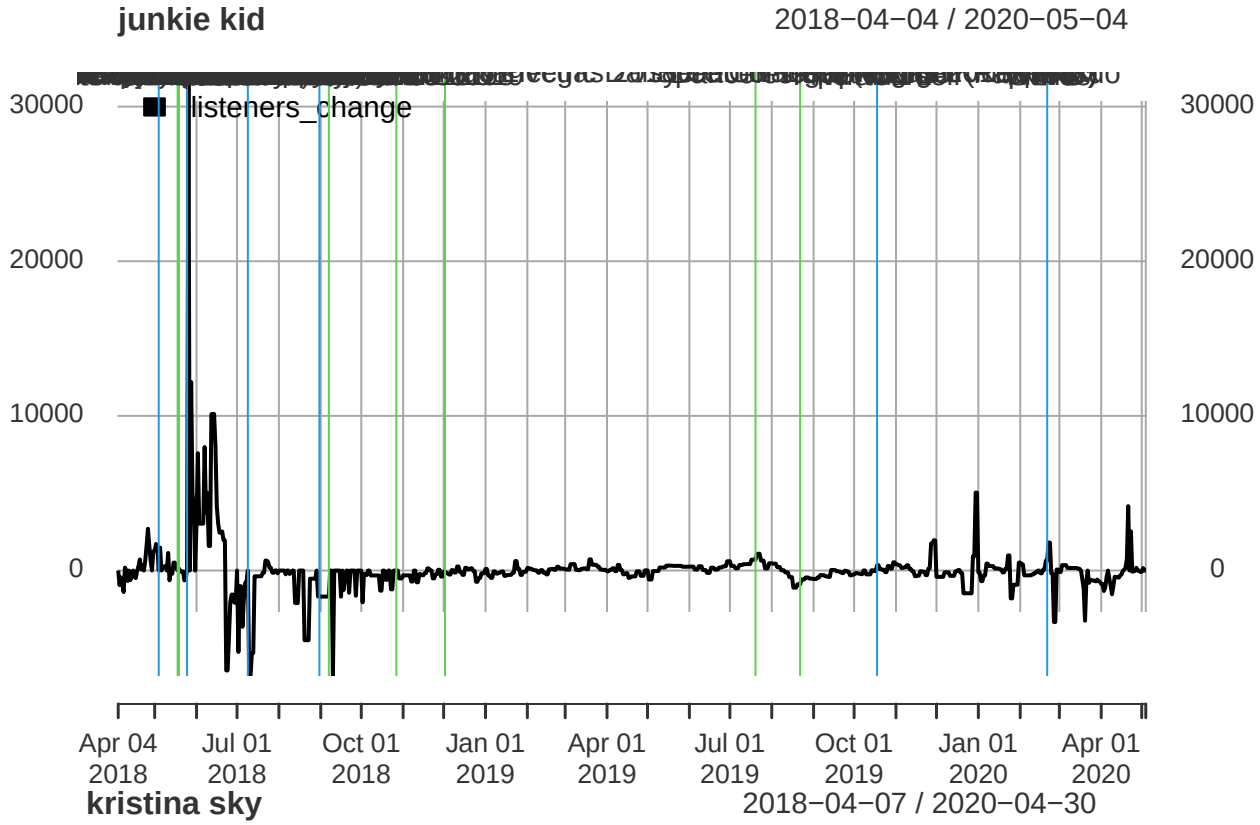
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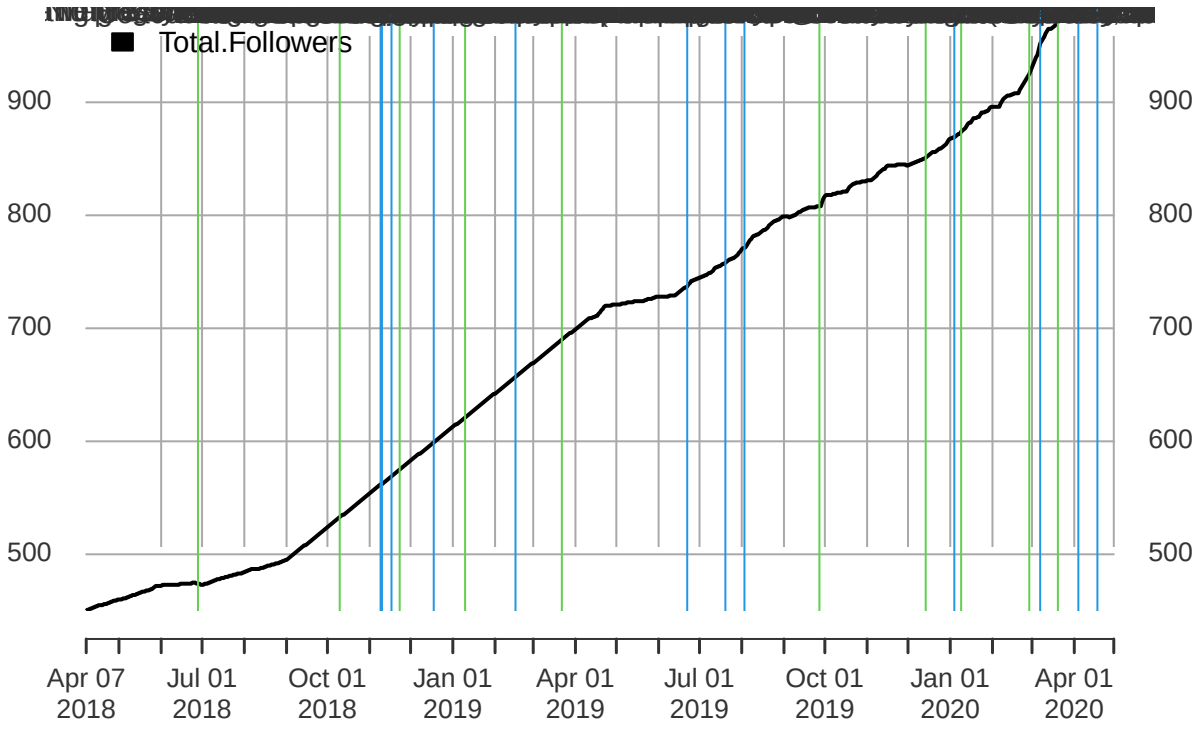
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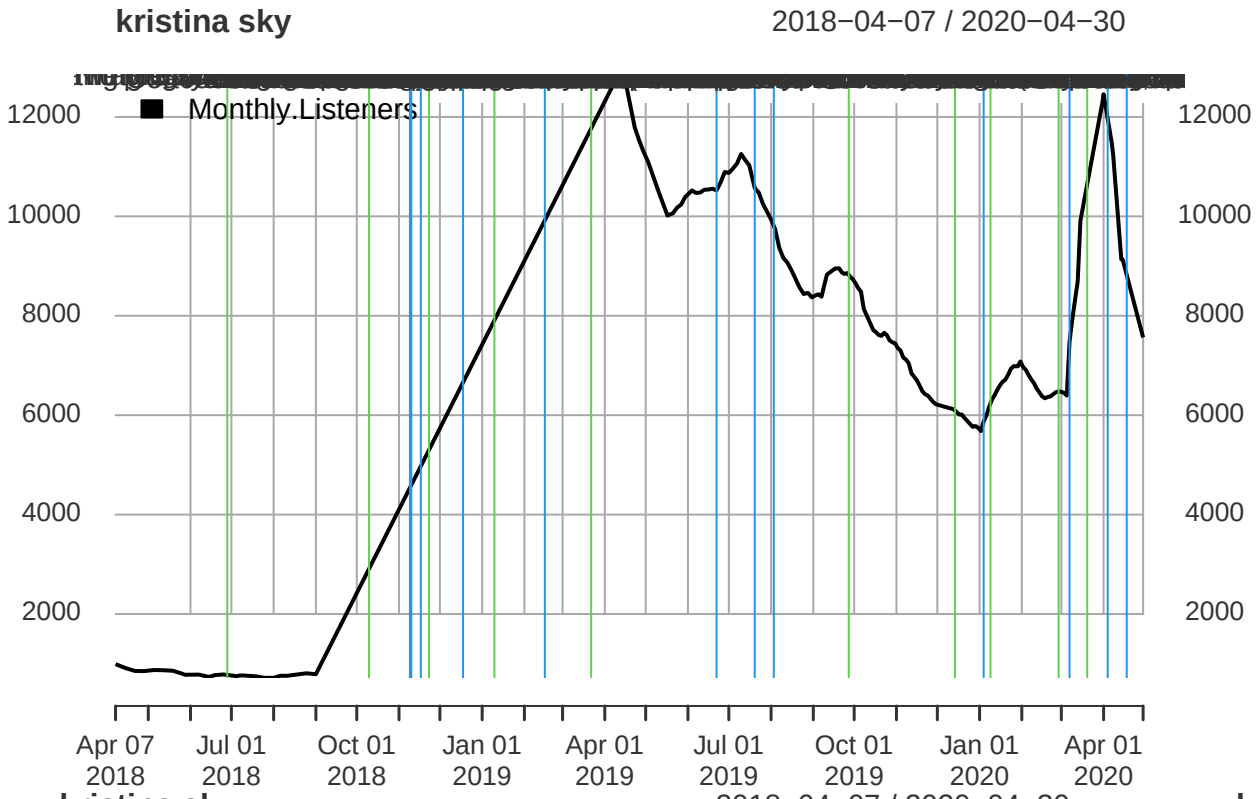
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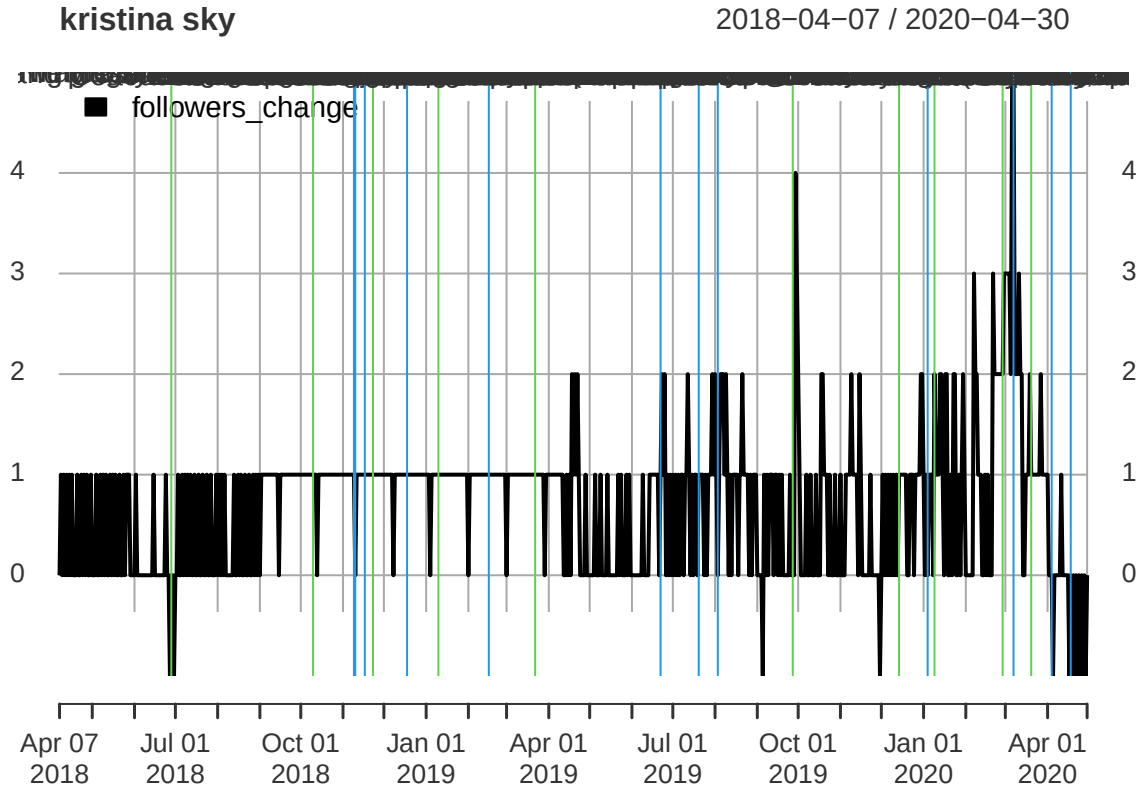
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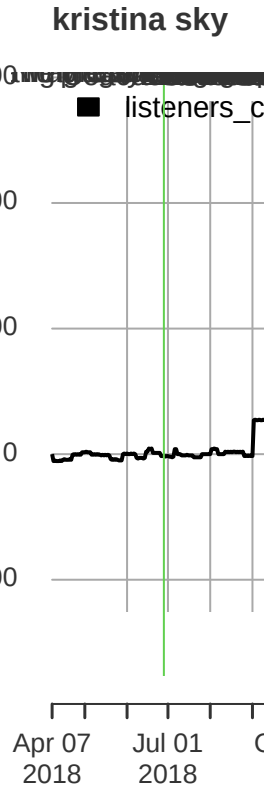
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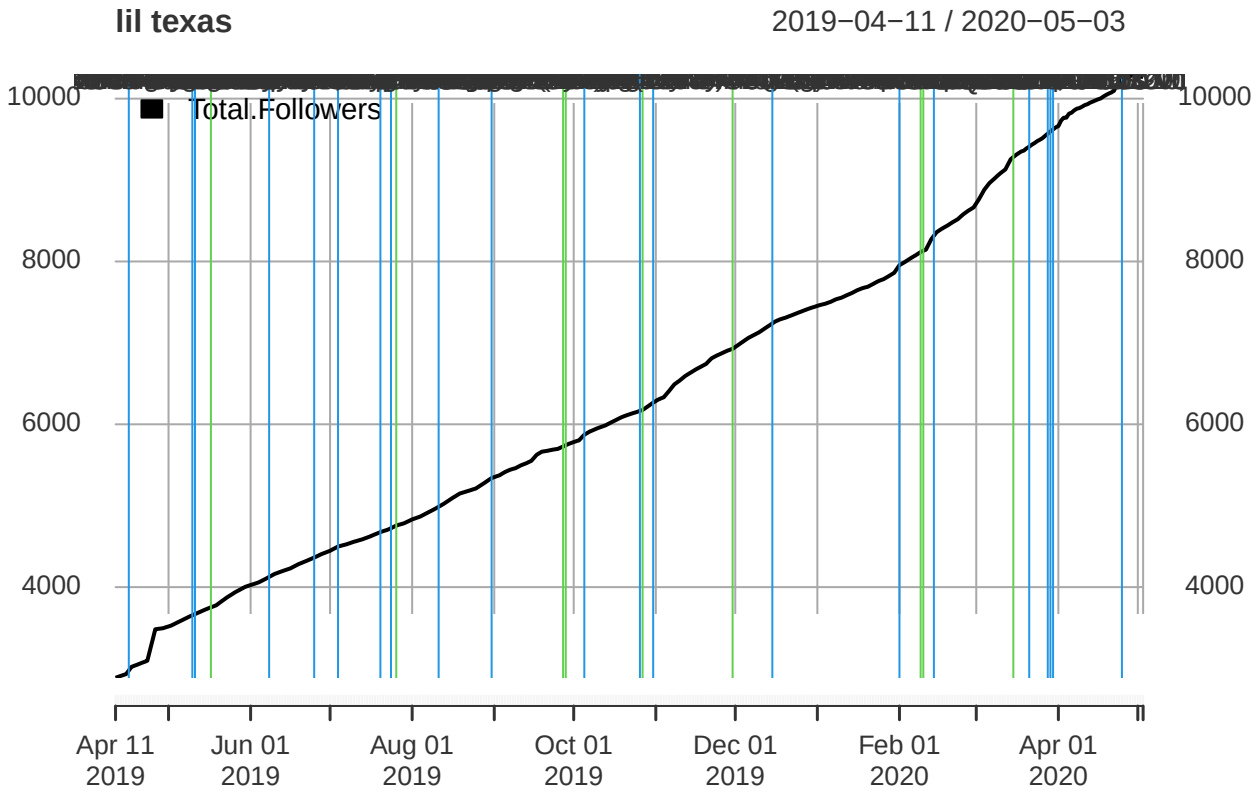
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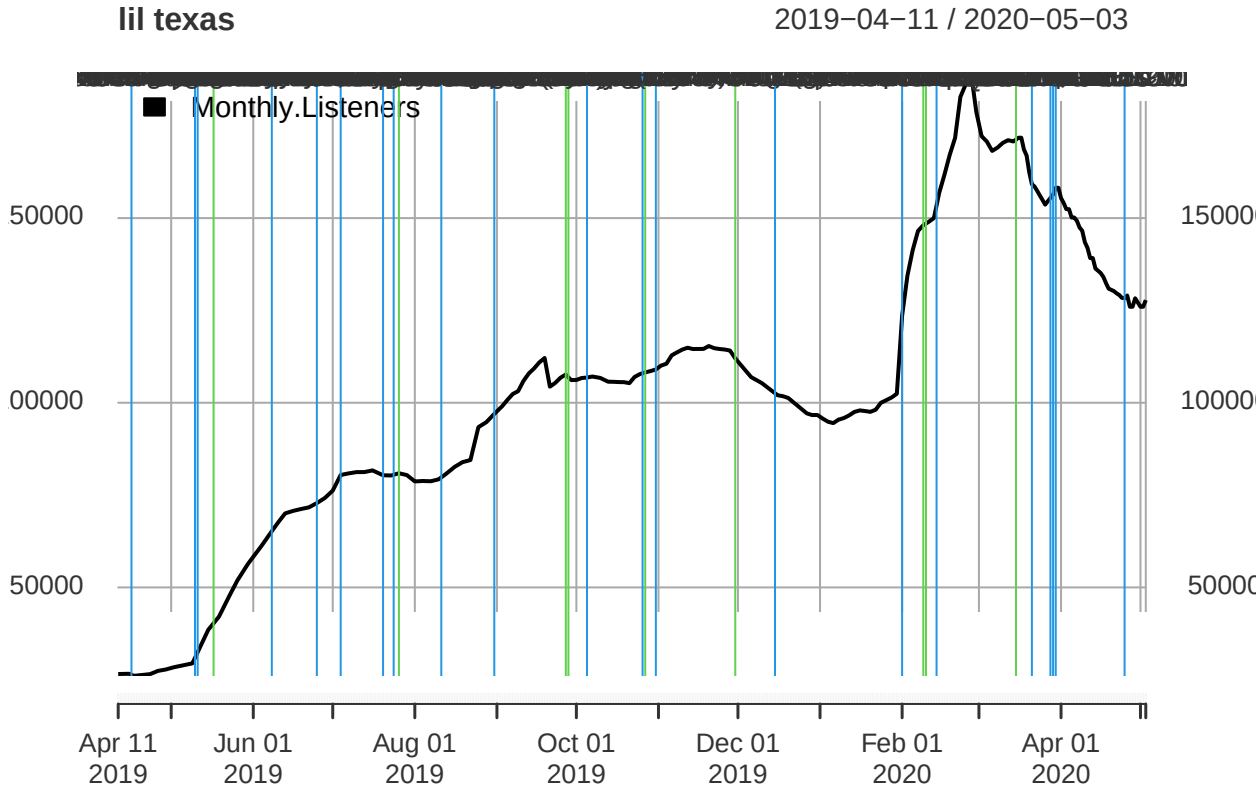
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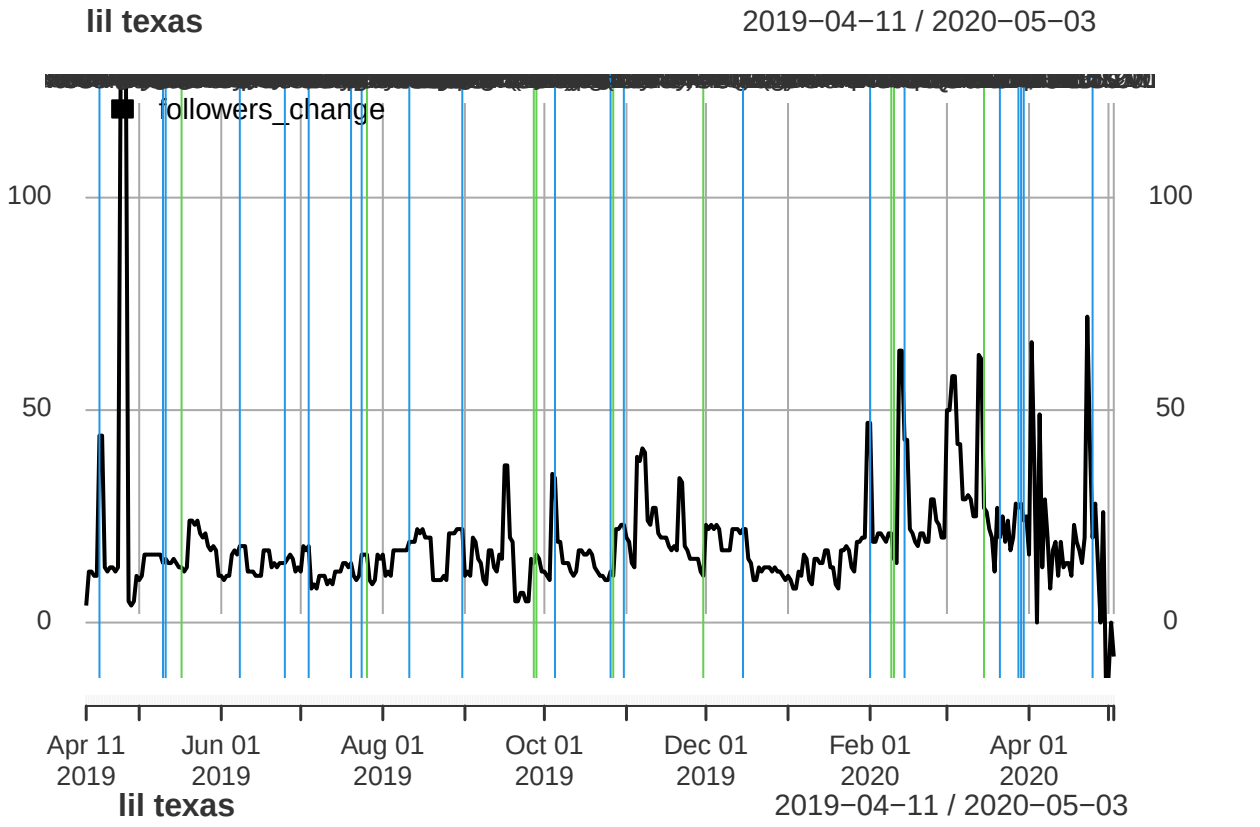
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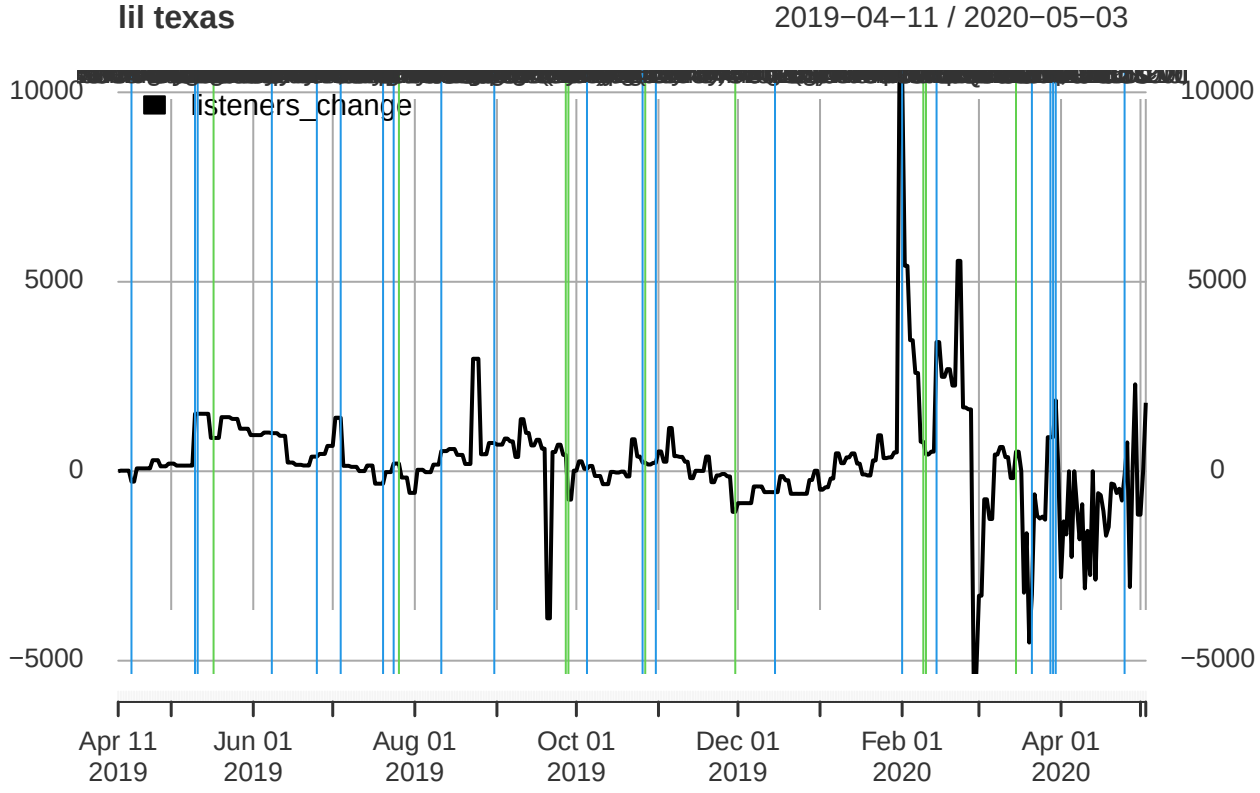
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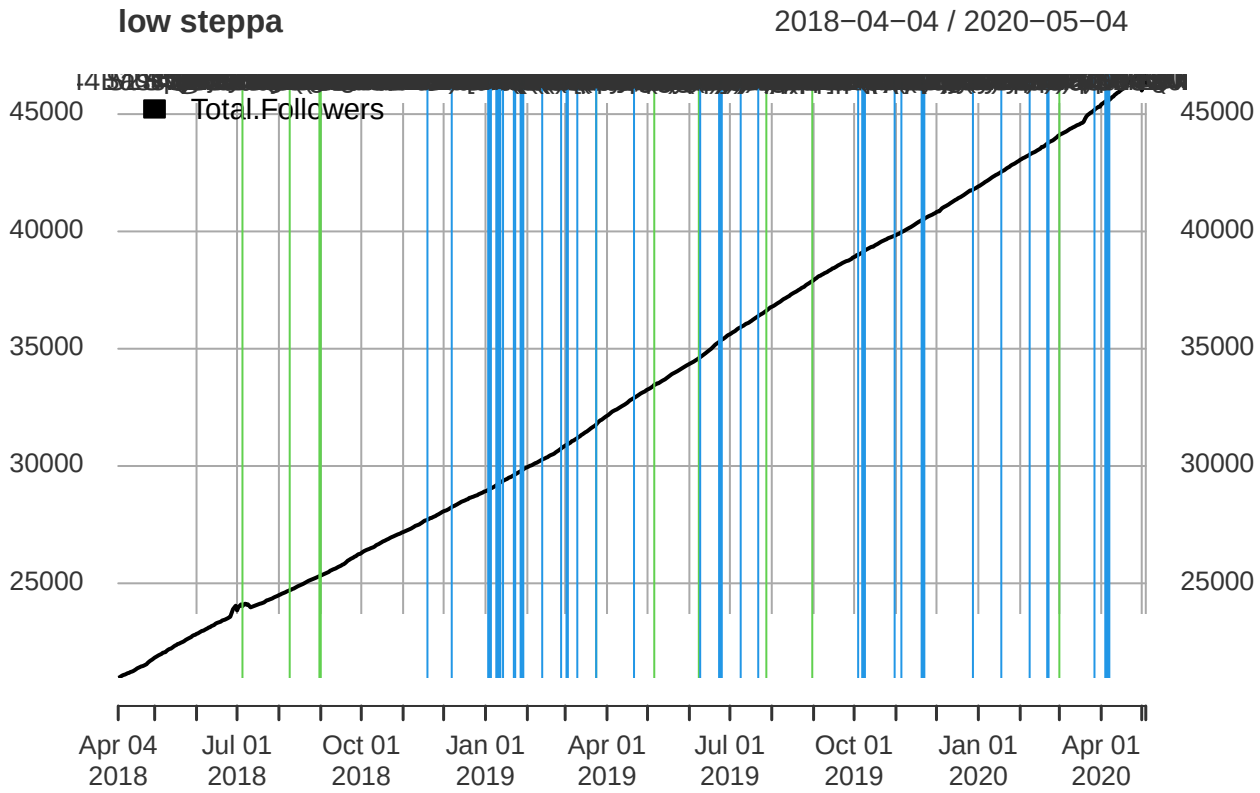
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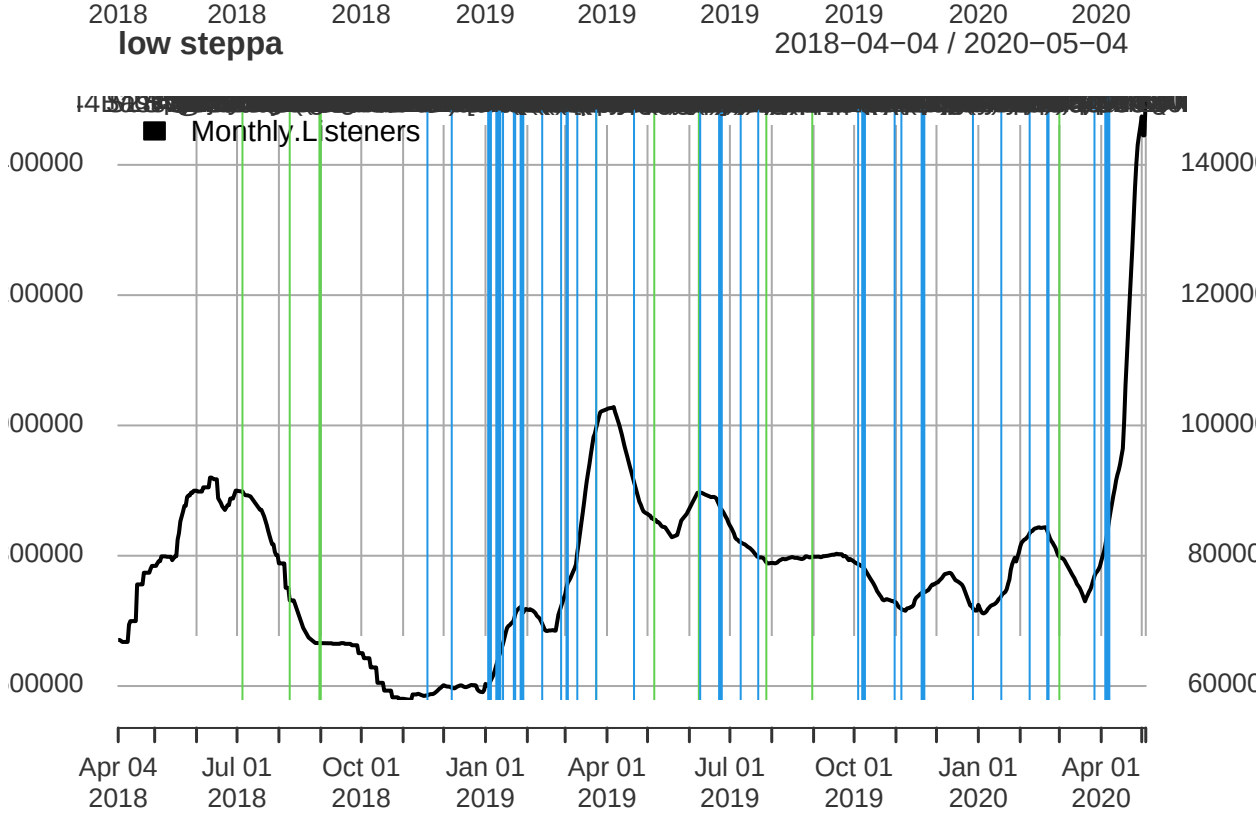
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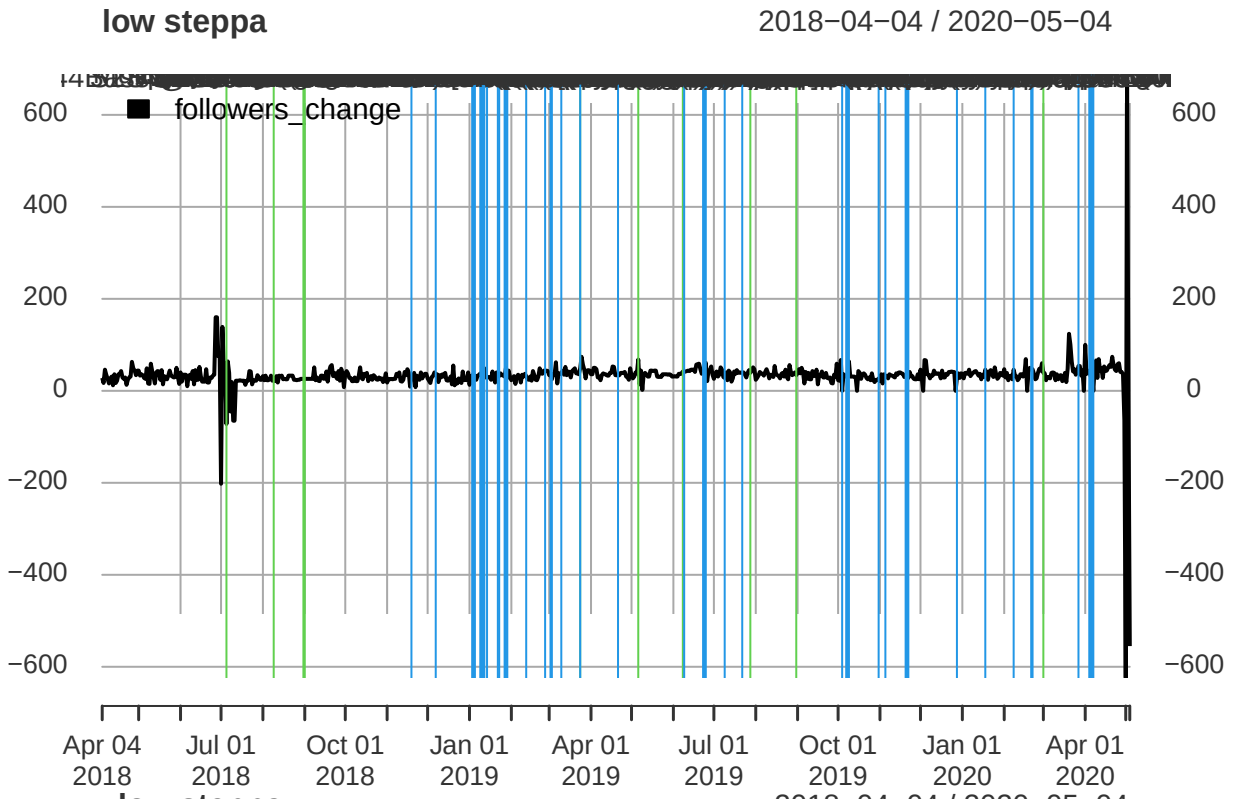
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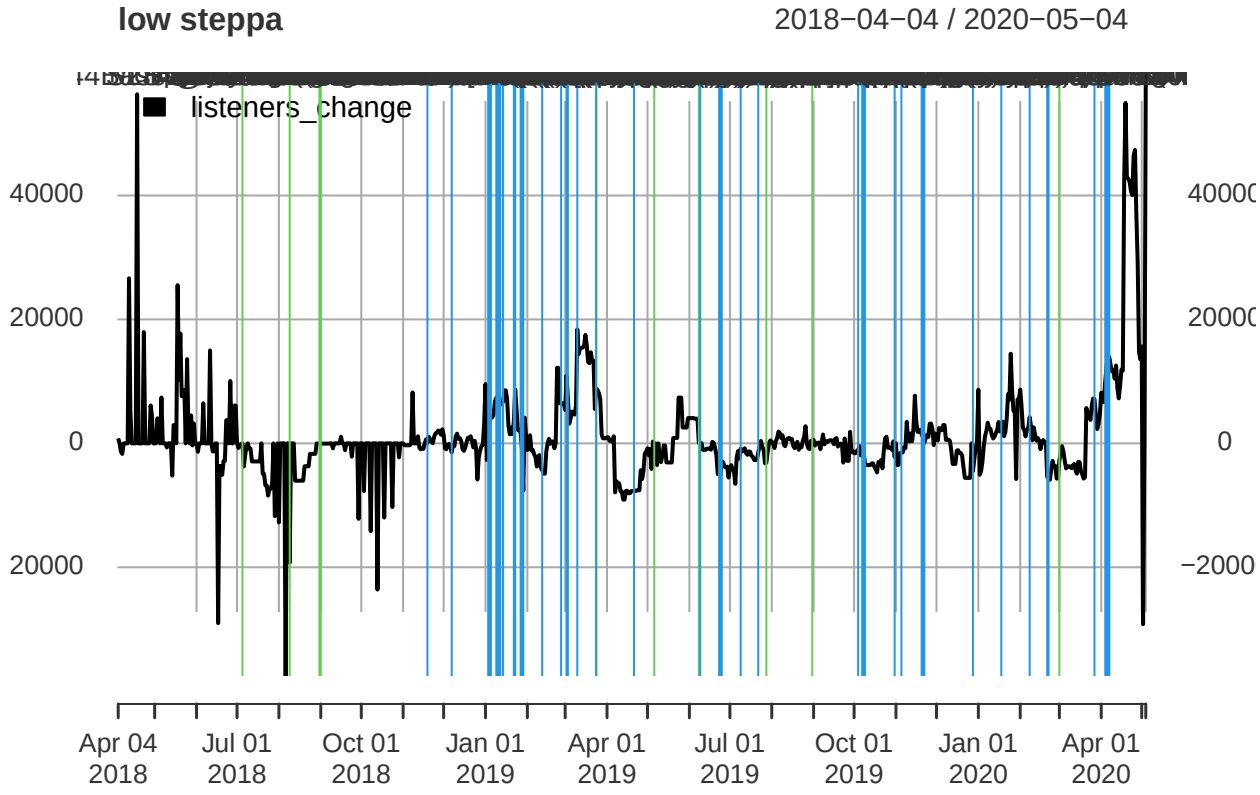
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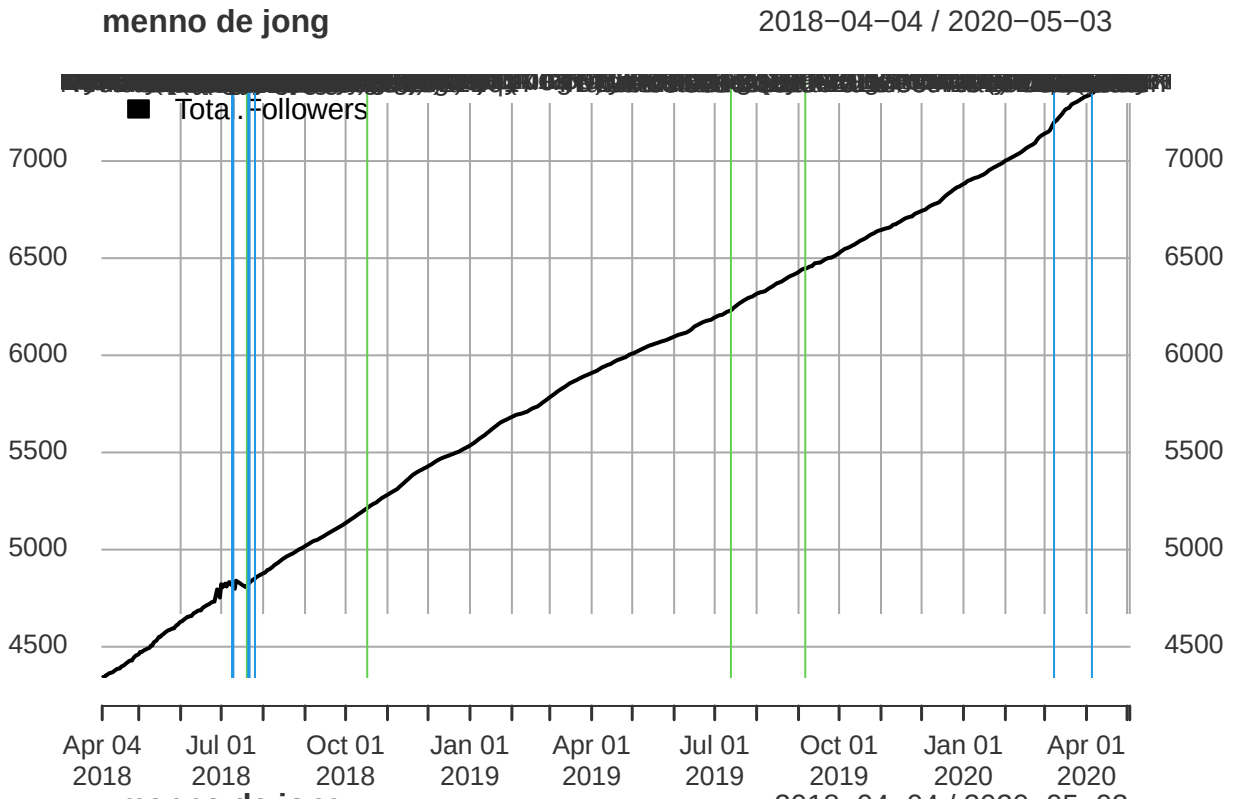
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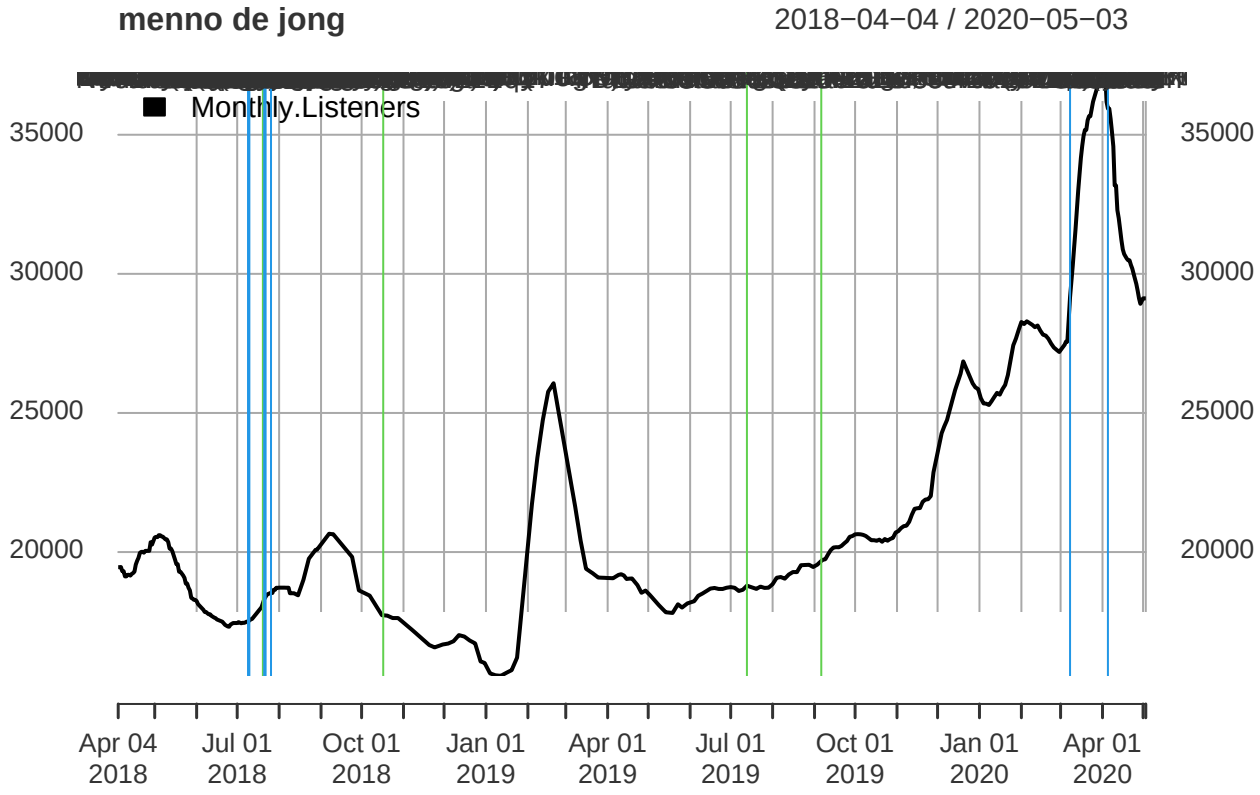
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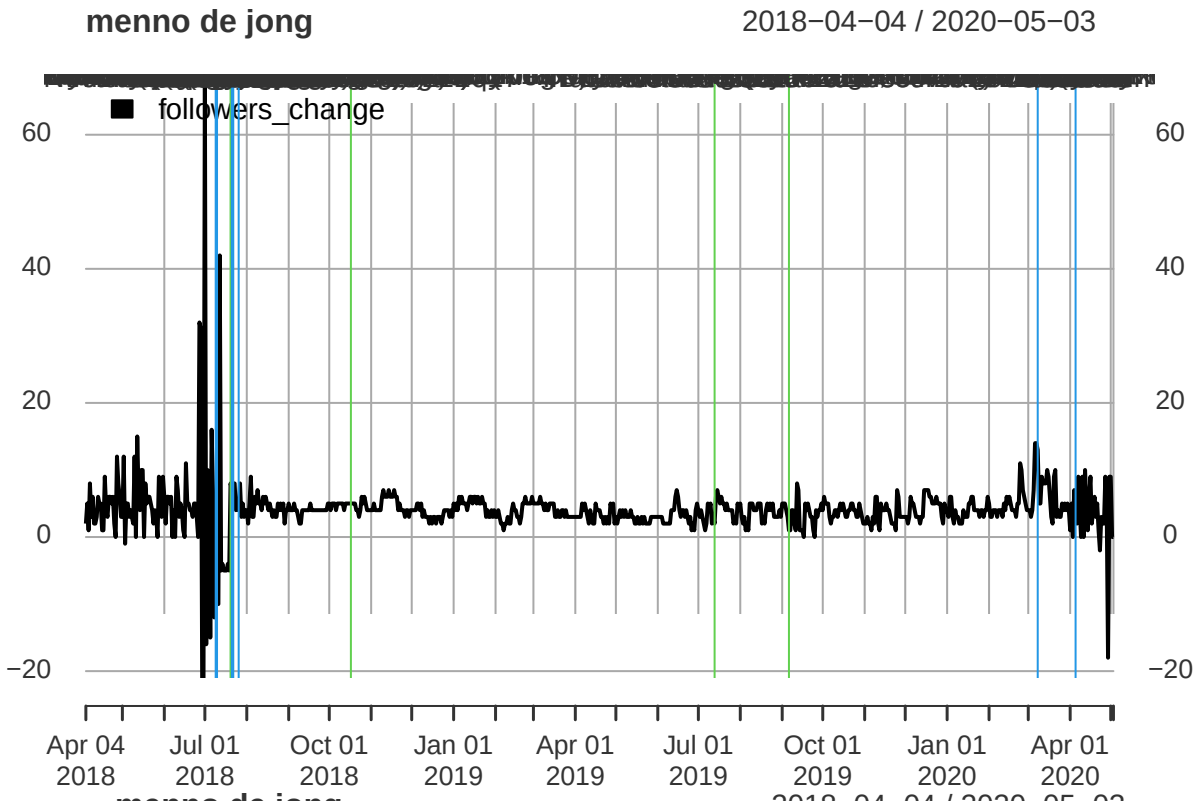
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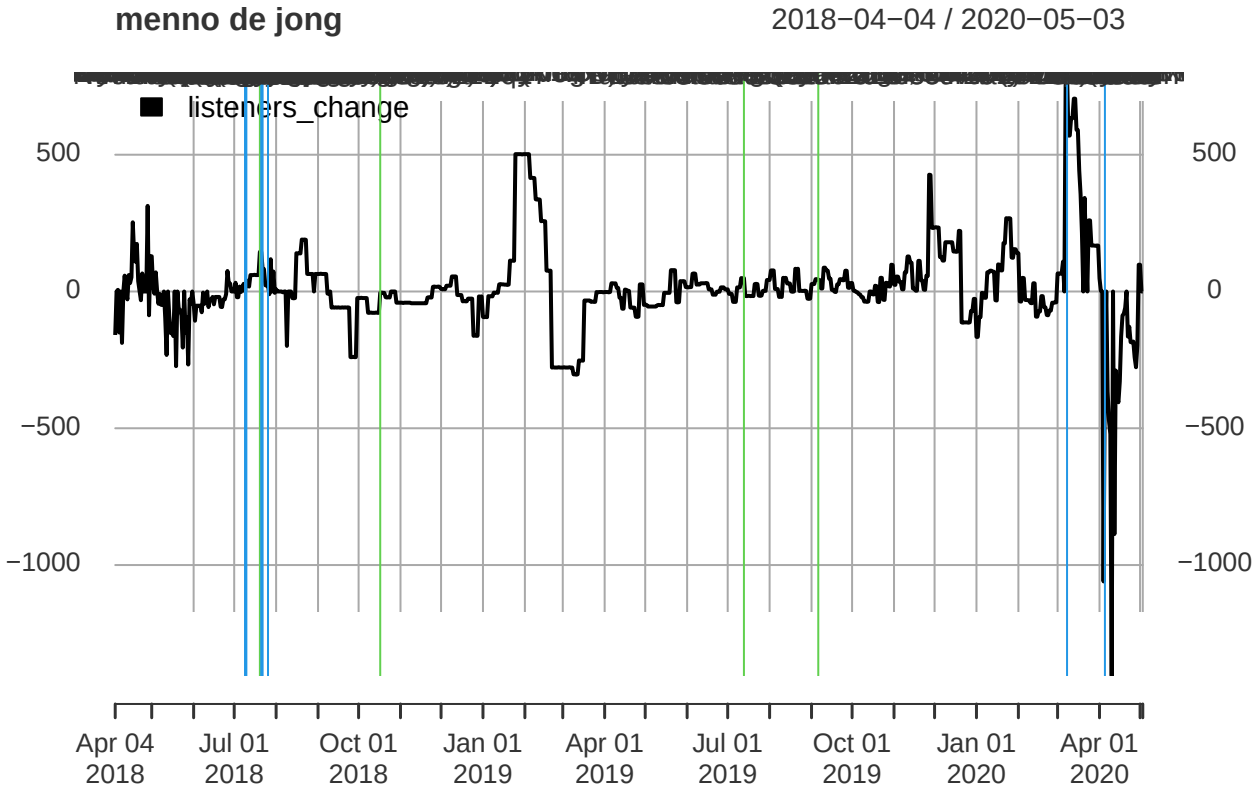
Apr 01 2020


menno de jong
2018−04−04 / 2020−05−03
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Jul 01 2018
Oct 01 2018
Jan 01 2019
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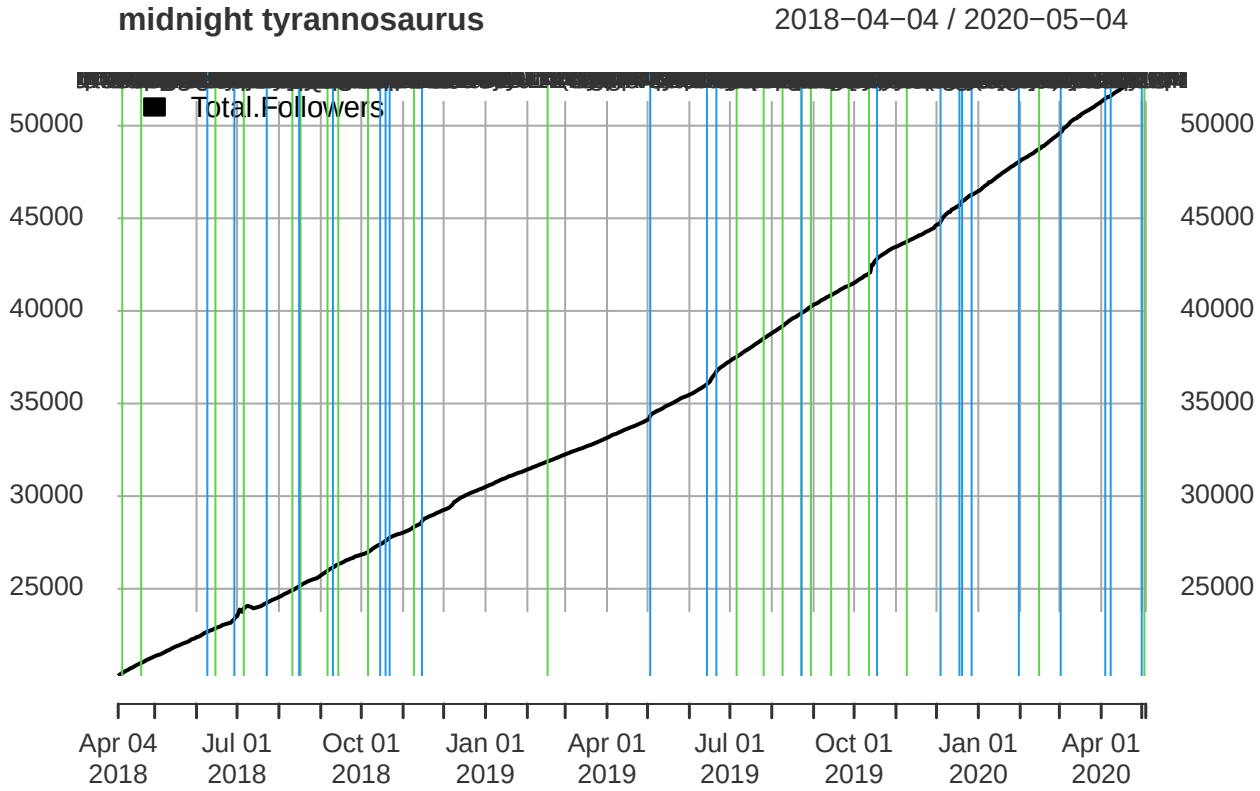
Apr 01 2020


midnight tyrannosaurus
2018−04−04 / 2020−05−04
Total.Followers
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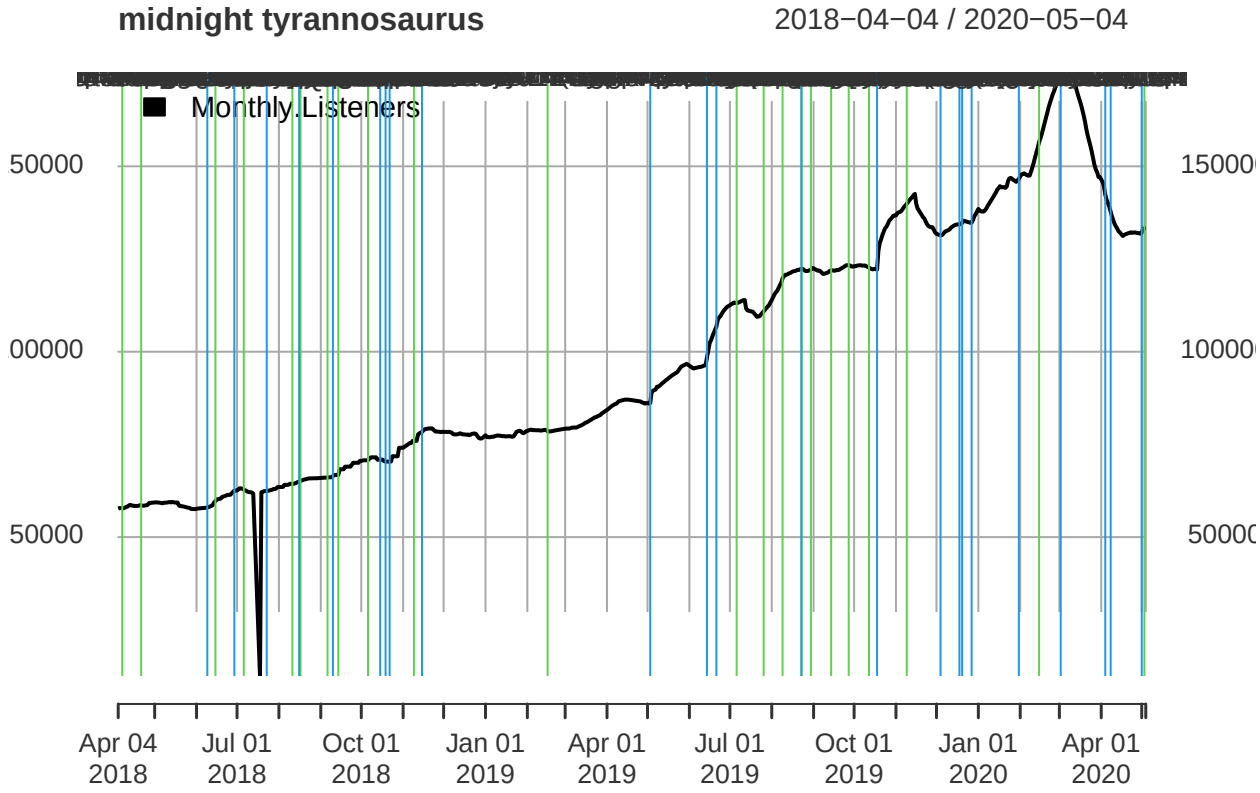
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020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2018−04−04 / 2020−05−04
Monthly.Listeners
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Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
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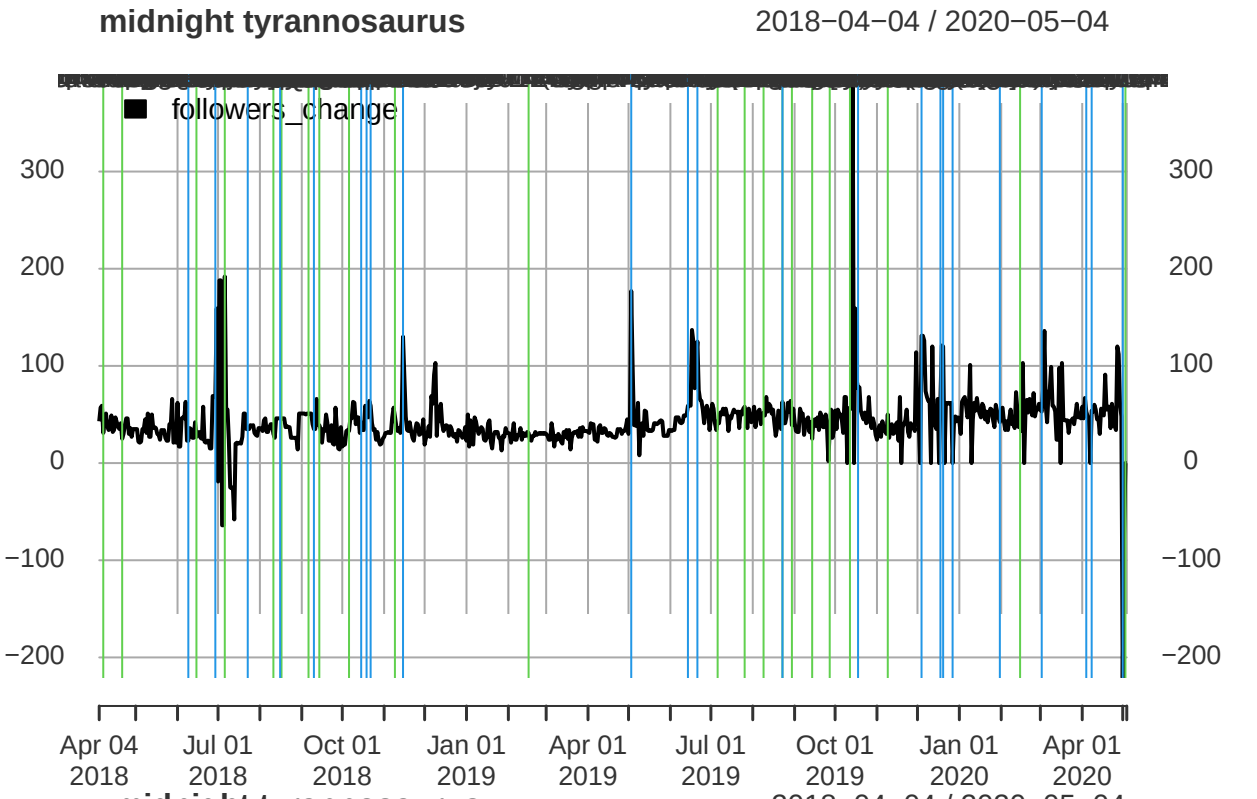
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2018−04−04 / 2020−05−04
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Oct 01 2018
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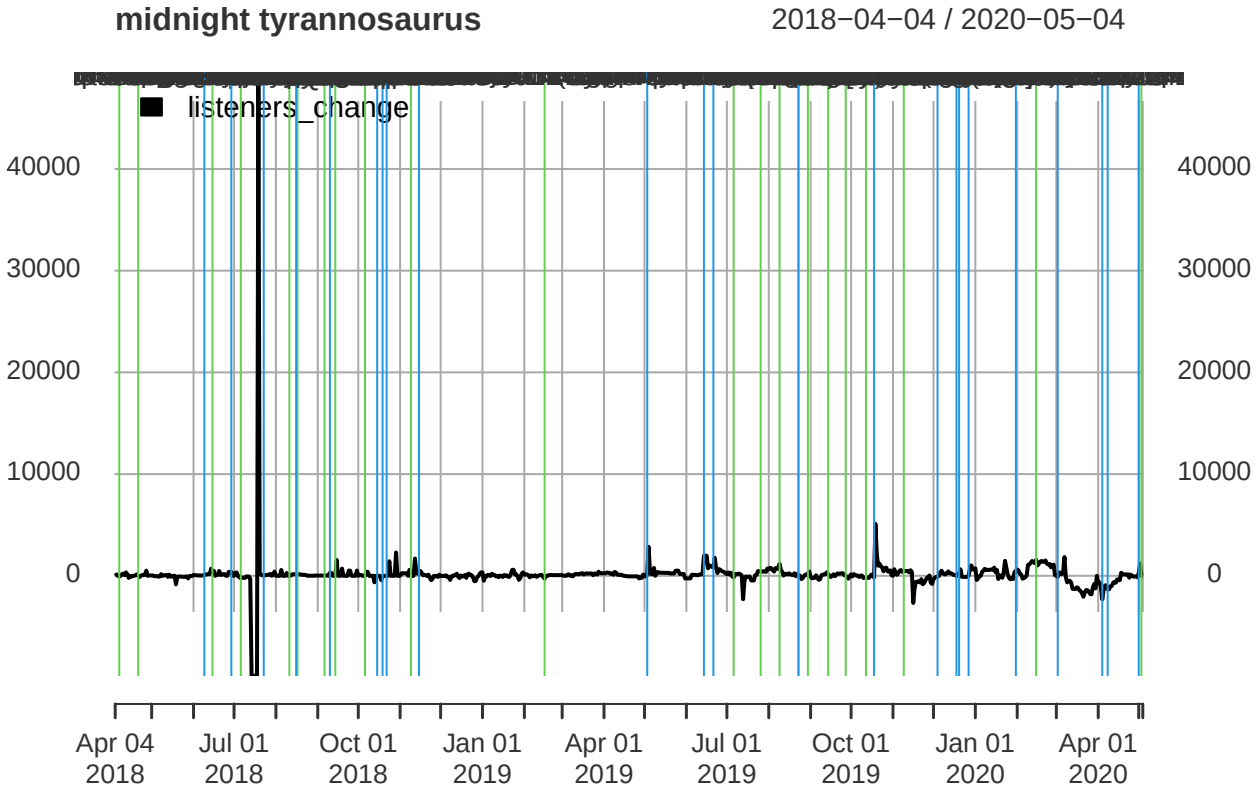
Apr 01 2020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2018−04−04 / 2020−05−04
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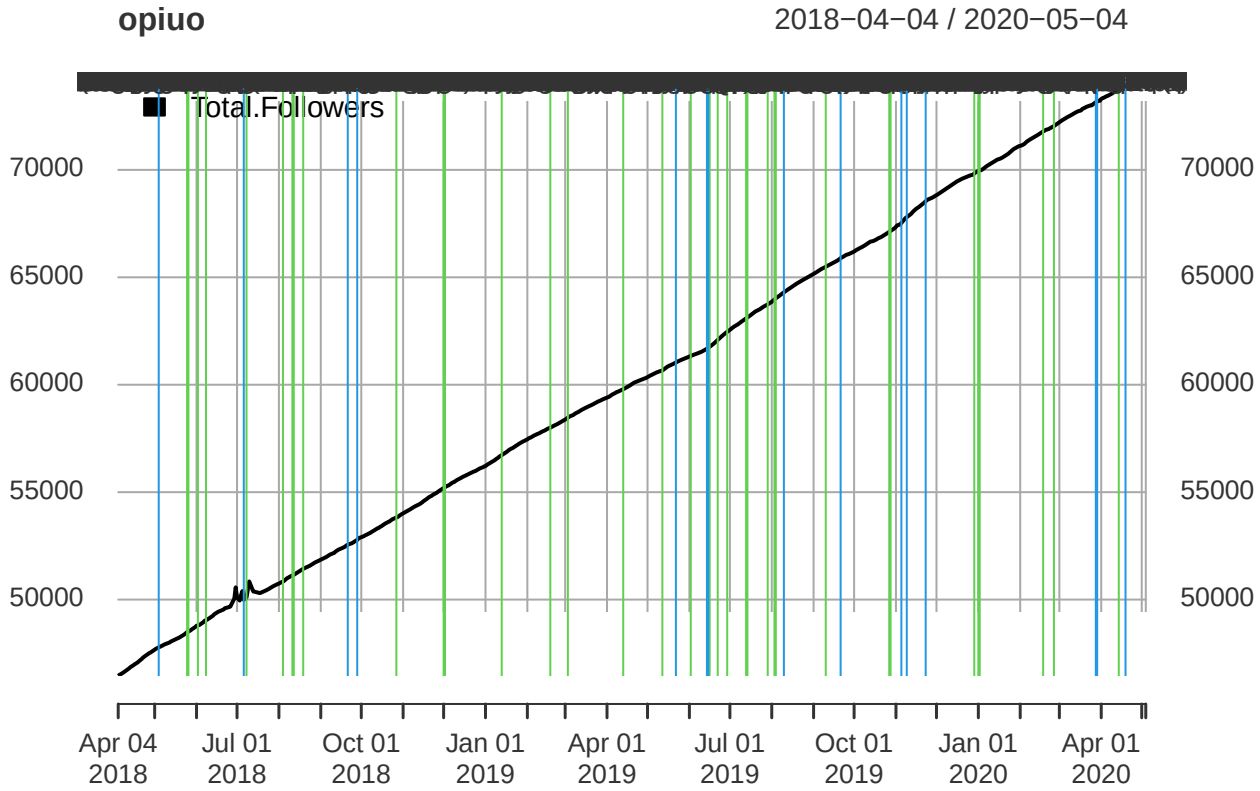
opiuo
2018−04−04 / 2020−05−04
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Jul 01 2018
Oct 01 2018
Jan 01 2019
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Jul 01 2019
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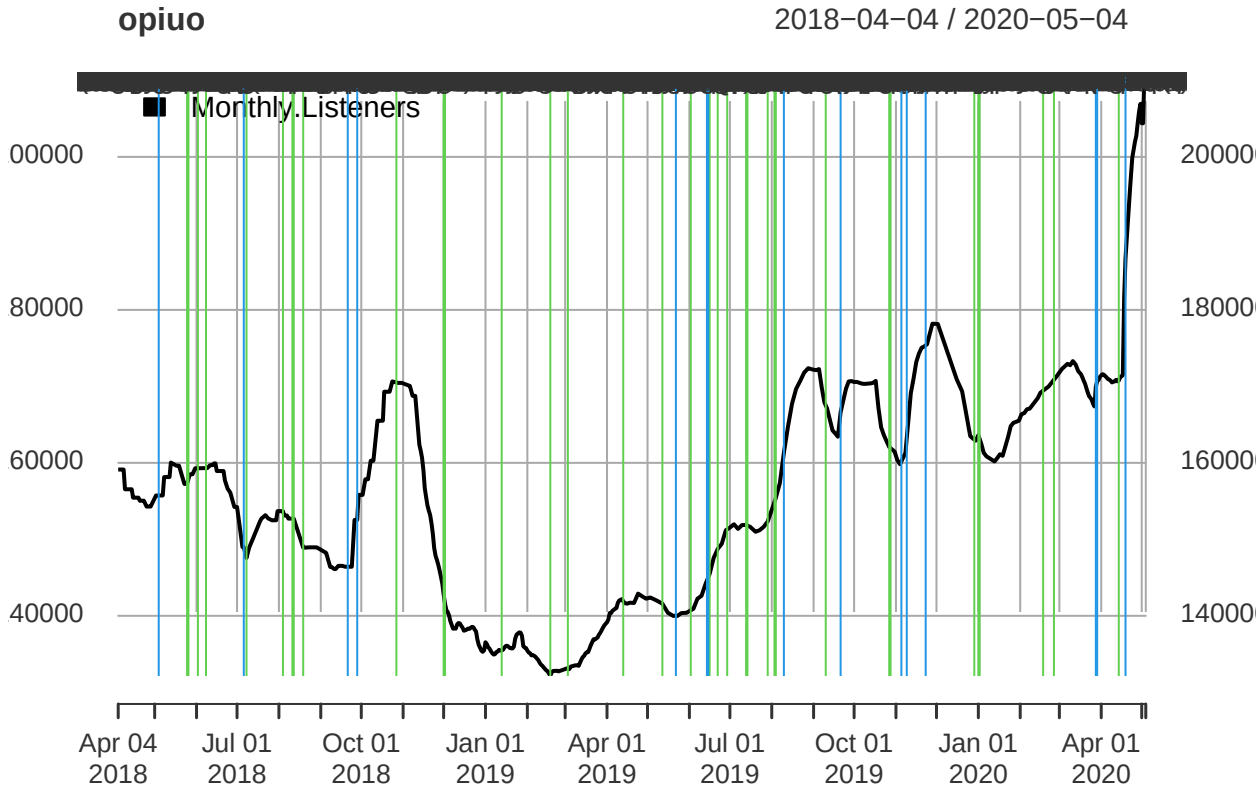
Apr 01 2020


opiuo
2018−04−04 / 2020−05−04
Monthly.Listeners
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40000
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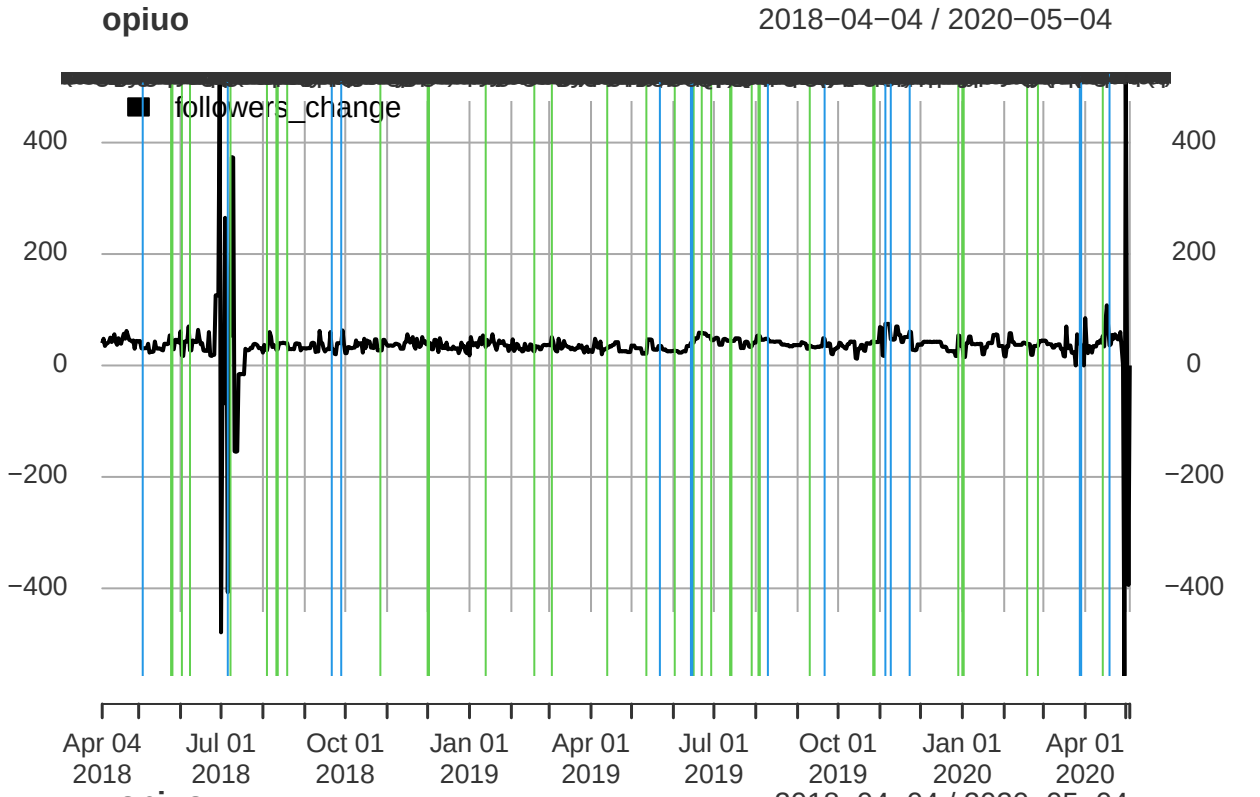
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


opiuo
2018−04−04 / 2020−05−04
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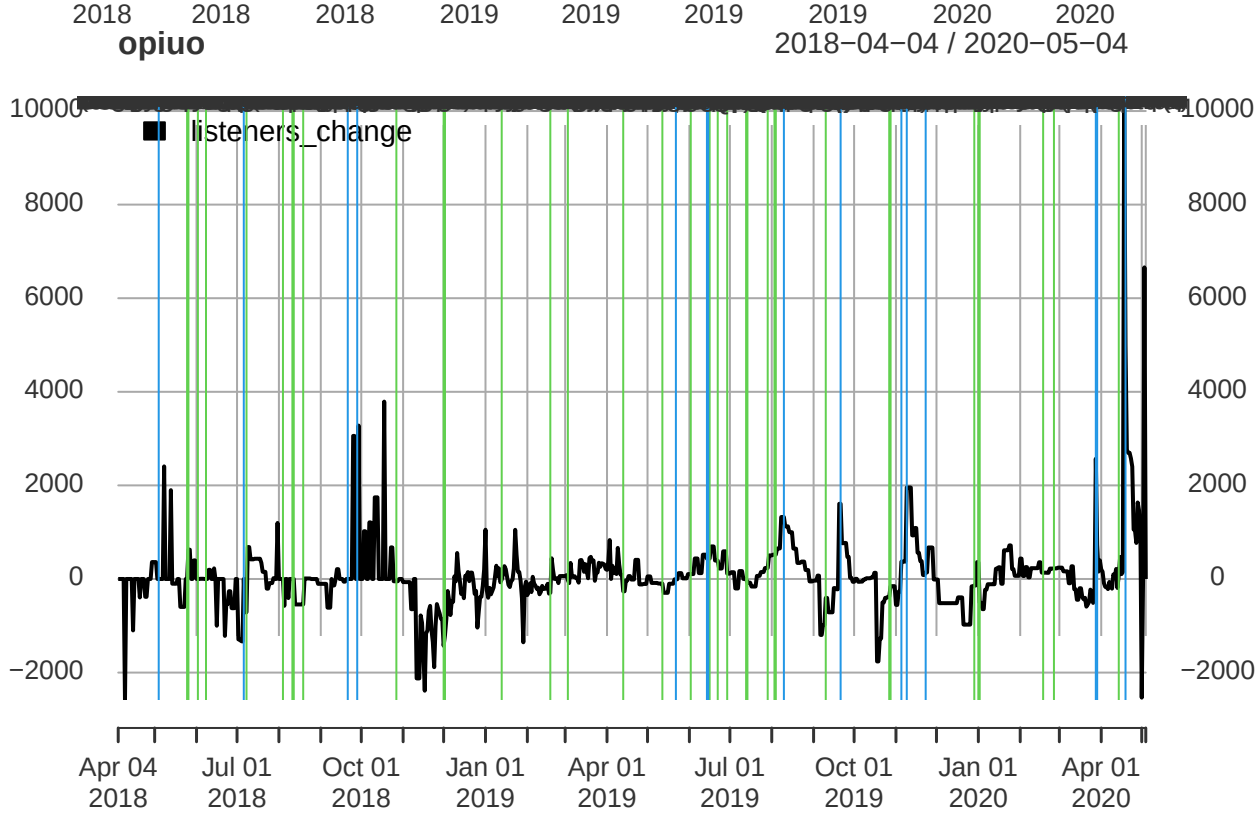
−400
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


opiuo
2018−04−04 / 2020−05−04
listeners_change
10000
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−2000
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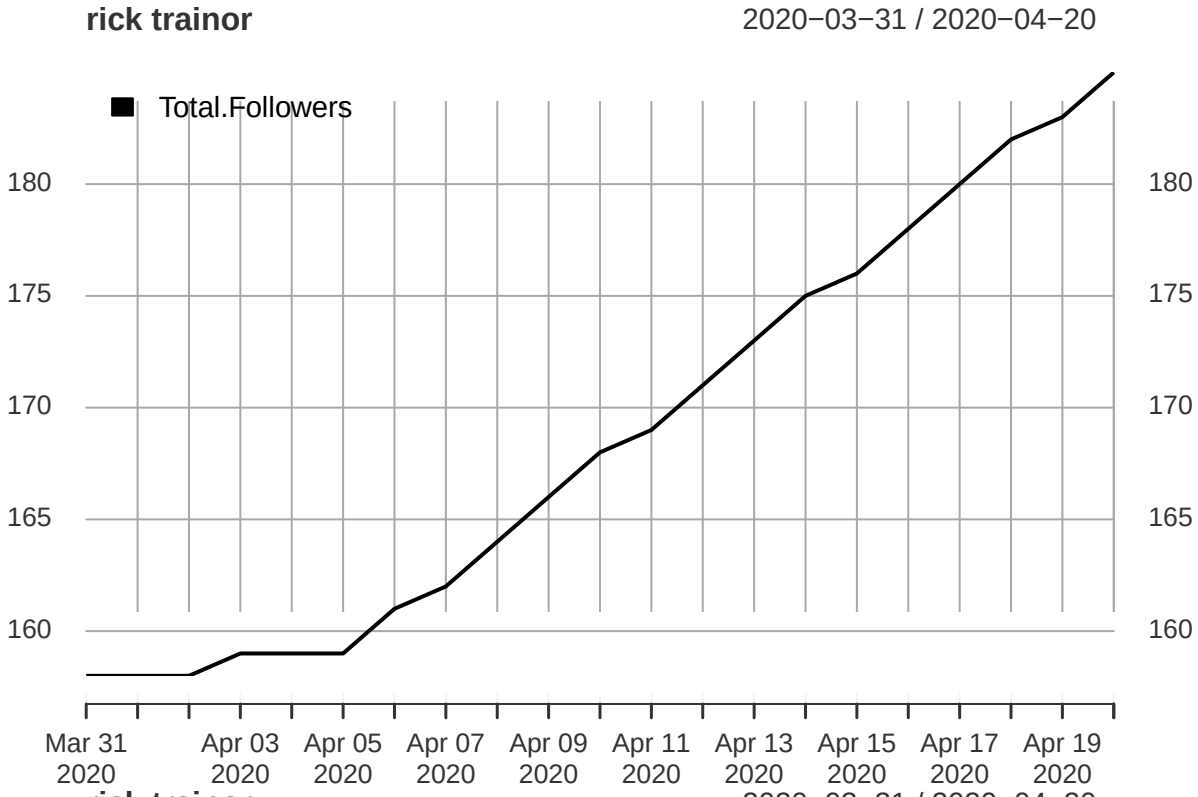
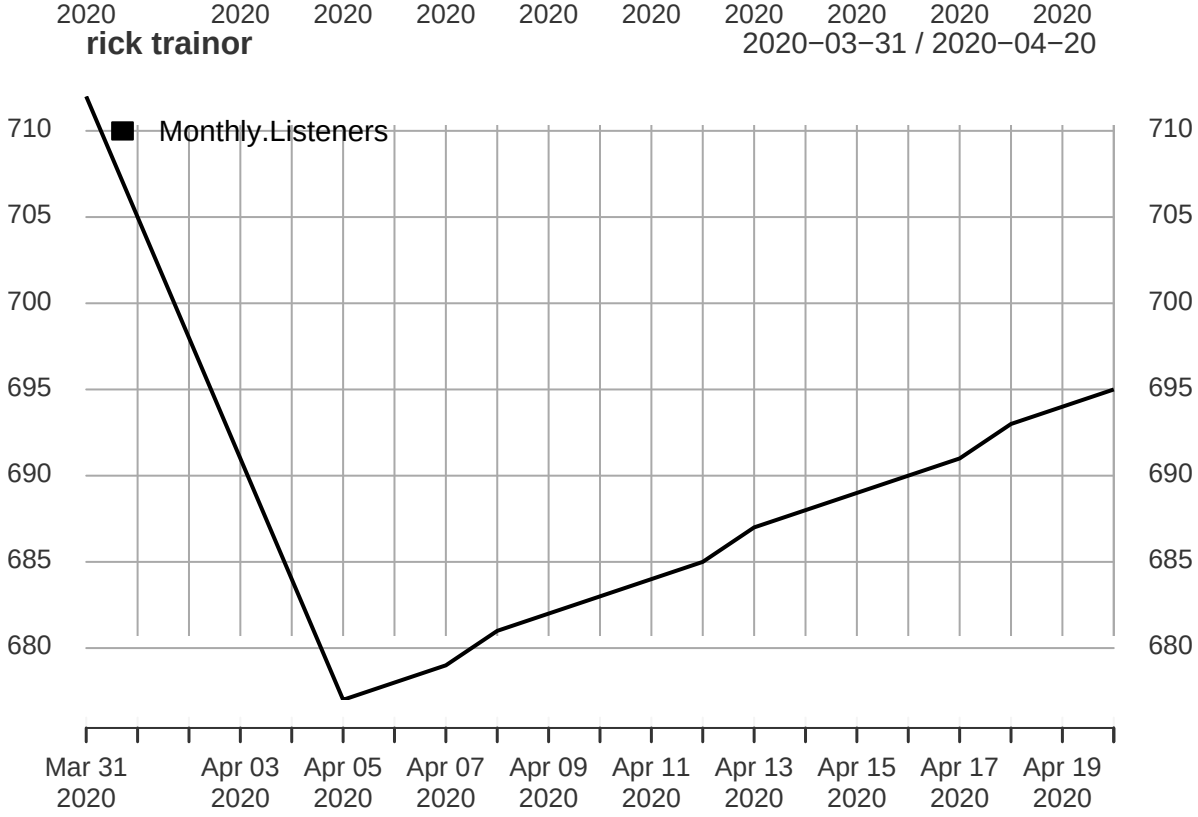
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


rick trainor
2020−03−31 / 2020−04−20
Total.Followers
180
175
170
165
160
Mar 31 2020
Apr 03 2020
Apr 05 2020
Apr 07 2020
Apr 09 2020
Apr 11 2020
Apr 13 2020
Apr 15 2020
Apr 17 2020
Apr 19 2020


rick trainor
2020−03−31 / 2020−04−20
Monthly.Listeners
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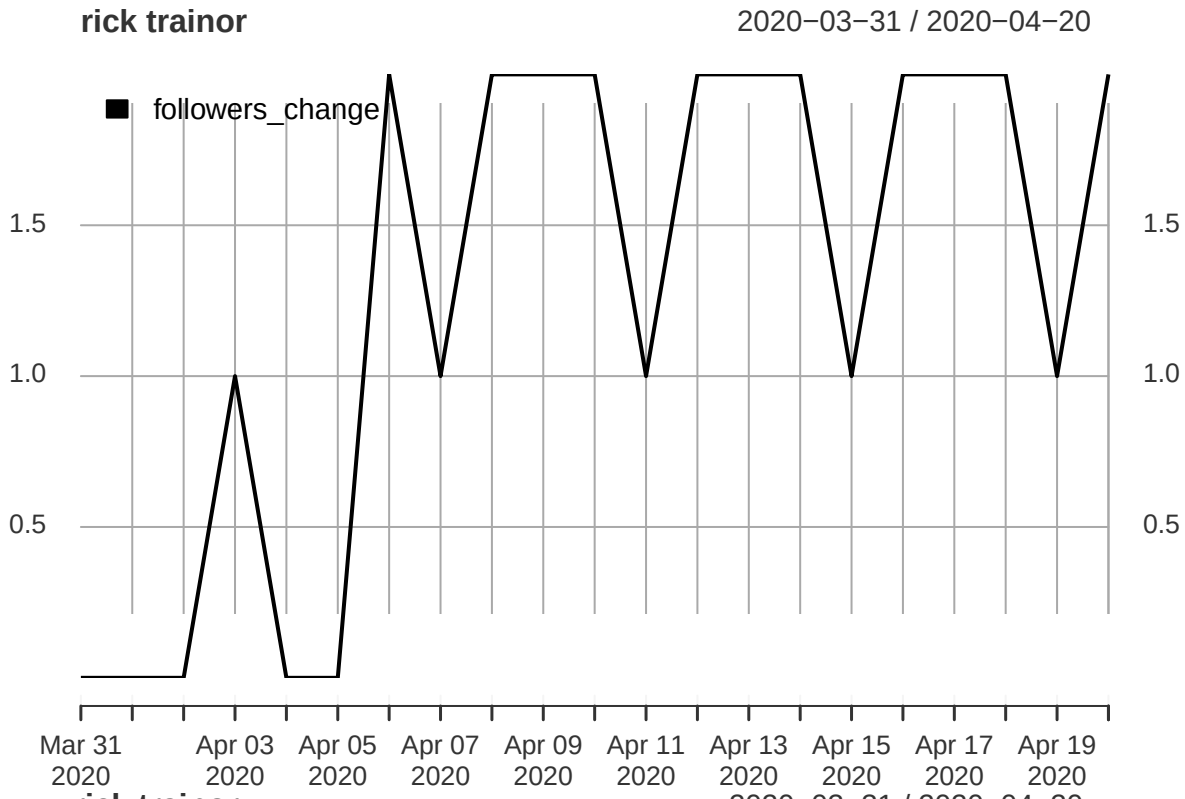
705
700
695
690
685
680
Mar 31 2020
Apr 03 2020
Apr 05 2020
Apr 07 2020
Apr 09 2020
Apr 11 2020
Apr 13 2020
Apr 15 2020
Apr 17 2020
Apr 19 2020


rick trainor
2020−03−31 / 2020−04−20
followers_change
1.5
1.0
0.5
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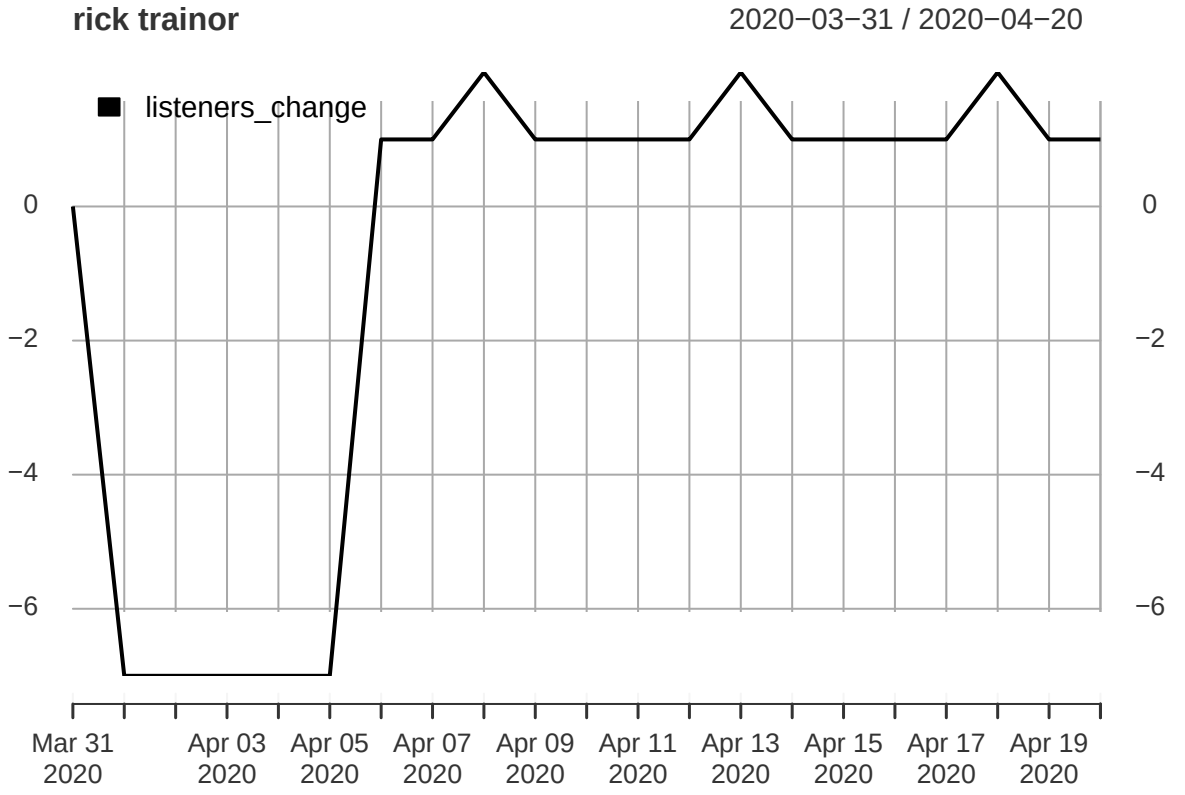
Apr 03 2020
Apr 05 2020
Apr 07 2020
Apr 09 2020
Apr 11 2020
Apr 13 2020
Apr 15 2020
Apr 17 2020
Apr 19 2020


rick trainor
2020−03−31 / 2020−04−20
listeners_change
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Apr 05 2020
Apr 07 2020
Apr 09 2020
Apr 11 2020
Apr 13 2020
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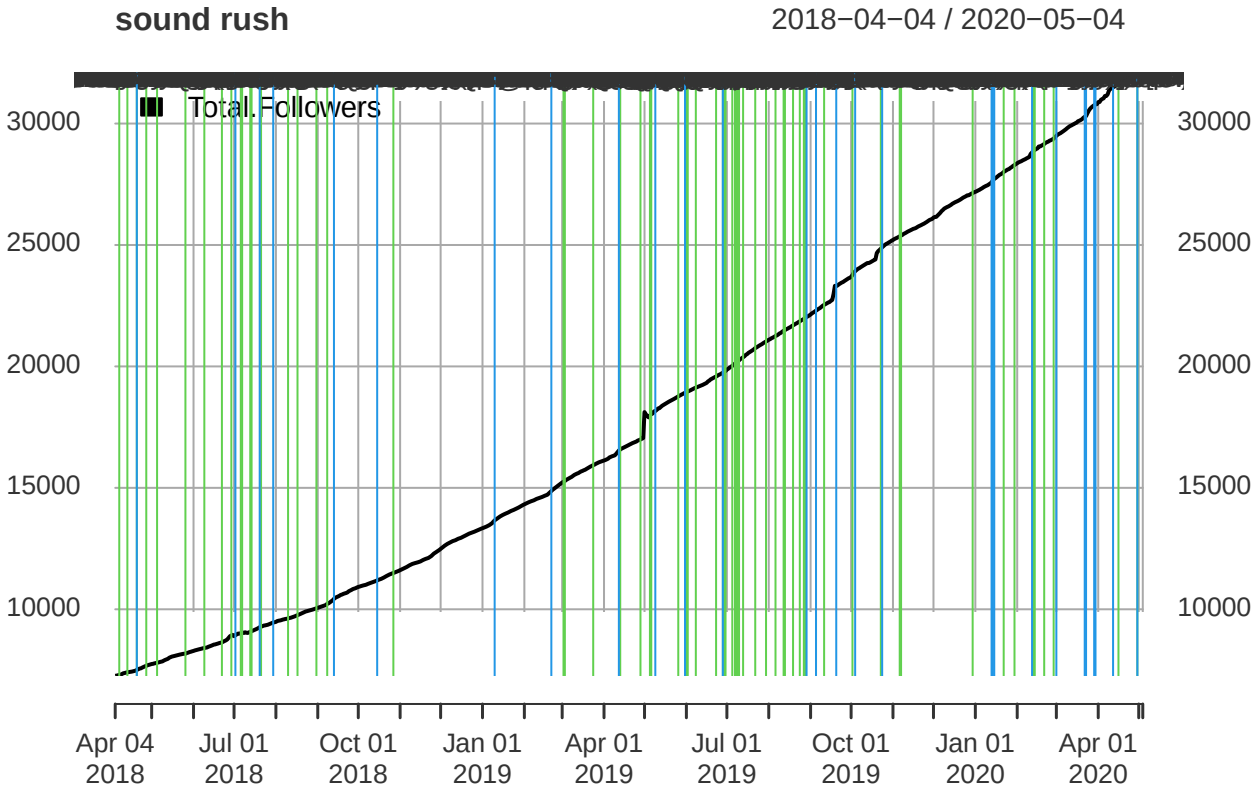
Apr 17 2020
Apr 19 2020


sound rush
2018−04−04 / 2020−05−04
Total.Followers
30000
25000
20000
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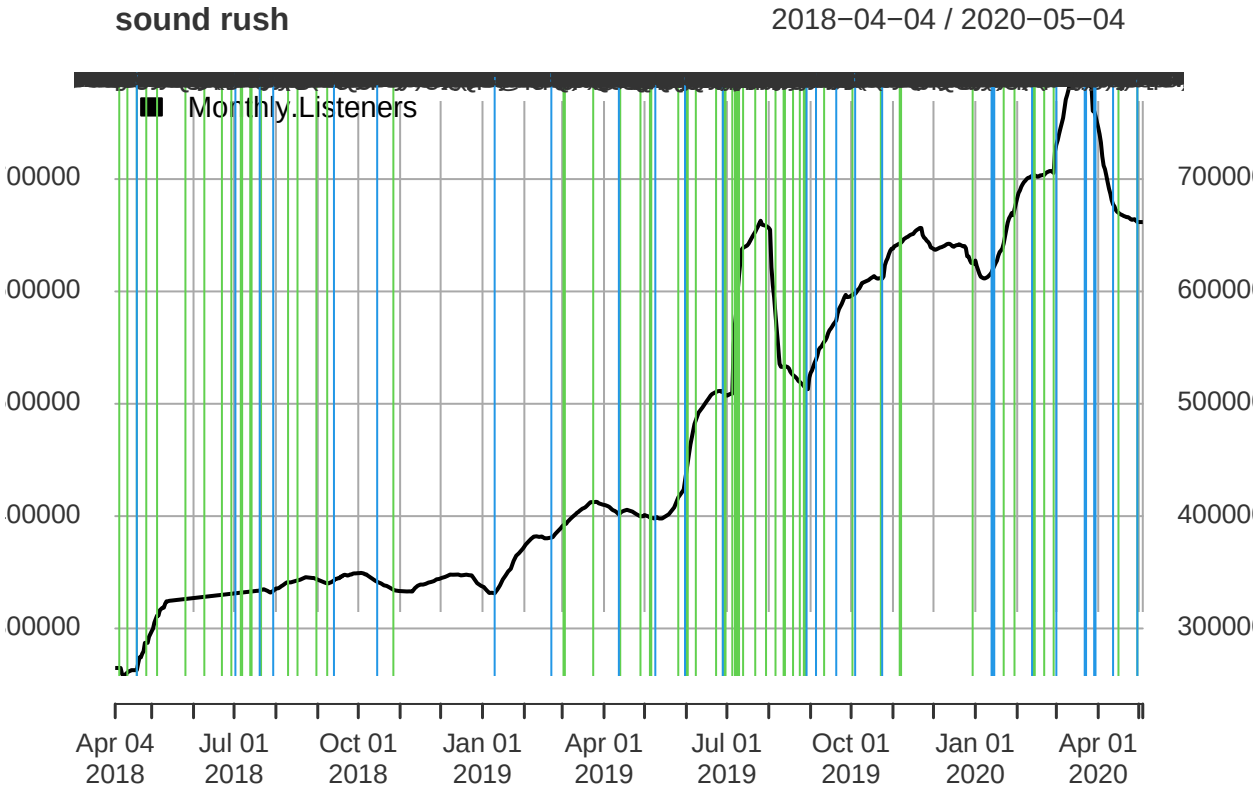
10000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


sound rush
2018−04−04 / 2020−05−04
Monthly.Listeners
70000
60000
50000
40000
30000
Apr 04 2018
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
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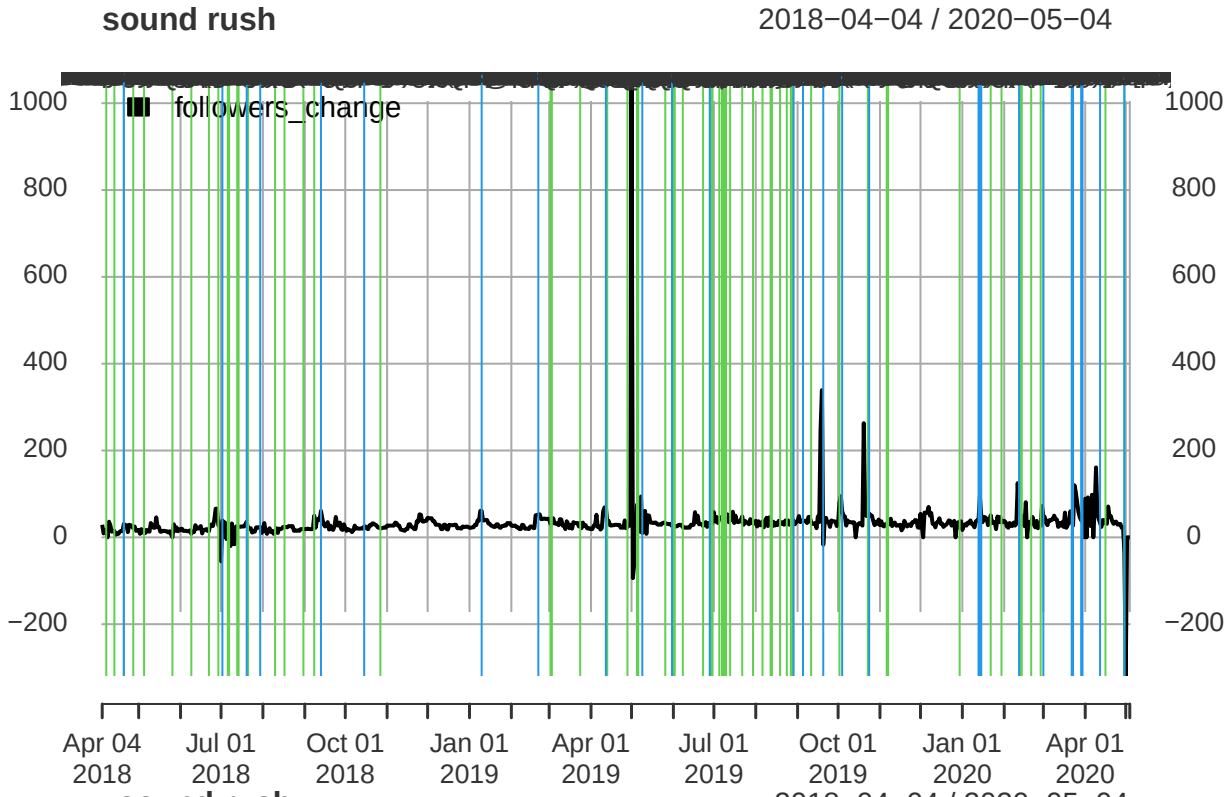
Jan 01 2020
Apr 01 2020


sound rush
2018−04−04 / 2020−05−04
followers_change
1000
800
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400
200
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Jul 01 2018
Oct 01 2018
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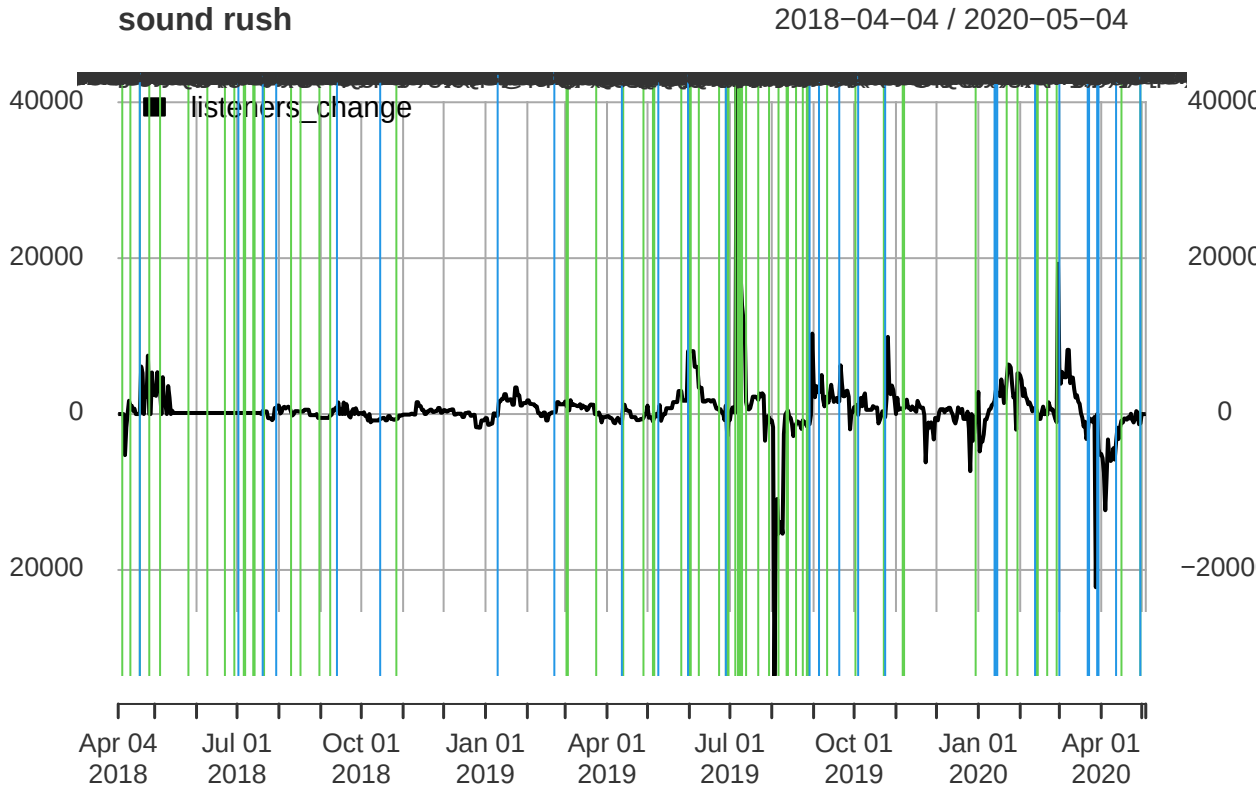
Apr 01 2020


sound rush
2018−04−04 / 2020−05−04
listeners_change
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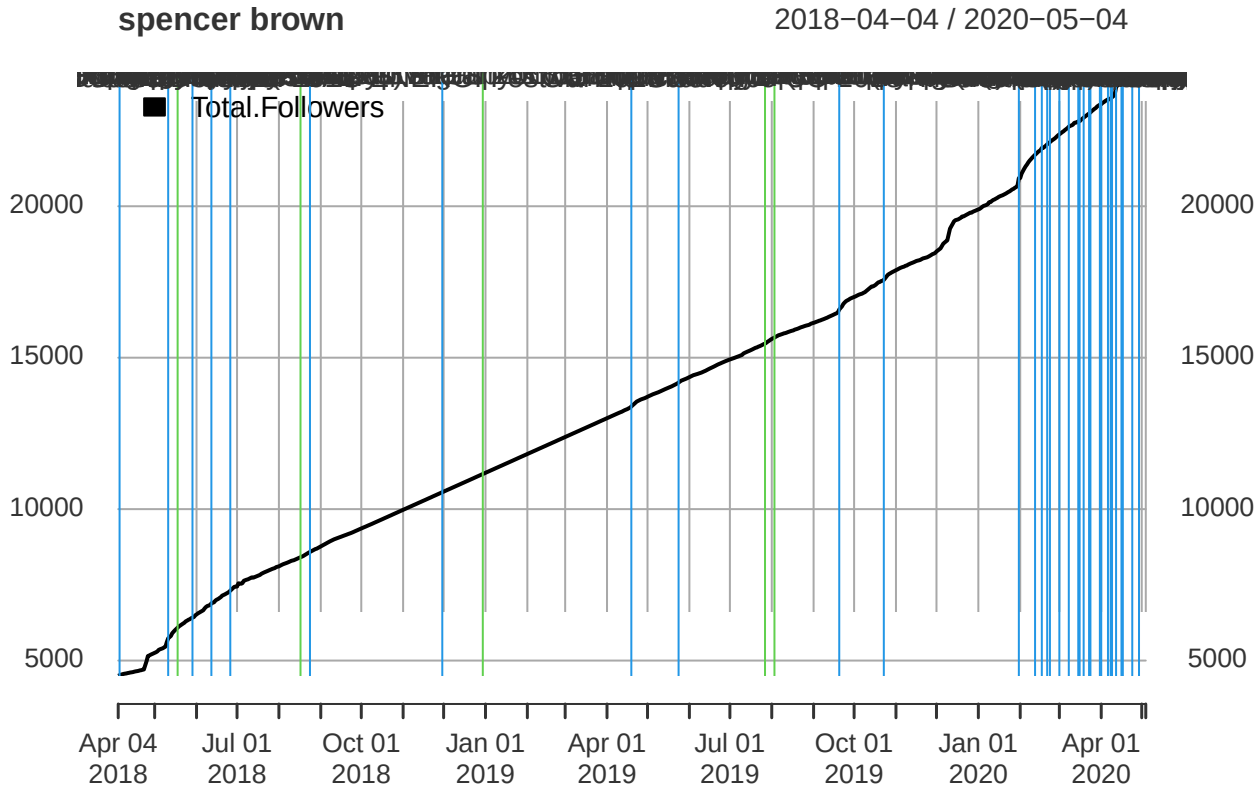
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020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2018−04−04 / 2020−05−04
Total.Followers
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Jul 01 2018
Oct 01 2018
Jan 01 2019
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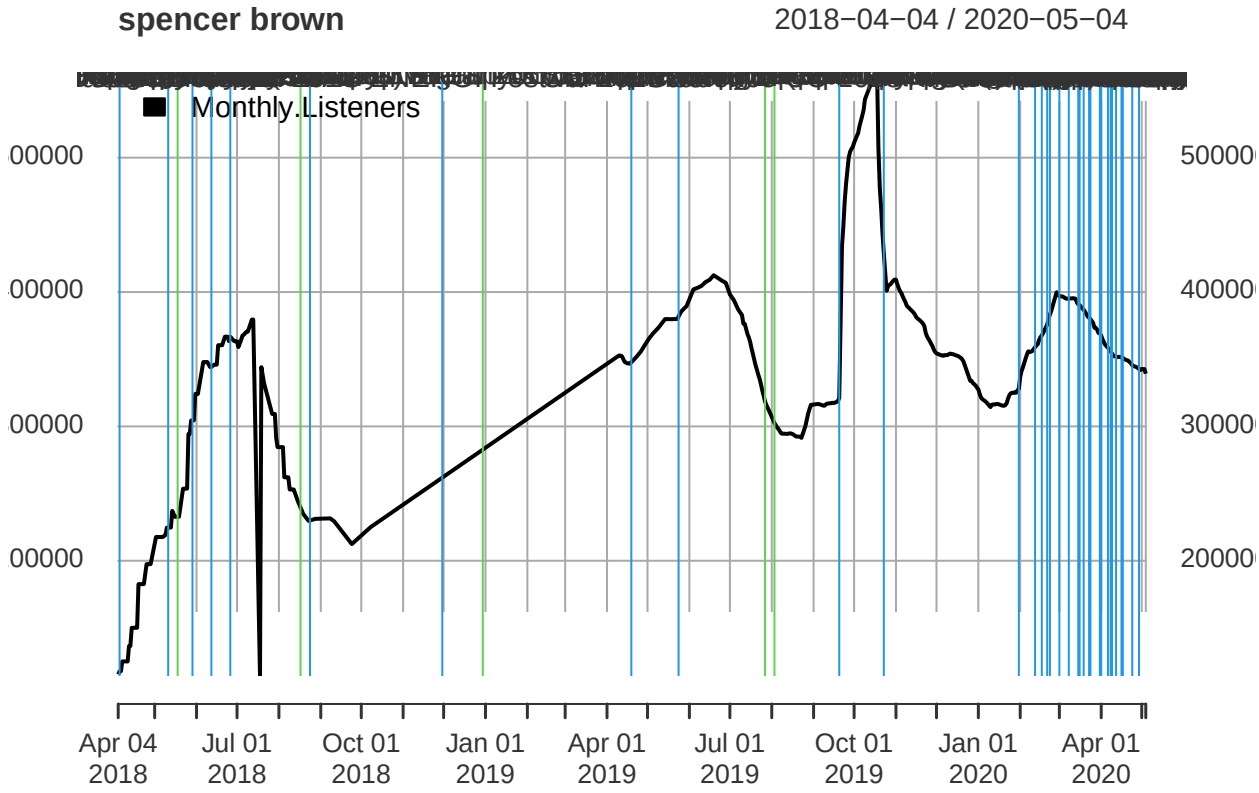
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020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2018−04−04 / 2020−05−04
Monthly.Listeners
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20000
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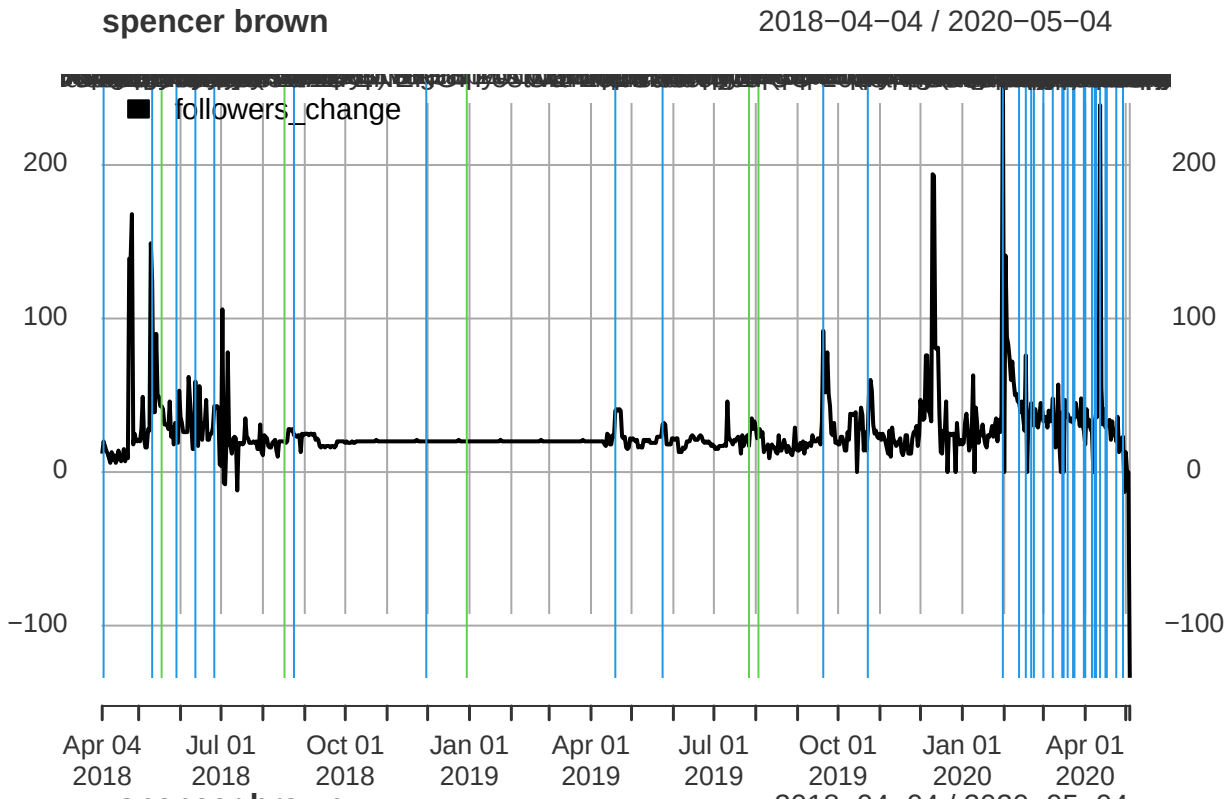
Jul 01 2018
Oct 01 2018
Jan 01 2019
Apr 01 2019
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


spencer brown
2018−04−04 / 2020−05−04
followers_change
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Oct 01 2018
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Oct 01 2019
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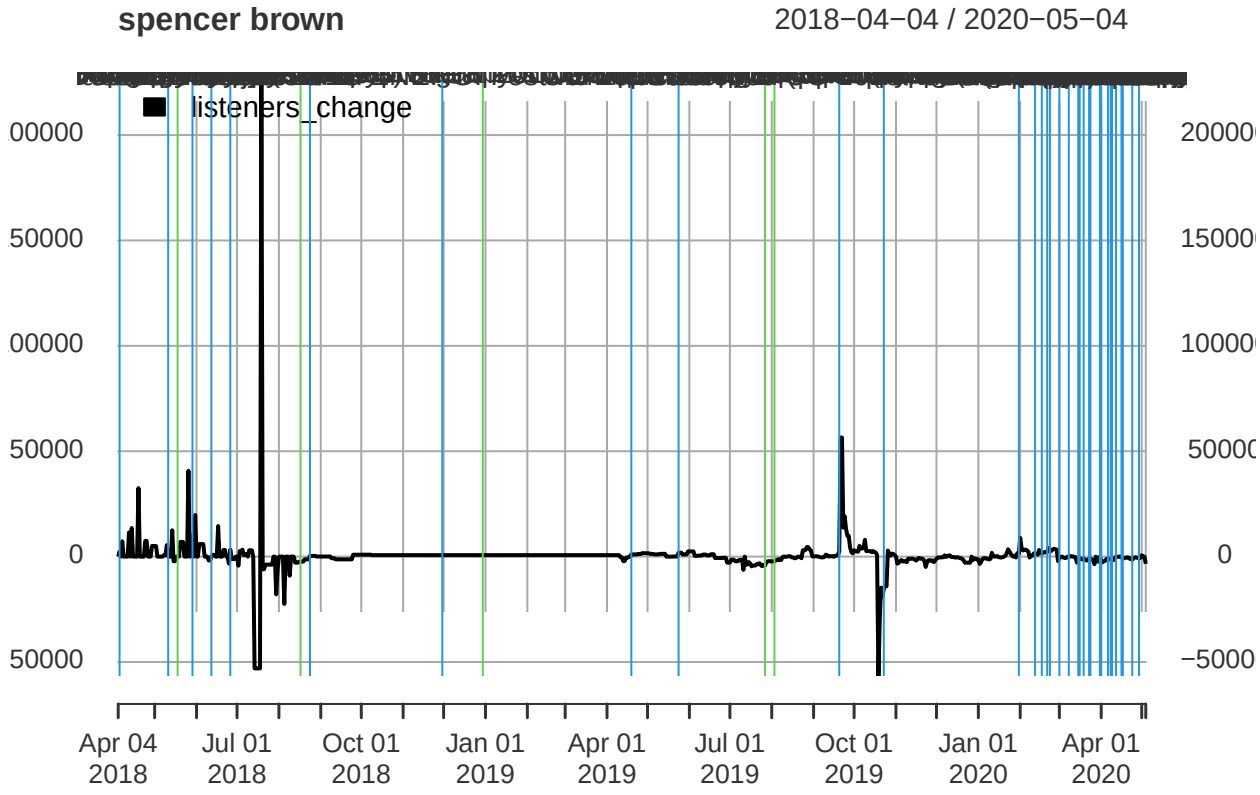
Apr 01 2020


spencer brown
2018−04−04 / 2020−05−04
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Jan 01 2019
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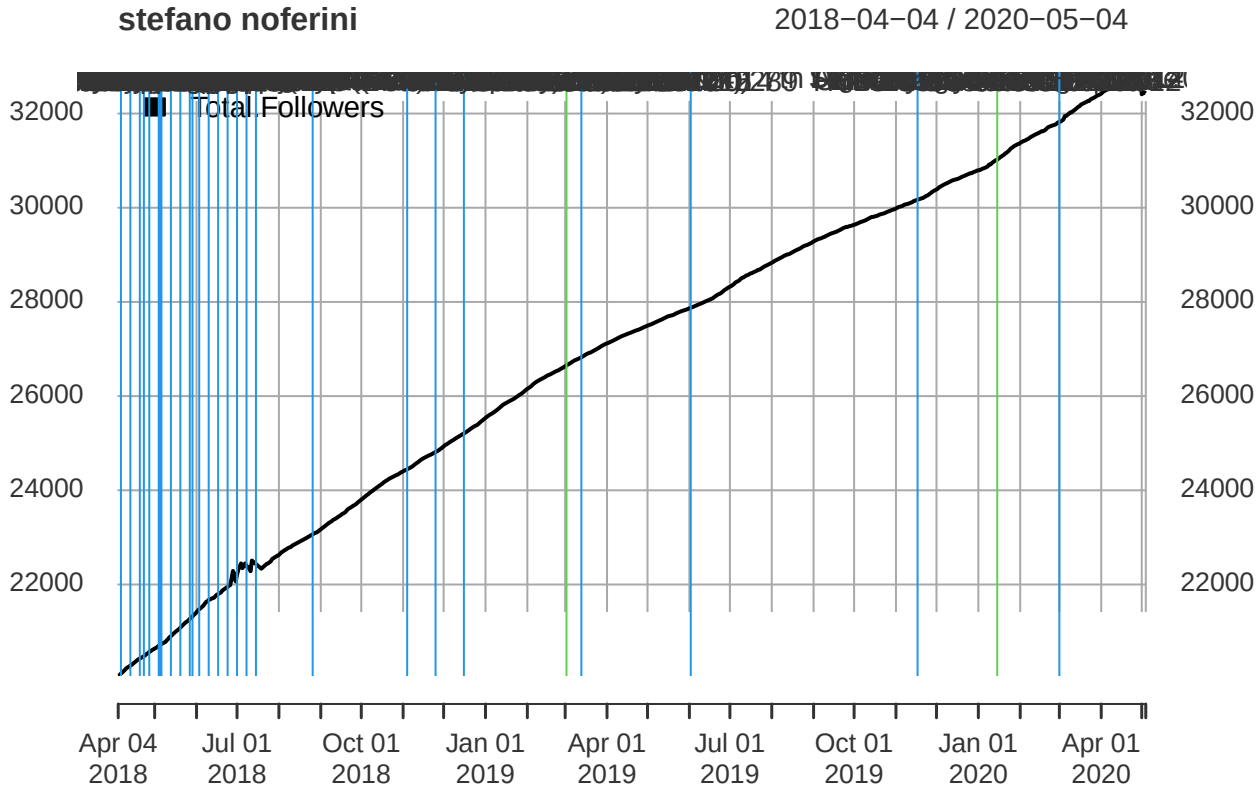
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2018−04−04 / 2020−05−04
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Jan 01 2019
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Jul 01 2019
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Jan 01 2020
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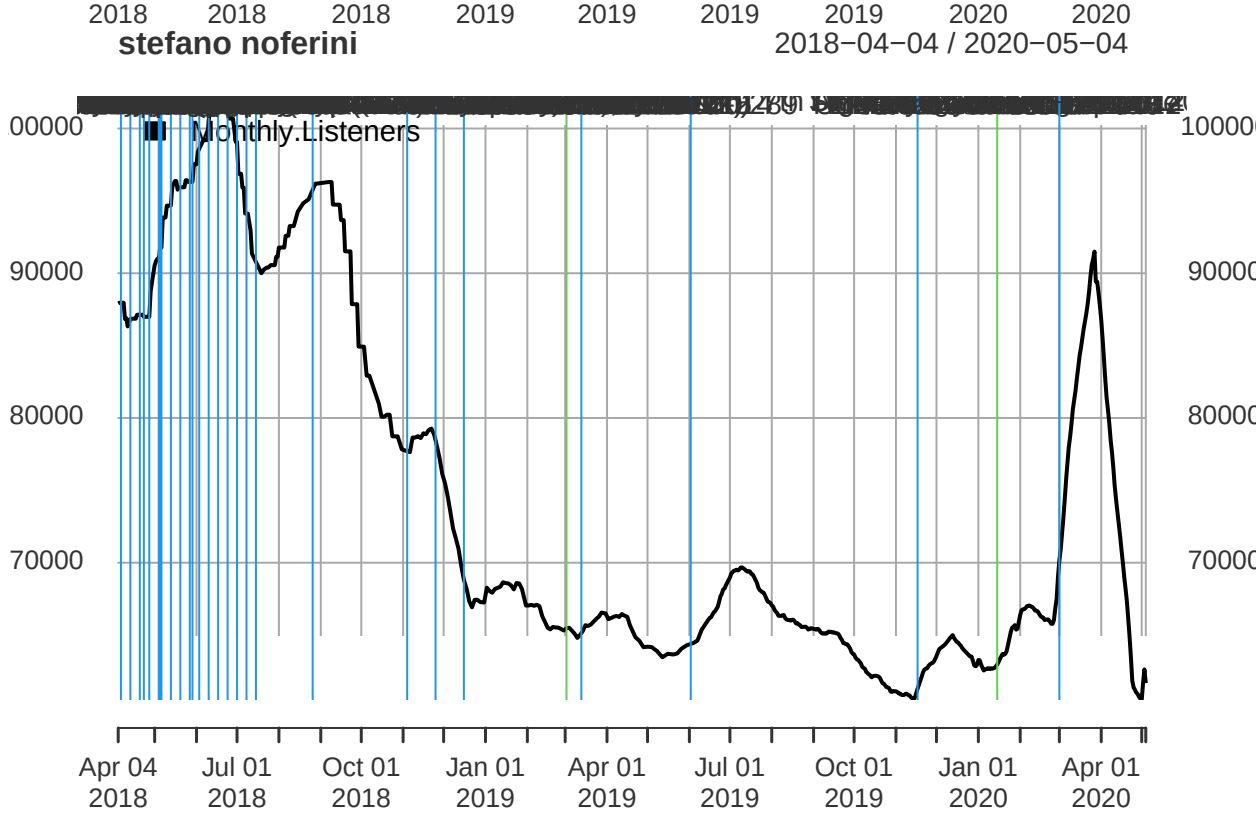
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2018−04−04 / 2020−05−04
Monthly.Listeners
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70000
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Oct 01 2018
Jan 01 2019
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Jul 01 2019
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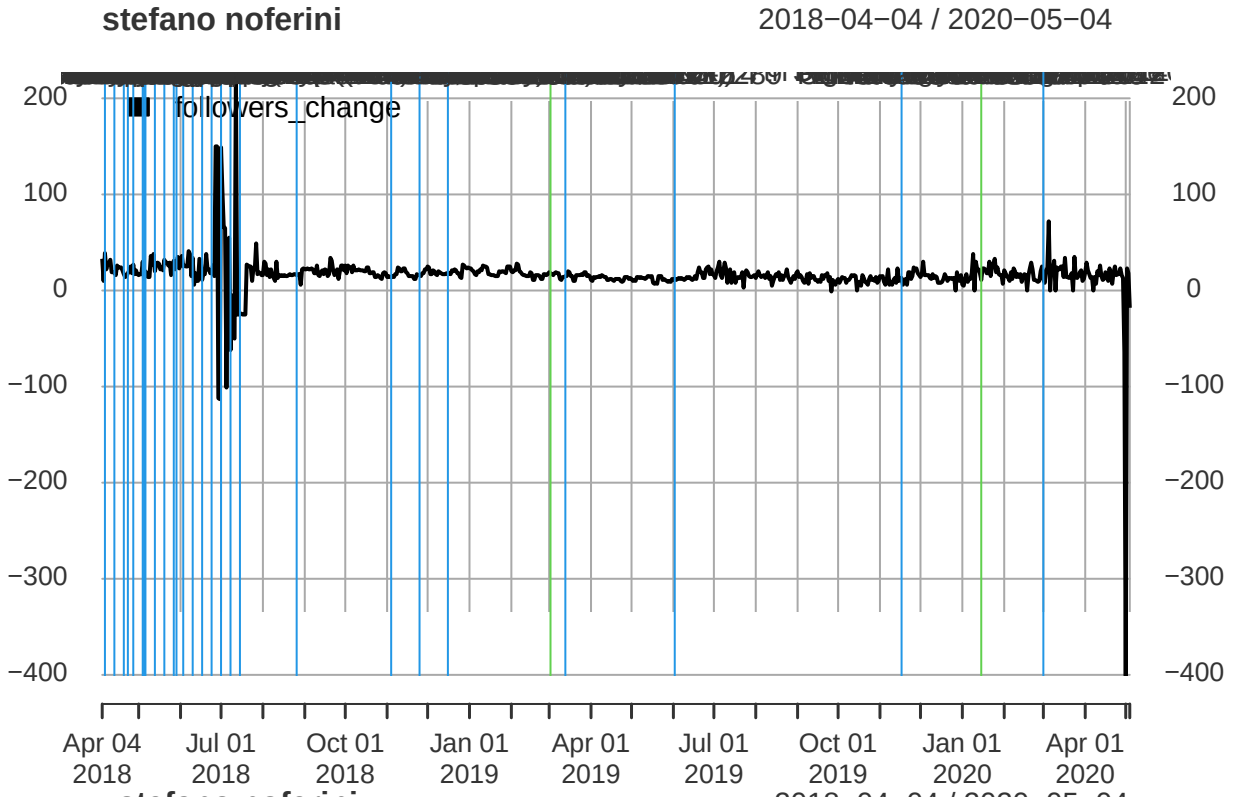
stefano noferini
2018−04−04 / 2020−05−04
followers_change
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100
0
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−200
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−400
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Jul 01 2018
Oct 01 2018
Jan 01 2019
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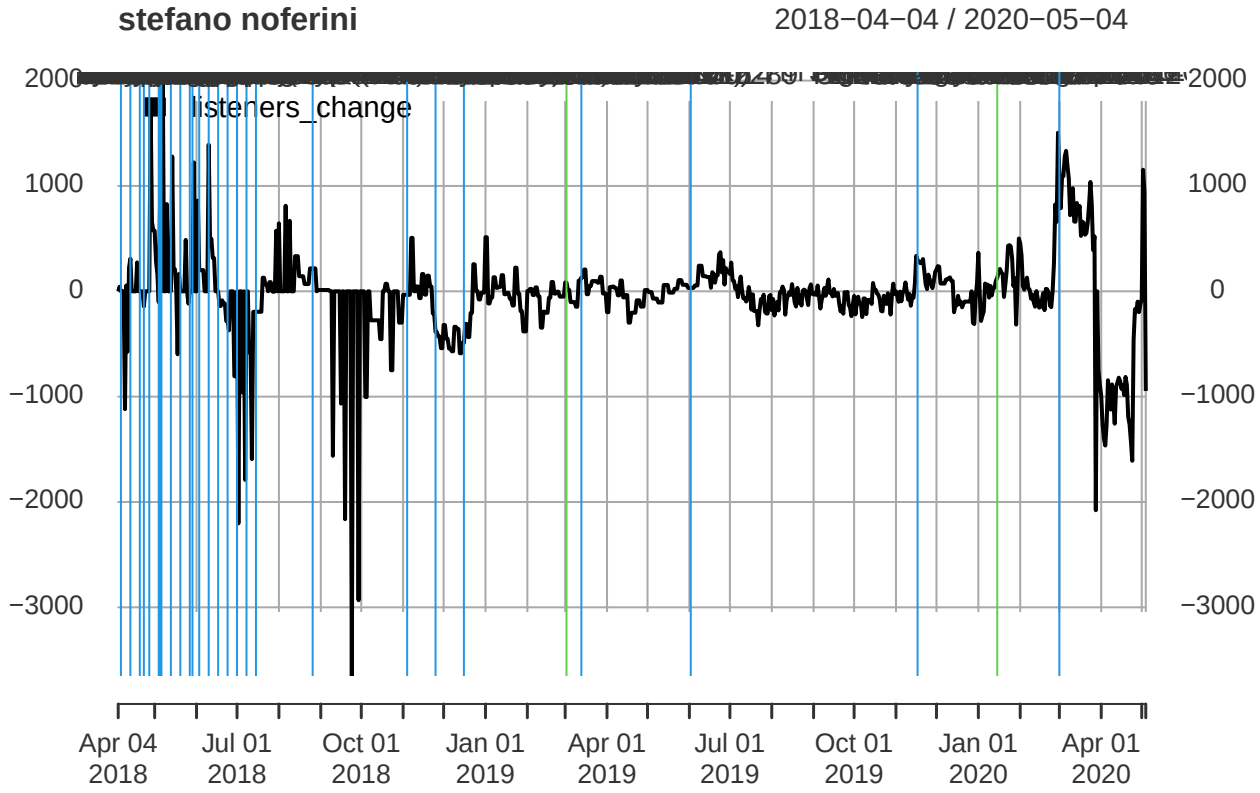
Jul 01 2019
Oct 01 2019
Jan 01 2020
Apr 01 2020


stefano noferini
2018−04−04 / 2020−05−04
listeners_change
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Jul 01 2019
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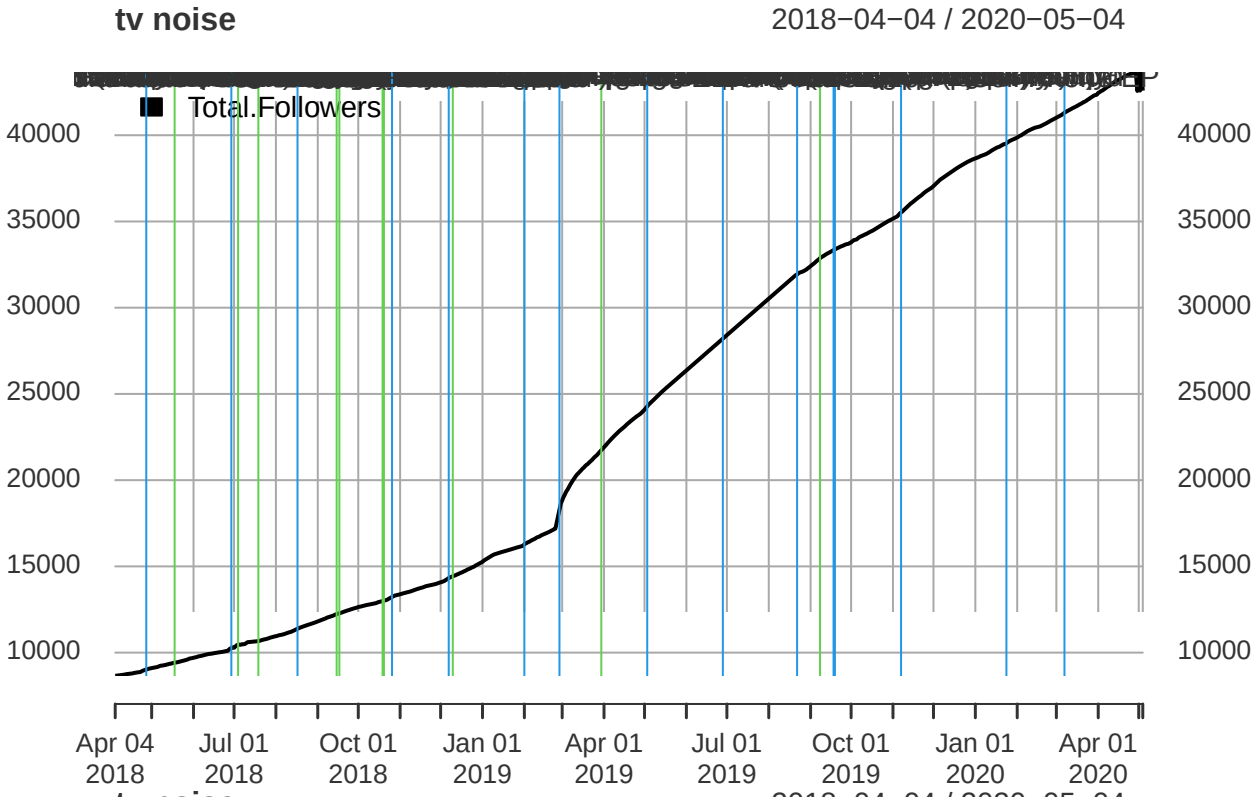
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2018−04−04 / 2020−05−04
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Oct 01 2018
Jan 01 2019
Apr 01 2019
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Jan 01 2020
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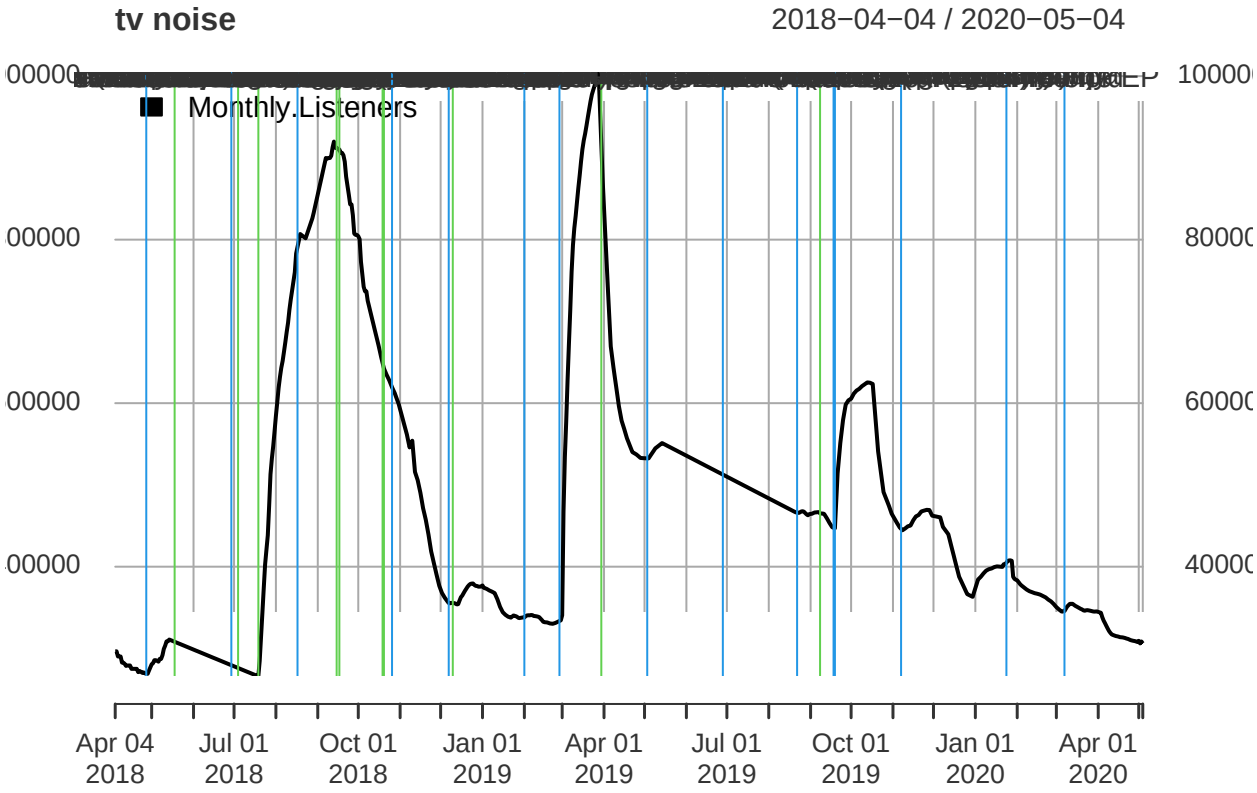
tv noise
2018−04−04 / 2020−05−04
Monthly.Listeners
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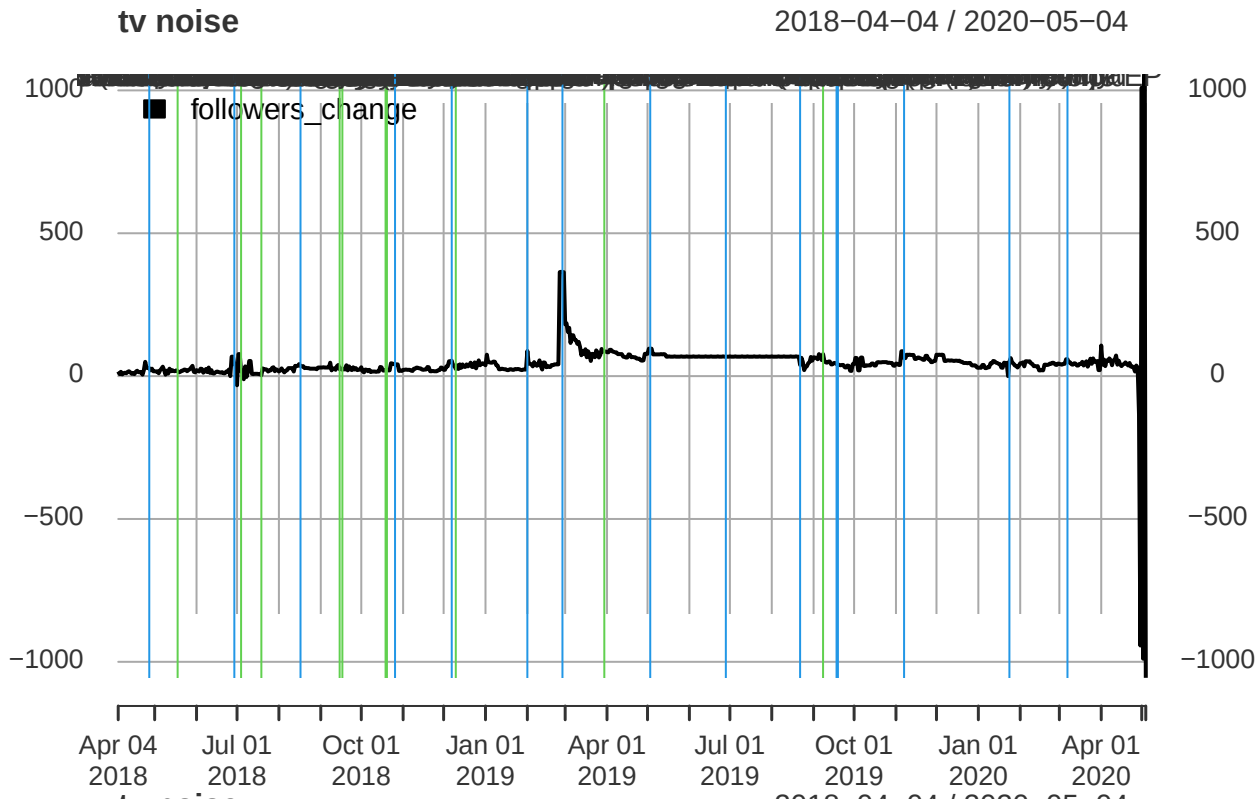
tv noise
2018−04−04 / 2020−05−04
followers_change
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−1000
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Jan 01 2019
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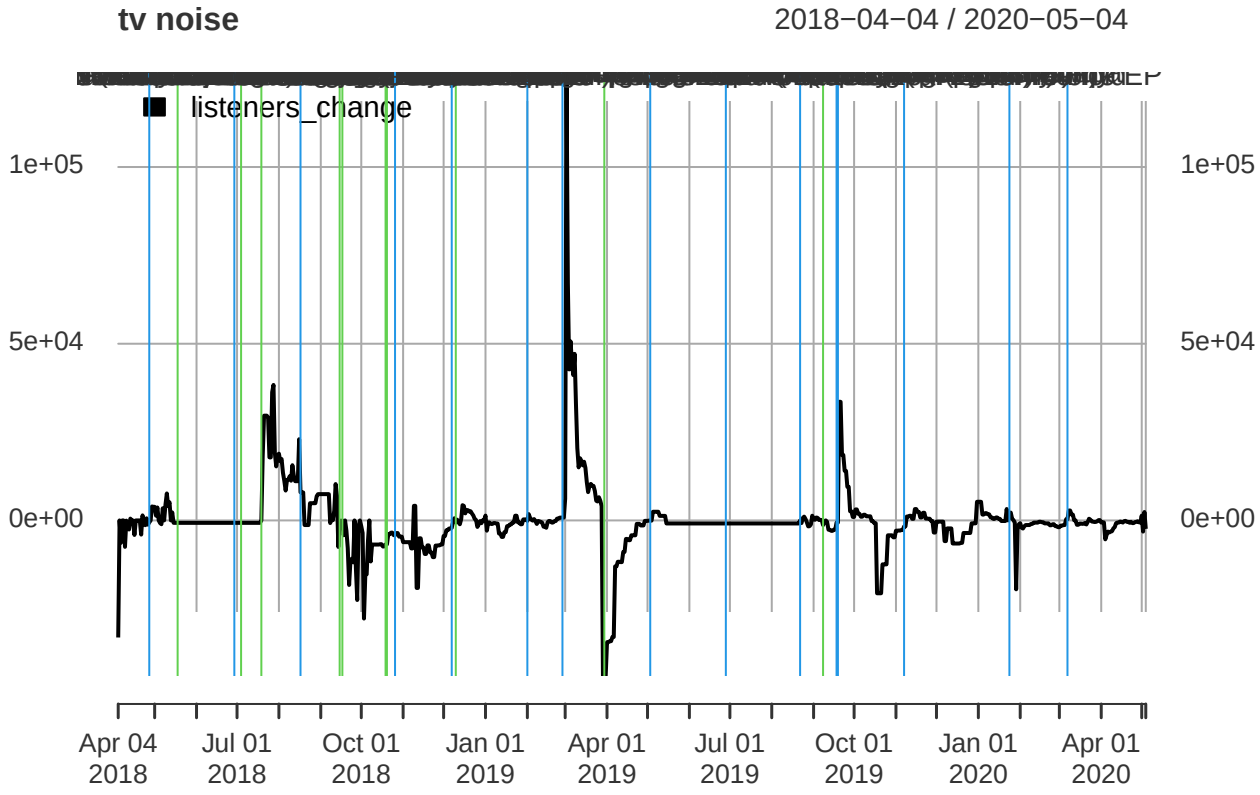
Jan 01 2020
Apr 01 2020


tv noise
2018−04−04 / 2020−05−04
listeners_change
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5e+04
0e+00
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Oct 01 2018
Jan 01 2019
Apr 01 2019
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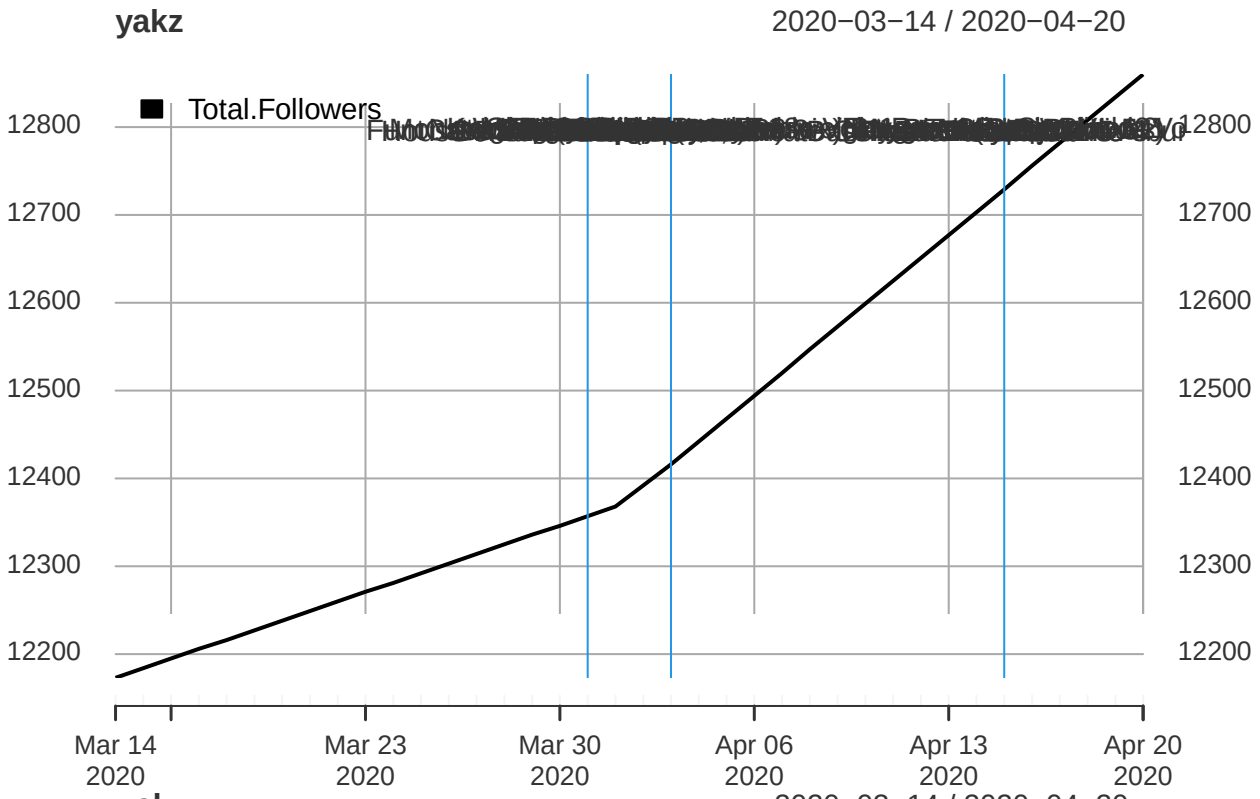
Jan 01 2020
Apr 01 2020


yakz
2020−03−14 / 2020−04−20
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12700
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12300
12200
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Mar 23
2020
Mar 30
2020
Apr 06
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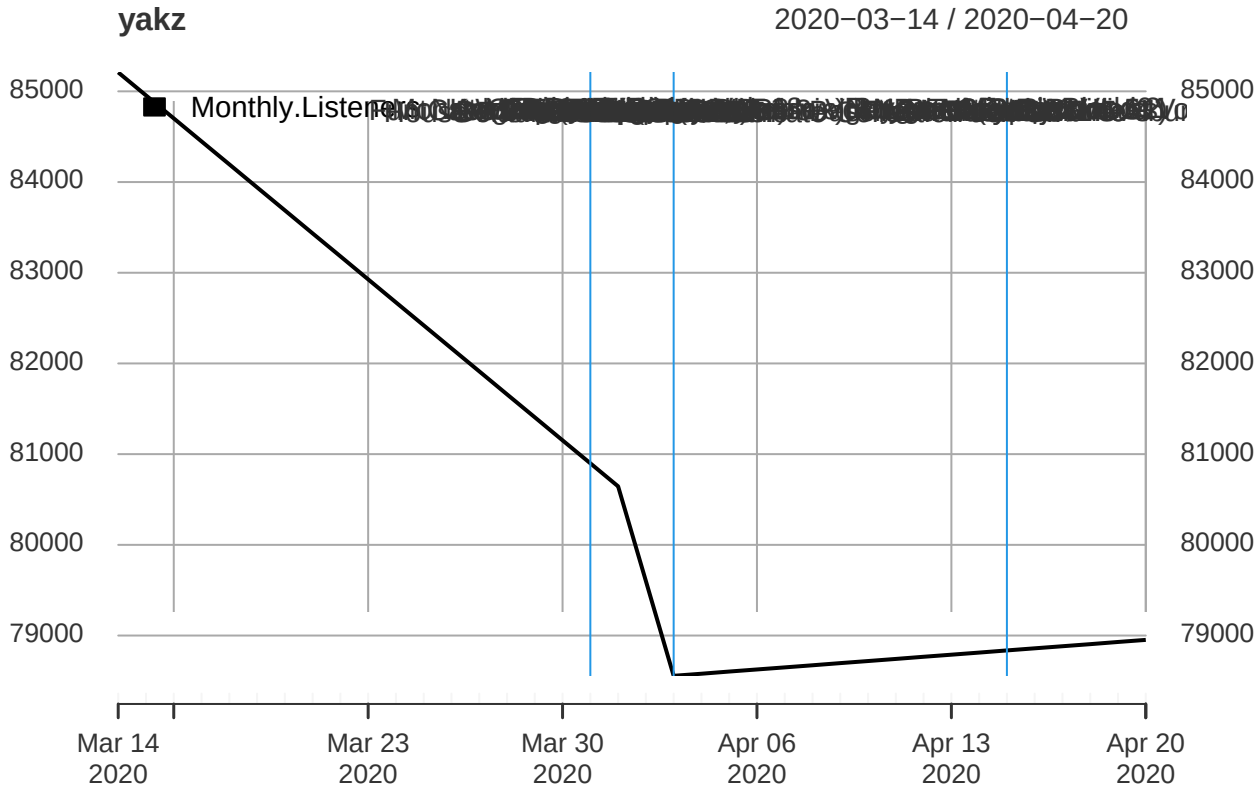
Apr 13
2020
Apr 20
2020


yakz
2020−03−14 / 2020−04−20
Monthly.Listeners
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82000
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80000
79000
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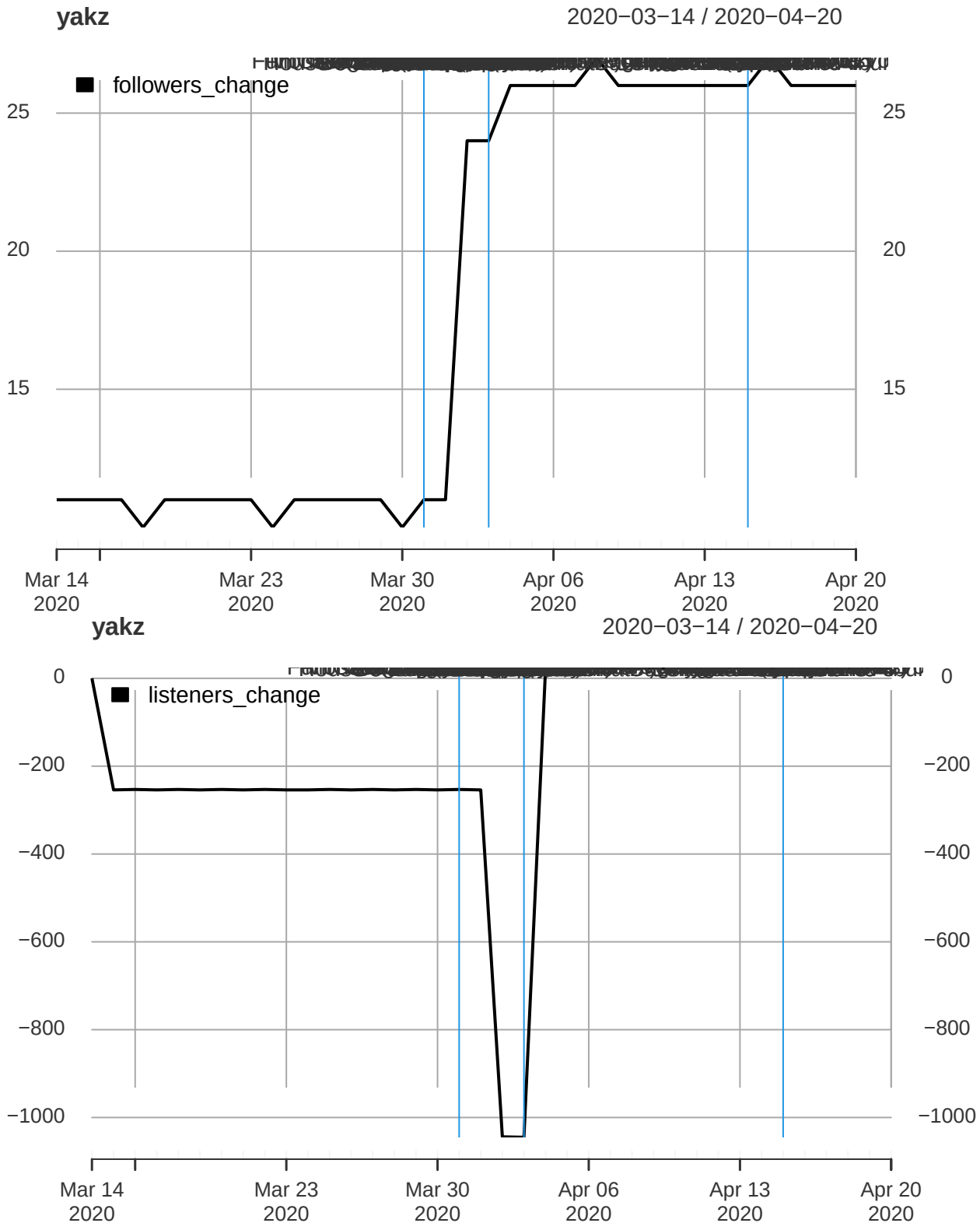
Mar 23
2020
Mar 30
2020
Apr 06
2020
Apr 13
2020
Apr 20
2020


yakz
2020−03−14 / 2020−04−20
followers_change
25
20
15
Mar 14
2020
Mar 23
2020
Mar 30
2020
Apr 06
2020
Apr 13
2020
Apr 20
2020
yakz
2020−03−14 / 2020−04−20
listeners_change
0
−200
−400
−600
−800
−1000
Mar 14
2020
Mar 23
2020
Mar 30
2020
Apr 06
2020
Apr 13
2020
Apr 20
2020