

# APIs

Mark Gallo

- 1. Choose an API
- 2. Authentication
- 3. Send a Simple GET request
- 4. Parse the response and Create a dataset
- 5. API Client

```
library(httr)
library(jsonlite)
library(tidyr)
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
```

```
library(plyr)
```

```
## -----
```

```
## You have loaded plyr after dplyr - this is likely to cause problems.
## If you need functions from both plyr and dplyr, please load plyr first, then dplyr:
## library(plyr); library(dplyr)
```

```
## -----
```

```
##
## Attaching package: 'plyr'
```

```
## The following objects are masked from 'package:dplyr':  
##  
##   arrange, count, desc, failwith, id, mutate, rename, summarise,  
##   summarize
```

```
library(reshape2)
```

```
##  
## Attaching package: 'reshape2'
```

```
## The following object is masked from 'package:tidyr':  
##  
##   smiths
```

## 1. Choose an API

- The News API allows easy access to JSON metadata for headlines and articles that are currently live online.
- Documentation*: <https://newsapi.org/docs> (<https://newsapi.org/docs>)
- API Base*: <https://newsapi.org/v2/everything> (<https://newsapi.org/v2/everything>)?

## 2. Authentication

- This News API authenticates the user through the use of a single API key. This is part of what makes this API easy to access, as it has clear documentation for how to obtain a key.
- Use of the following link: <https://newsapi.org/account> (<https://newsapi.org/account>), provides a user with the ability to apply for an api key. The process is very quick, and once you've made an account an API will be sent to your email as well as stored on your accounts homepage.

## 3. Send a Simple GET request

### a. Execute Get & Document Parameters

*q*: "Keywords or phrases to search for in the article title and body."

*sortBy*: "The order to sort the articles in. Possible options: relevancy, popularity, publishedAt."

*pageSize*: "The number of results to return per page. 20 is the default, 100 is the maximum."

```
endpoint <- "https://newsapi.org/v2/everything?"  
query_params <- list("q" = "The Washington Nationals" , "apiKey" = Sys.getenv("NEWS_API_K  
ey"), "sortBy" = "popularity", "pageSize" = 5)
```

```
NwsGet <- GET(endpoint, query = query_params)
```

## b. Check Status

```
http_status(NwsGet)$message
```

```
## [1] "Success: (200) OK"
```

## c. Check Type

```
http_type(NwsGet)
```

```
## [1] "application/json"
```

# 4. Parse the response and Create a dataset

## a. API output as R object

```
endpoint <- "https://newsapi.org/v2/everything?"  
query_params <- list("q" = "Baseball" , "apiKey" = Sys.getenv("NEWS_API_Key"), "sortBy" =  
"popularity", "pageSize" = 10) #the page size was set to 10 for ease of sight, up to 100  
per request is possible.  
NwsGet <- GET(endpoint, query = query_params)  
newsData <- fromJSON(content(NwsGet, "text"))  
NewsAPI <- data.frame(newsData)  
NewsAPI
```

```

##      status totalResults articles.source.id articles.source.name
## 1      ok          10585          engadget          Engadget
## 2      ok          10585          engadget          Engadget
## 3      ok          10585        techcrunch        TechCrunch
## 4      ok          10585        techcrunch        TechCrunch
## 5      ok          10585        techcrunch        TechCrunch
## 6      ok          10585        techcrunch        TechCrunch
## 7      ok          10585             <NA>        Gizmodo.com
## 8      ok          10585        mashable        Mashable
## 9      ok          10585        mashable        Mashable
## 10     ok          10585        mashable        Mashable
##
##                                     articles.author
## 1                                     Chris Velazco
## 2                                     Steve Dent
## 3                                     Henry Pickavet
## 4                                     Ingrid Lunden
## 5                                     Ingrid Lunden
## 6                                     Matt Burns
## 7 Niko Vorobyov on Earther, shared by Brian Kahn to Gizmodo
## 8                                     Marcus Gilmer
## 9                                     Danica D'Souza
## 10                                    Chris Taylor
##
articles.title
## 1                                     We're live at Samsung's Galaxy Unpacked event in
San Francisco!
## 2                                     Amazon Prime Video will stream 21 Yankees games
in four states
## 3                                     SeeHow helps cricketer
s train smarter
## 4 Minute Media raises $40M more for its user-generated, syndication-based sports publ
ishing platform
## 5                                     Nova Credit banks $50M to expand its service sourcing credit reports
across borders
## 6                                     The 2020 Chevy Corvette is good and will onl
y getter better
## 7                                     Brazil Is Cracking Down on Climate Migrants While Worsening the
Climate Crisis
## 8                                     Baseball card apps bring a classic hobby into
the digital age
## 9                                     Meet the four-legged bat boy of this minor league team - Mas
hable Originals
## 10                                    What the 1918 flu's hidden history can teach the
coronavirus era
##
articles.description
## 1 It seems like just yesterday that Samsung was explaining the "age of experience" at
CES, and now we're in SF to sit through another lengthy, spectacle-filled presentation. T

```

his time, though, the show is all about a handful of smartphones that you've almost ce...  
 ## 2 Amazon Prime Video is continuing its push into sports by announcing that it will stream 21 New York Yankees games during the 2020 Major League Baseball (MLB) season. There's a large caveat, however, as the games will only be available in four states making u p...

## 3 Like baseball, cricket relies on grass, dirt, wood, cork, spit, spin, drop and rise en route to either victory or loss. And like baseball – and just about any other sport, really – cricket coaching staffs and their players worldwide are looking for more ways ...

## 4 When it comes to the internet, content may be king, but in many cases, the emperor has no clothes: that is to say, the masses may click on interesting stories, video, music and other media, but building a lucrative business around that content can be a strugg...

## 5 Around 70% of the world's population now has some form of bank account or – thanks to mobile phones – a facility to receive and send money virtually, according to the World Bank. But when it comes to people crossing borders and setting up lives in new countri...

## 6 What's a Corvette? To me, the formula is simple: Loads of power in an affordable package that can hold two golf bags. For the past 62 years, that meant putting the engine in the front and a stick shift on the floor. And now it's all different, and it's the st...

## 7 The dark, rocky face of the Dois Irmãos Mountain rises over the rainforest and through the clouds, overlooking the largest slum in Latin America. A young man emerges from around the corner of an alleyway to meet me with a handgun tucked under his arm; the loc...

## 8 Eventually, the digital revolution comes for everything, even our nostalgic hobbies. That revolution now includes one of the most nostalgic hobbies of all – baseball cards – which have seen a resurgence in the past few years thanks to a movement into the digi...

## 9 Finn, the Labrador Retriever, is the official bat dog of the Las Vegas Aviators, and he's clearly a valued member of the team. Read more... More about Sports, Mashable Video, Las Vegas, Minor League Baseball, and Bat Dog

## 10 The coronavirus is nothing next to the supremely deadly flu virus of 1918, at least not yet. But when you delve into the history of that epidemic, the main comparison with today becomes clear. It's in our "it can't happen here" attitude. In 1918, modern medic...

##

articles.url

## 1 <https://www.engadget.com/2020/02/11/samsung-galaxy-unpacked-2020-liveblog-galaxy-s20/>

## 2 <https://www.engadget.com/2020/03/04/amazon-prime-video-yankees-games-four-states/>

## 3 <http://techcrunch.com/2020/02/27/seehow-helps-cricketers-train-smarter/>

## 4 <http://techcrunch.com/2020/02/25/minute-media-40-million-publishing/>

## 5 <http://techcrunch.com/2020/02/12/nova-credit-banks-50m-to-expand-its-service-sourcing-credit-reports-across-borders/>

## 6 <http://techcrunch.com/2020/03/02/the-2020-chevy-corvette-is-good-and-will-only-getter-better/>

## 7 <https://earth.gizmodo.com/brazil-is-cracking-down-on-climate-migrants-while-worse-1841796897>

## 8 <https://mashable.com/article/topps-digital-baseball-cards-bunt-app/>

## 9 <https://mashable.com/video/finn-the-bat-dog-las-vegas-aviators/>

<https://mashable.c>

```
## 10
om/article/-coronavirus-flu-1918/
##
articles.urlToImage
## 1
https://o.aolcdn.com/images/dims?thumb
nail=1200%2C630&quality=80&image_uri=https%3A%2F%2Fo.aolcdn.com%2Fimages%2Fdims%3Fresize%
3D2000%252C2000%252Cshrink%26image_uri%3Dhttps%253A%252F%252Fs.yimg.com%252Fos%252Fcreat
-uploaded-images%252F2020-02%252F3d3b1950-4ce0-11ea-8f27-c1439bdf04ab%26client%3Da1acac3e
1b3290917d92%26signature%3D2fe54805b42e428a3f56ed8a83b97599bb39be0c&client=amp-blogsideside-v
2&signature=4530c1d249bd8c33f55ab418e0ee69a35802c56b
## 2 https://o.aolcdn.com/images/dims?thumbnail=1200%2C630&quality=80&image_uri=https%3
A%2F%2Fo.aolcdn.com%2Fimages%2Fdims%3Fcrop%3D3612%252C2408%252C0%252C0%26quality%3D85%26f
ormat%3Djpg%26resize%3D1600%252C1067%26image_uri%3Dhttps%253A%252F%252Fs.yimg.com%252Fos%
252Fcreat-images%252F2020-03%252Fb99d7d80-5ded-11ea-b3ff-a320c38a00%26client%3Da1acac3
e1b3290917d92%26signature%3D0ed30212092d3cf43fb467c4772e12e5d561049f&client=amp-blogsideside-
v2&signature=75e8858f22b54eebfcfb694088a751d3f9eafc9e
## 3
https://techcrunch.com/wp-content/uploads/2020/02/GettyImages-502037149.jpg?w=711
## 4
https://techcrunch.com/wp-content/uploads/2020/02/Screenshot-2020-02-26-at-05.59.57.png?w
=467
## 5
https://techcrunch.com/wp-content/uploads/2019/10/GettyImages-1049195186.jpg?w=600
## 6
https://techcrunch.com/wp-content/uploads/2020/03/DSC01909.jpeg?w=600
## 7
https://i.kinja-img.com/gawker-media/image/upload/c_fill,f_auto,f1_progressive,g_center,h
_675,pg_1,q_80,w_1200/lkrj51nuubckgkvr680d.gif
## 8
https://mondrian.mashable.com/2020%252F03%252F06%252F64%252Fadf04217507f4fdabb039b97259f6
08e.81789.jpg%252F1200x630.jpg?signature=dko2jS_OCaY0nIn-Ghguu0-o0M4=
## 9
https://mondrian.mashable.com/2020%252F02%252F25%252Fa4%252F2cddb054092f4d90af11b932e3e1d
d70.d7b3b.png%252F1200x630.png?signature=IeQH86B5VIfleGfZ8xq5KLL_4Ig=
## 10
https://mondrian.mashable.com/2020%252F03%252F04%252Fef%252F086b6c497f284cee87a31cc0095e4
4eb.12dd9.jpg%252F1200x630.jpg?signature=44cVKyOSbKoOHKeV2pfy4Nj_8vQ=
## articles.publishedAt
## 1 2020-02-11T18:00:00Z
## 2 2020-03-04T08:40:00Z
## 3 2020-02-27T23:58:13Z
## 4 2020-02-26T06:49:27Z
## 5 2020-02-12T14:40:19Z
## 6 2020-03-02T18:15:23Z
## 7 2020-02-26T16:30:00Z
## 8 2020-03-06T17:24:53Z
## 9 2020-02-25T18:39:00Z
## 10 2020-03-04T21:58:58Z
##
```

articles.content

## 1 And there are still other juicy tidbits to keep your eyes peeled for: The Galaxy Home mini might make its first official appearance here, and Samsung just might give us some hands-on time with the new Galaxy Z Flip. Here's hoping that name isn't final. If you... [+521 chars]

## 2 The move seemed inevitable after Amazon bought a minority stake in the Yankee Entertainment Sports (YES) Network last year. The games on Prime Video will also be simulcast by other YES-affiliated terrestrial networks including PIX11. Prime Video users will gain... [+944 chars]

## 3 Like baseball, cricket relies on grass, dirt, wood, cork, spit, spin, drop and rise en route to either victory or loss. And like baseball – and just about any other sport, really – cricket coaching staffs and their players worldwide are looking for more ways ... [+6614 chars]

## 4 When it comes to the internet, content may be king, but in many cases, the emperor has no clothes: that is to say, the masses may click on interesting stories, video, music and other media, but building a lucrative business around that content can be a struggle... [+5665 chars]

## 5 Around 70% of the world's population now has some form of bank account or – thanks to mobile phones – a facility to receive and send money virtually, according to the World Bank. But when it comes to people crossing borders and setting up lives in new countries... [+7361 chars]

## 6 What's a Corvette? To me, the formula is simple: Loads of power in an affordable package that can hold two golf bags. For the past 62 years, that meant putting the engine in the front and a stick shift on the floor. And now it's all different, and it's the start... [+8507 chars]

## 7 The dark, rocky face of the Dois Irmãos Mountain rises over the rainforest and through the clouds, overlooking the largest slum in Latin America. A young man emerges from around the corner of an alleyway to meet me with a handgun tucked under his arm; the location... [+13416 chars]

## 8 Eventually, the digital revolution comes for everything, even our nostalgic hobbies. \r\nThat revolution now includes one of the most nostalgic hobbies of all baseball cards which have seen a resurgence in the past few years thanks to a movement into the digital... [+15108 chars]

## 9

Finn, the Labrador Retriever, is the official bat dog of the Las Vegas Aviators, and he's clearly a valued member of the team.

## 10 The coronavirus is nothing next to the supremely deadly flu virus of 1918, at least not yet. But when you delve into the history of that epidemic, the main comparison with today becomes clear. It's in our "it can't happen here" attitude. \r\nIn 1918, modern medicine... [+9675 chars]

## b. Create a Data Set From the API

```
endpoint <- "https://newsapi.org/v2/everything?"
query_params <- list("q" = "Data Science" , "apiKey" = Sys.getenv("NEWS_API_Key"), "sortBy" = "popularity", "pageSize" = 55)
NwsGet <- GET(endpoint, query = query_params)

query_params <- list("q" = "Big Tech" , "apiKey" = Sys.getenv("NEWS_API_Key"), "sortBy" = "popularity", "pageSize" = 55)
NwsGet2 <- GET(endpoint, query = query_params)
```

```
newsData <- fromJSON(content(NwsGet, "text"))
newsData2 <- fromJSON(content(NwsGet2, "text"))

x <- newsData$articles$title
y <- newsData2$articles$title
z <- append(x,y)
title <- data.frame(z)

a1 <- newsData$articles$author
a2 <- newsData2$articles$author
a12 <- append(a1,a2)
author <- data.frame(a12)

sn1 <- newsData$articles$source$name
sn2 <- newsData2$articles$source$name
sn12 <- append(sn1,sn2)
sourceName <- data.frame(sn12)

pd1 <- as.Date(newsData$articles$publishedAt)
pd2 <- as.Date(newsData2$articles$publishedAt)
pd12 <- append(pd1,pd2)
publishDate <- data.frame(pd12)

theNews <- cbind(title, author, sourceName, publishDate)
theNews <- setNames(theNews, c("Title", "Author", "Publisher", "Date Published"))
theNews
```



```

##
Title
## 1 How t
o Join the Great Backyard Bird Count
## 2 One Form of Online Shopping Is Bett
er for the Climate (It's Not Amazon)
## 3 Canada's first
5G network goes live in four cities
## 4 Smithsonian opens
up 2.8 million images to the public
## 5 NASA's Solar Orbiter is o
n its way to observe the Sun's poles
## 6 Alphabe
t's next moonshot: protect the ocean
## 7 The Atlantic Ocean's 'Con
veyor Belt' Stirs Up a Science Fight
## 8 NASA's Epic Gamb
le to Get Martian Dirt Back to Earth
## 9 What Sci
entists Can Learn From Alien Hunters
## 10 A Star's Auro
ras Light the Way to a New Exoplanet
## 11 NASA's next science mission
s will head for Venus, Io, or Triton
## 12 Our (slightly do
omed) flight to an atmospheric river
## 13 Getting tech right in Iowa and elsewhere requir
es insight into data, human behavior
## 14 The Plaid "mafia" begins with John Whitfield joining
student loan fintech startup Summer
## 15 Localytics founders announce Demand Sage, a startup bringing marketing intelligen
ce to small and mid-sized businesses
## 16 Eight years later, Codecademy achieves what many coding sch
ools do not: it's cash-flow positive
## 17 Rigetti Computing took a $71 million down roun
d, because quantum computing is hard
## 18 New Angellist dataset sheds light on the signa
ling risks of seed-stage investments
## 19 S
eeHow helps cricketers train smarter
## 20 Why you can't overlook the small
details in the pursuit of innovation
## 21 SpaceX wins the $117 million launch contract to e
xplore Psyche's heavy metal asteroid
## 22 Astronomers warn of 'worrisome' light pol
lution from satellite constellations
## 23 Jam lets you
safely share streaming app passwords

```

## 24	The Station: Lucid Motors spy shot and the birth of an AV startup
## 25	The EPA's Proposal to Restrict Science Somehow Gets Worse
## 26	Why I s Courtroom Science So Unscientific?
## 27	Telescope Detects Fast Radio Burst Hitting Earth Every 16 Days
## 28	EPA Science Advisory Board Full of Industry Shills Calls Air Pollution Research 'Not Trustworthy'
## 29	Paleontologists Are Skeptical About Baby Dinosaur Cells Supposedly Found in Fossil
## 30	Data Breach at Controversial Face Recognition Firm Shows Company Can't Be Trusted, Officials Say
## 31	Study Suggests Early Humans Had Even More Interspecies Sex
## 32	Scientists Create Atomic-Level Image of the New Coronavirus's Potential Achilles Heel
## 33	It Appears U.S. Has a 'Smoking Gun' Confirming Huawei-Built Spy Backdoors
## 34	The Shows on Netflix That Could Be Triggering Your Smart Speaker
## 35	China's Space Agency Reveals What It Learned from Deep Radar Probe of Moon's Far Side
## 36	Moviegoers Exposed to Toxic 'Thirdhand Smoke' From Clothing of Smokers, Study Finds
## 37	Mysterious Object Beyond Pluto Could Help Explain How Our Solar System Formed
## 38	The Ouroboros, From Antiquity to AI
## 39	Discovery of 'Invisible Oil' Shows BP Deepwater Horizon Disaster Was Bigger Than We Thought
## 40	A Study Linking E-Cigs to Heart Attacks Was Just Retracted—What Does That Mean for Vaping's Health Risks?
## 41	The Truth About Bioplastic
## 42	The Huge Holes in the EU's New Climate Law Proposal
## 43	NASA Can't Contact Voyager 2 Until 2021, as Deep Space Antenna Gets Much-Needed Upgrades
## 44	In Texas, a 26-Year Old Green New Deal Candidate Could Defeat a Koch-Backed Congressman
## 45	How the UN's Shady Aviation Organization Could Upend a Key Effort to Combat Climate Change
## 46	Learn how Netflix recommendations work with this data science training
## 47	Here's what Big Tech actually wants with your medical data
## 48	India's

bird population 'going down sharply'

## 49

Dubs or subs? Parasite renews

debate on how to watch foreign films

## 50

Here's how long coronaviruses may linger on contami

nated surfaces, according to science

## 51

Drones. Disinfecting robots. Supercomputers. Coronavirus

is a test for China's tech industry

## 52

'I

have sensation in my breasts again'

## 53

Crossing Divides: Why 'cartoonin

g' political opponents is bad for us

## 54

Jeff Bezos Earth Fund:

How can \$10bn fight climate change?

## 55

WHO data shows coronaviru

s is containable—US fails to contain

## 56

How to Prevent Strangers From Inv

ading Your 'Private' WhatsApp Groups

## 57

Why Can't Window

s 10 Find My Shared Network Folders?

## 58

How to Block Out

the World When You're Trying to Work

## 59

Are My Landlord's S

ecurity Cameras Invading My Privacy?

## 60

Google Maps borrows Lens tech to

highlight popular restaurant dishes

## 61

New music label says it ca

n use AI to find the next big artist

## 62

Leak shows Samsung's fashionab

le Galaxy Z Flip Thom Browne Edition

## 63

Gboard for Android c

ombines old emoji to create new ones

## 64

Facebook withdraws

from GDC due to coronavirus concerns

## 65

Waymo's fifth-generatio

n Driver can peek around blind spots

## 66

The Morning After: Sony and Amazo

n skip MWC over coronavirus concerns

## 67

Rian Johnson: Apple won't let

movie villains use iPhones on camera

## 68

Amazon is the latest to pull

out of MWC over coronavirus worries

## 69

Google's wireless gigabit

internet is now called Fiber Webpass

## 70

The Morning After: The Nintendo

PlayStation prototype sold for \$360k

## 71

The Morning After: A

mazon's accelerated one-day shipping

## 72

Microsoft confirms Xbox

Series X will have a 12 teraflop GPU

## 73

Mars II Pro projector drops to \$460

## 74

tire concept 'prints' its own treads

## 75

icizes Tesla over 2018 Model X crash

## 76

The making of a diverse game studio

## 77

stors: Are Tech Giants Too Powerful?

## 78

eed to Talk About "Cloud Neutrality"

## 79

20 Deals (and Which Model to Choose)

## 80

Glorious Way to Clean Your Derrière

## 81

ts to Pay You (in Crypto) to Do Good

## 82

Spectacle of Samsung's Launch Event

## 83

tails: Features, Processor, and More

## 84

20 Ultra: Price, Specs, Release Date

## 85

Repair Will Help Us Endure Outbreaks

## 86

avirus responses are getting serious

## 87

to avoid travel, postpone big events

## 88

Snap is testing a big new redesign

## 89

social media stunts keep backfiring

## 90

Facebook could learn from Microsoft

## 91

\$10 billion to fight climate change

## 92

networks for our polarized politics

## 93

epts imagine a wild future of phones

## 94

How photoshop became a verb

## 95

rint because Sprint completely sucks

## 96

munities if child abuse isn't curbed

## 97

Wirecutter's best deals: Anker's Nebula

Goodyear's smart

The Morning After: NTSB chair crit

The DOJ Asks Startup Inve

We N

The Best Samsung Galaxy S

Coway Bidetmega 400 Review: A

This Social Network Wan

The

Xbox Series X De

Samsung Galaxy S20, S20+, S

The Right to

Big tech's coron

New county guidance asks tech giants

The Bloomberg campaign's

What

Jeff Bezos commits

Why we can't blame social

TCL's new foldable and rollable conc

The court let T-Mobile buy Sp

US threatens to pull big tech's im

Lack of big tech GDPR decisions looms

large in EU watchdog's annual report  
 ## 98 Elizabeth Warren, big tech's sworn foe, drops out of 2020 race  
 ## 99 VCs warn coronavirus will impact fundraising for the next 2 quarters  
 ## 100 Mangrove Capital's Mark Pluszcz on the huge mHealth opportunity and why focusing on UX is key  
 ## 101 FTC to examine every acquisition by Alphabet, Amazon, Apple, Facebook and Microsoft in 2010-2019 over antitrust issues  
 ## 102 Optimize employee onboarding to better retain top talent  
 ## 103 Daily Crunch: Nokia's CEO is stepping down  
 ## 104 AdQuick raises \$6M to conquer an advertising market Google and Facebook won't  
 ## 105 Connie Chan of Andreessen Horowitz discusses consumer tech's winners and losers  
 ## 106 Loon and SoftBank's HAPSMobile team with Airbus, China Telecom and more on stratospheric cell networks  
 ## 107 Coronavirus fears hit markets, bringing US shares down as tech and SaaS slip  
 ## 108 London's Angel CoFund boosts its team and board with two key hires  
 ## 109 Gaming-focused investment firm Bitkraft closes in on at least \$140 million for its second fund  
 ## 110 Judge rejects Tulsi Gabbard's 'free speech' lawsuit against Google  
 ## Author  
 ## 1 Beth Skwarecki  
 ## 2 Dharna Noor on Earther, shared by Virginia K. Smith to Lifehacker  
 ## 3 Jon Fingas  
 ## 4 Christine Fisher  
 ## 5 Steve Dent  
 ## 6 Nick Summers  
 ## 7 Evan Lubofsky  
 ## 8 G. Ryan Faith  
 ## 9 Sarah Scoles  
 ## 10 Nola Taylor Redd  
 ## 11 Mary Beth Griggs  
 ## 12 William Poor  
 ## 13 Walter Thompson  
 ## 14 Danny Crichton  
 ## 15 Anthony Ha  
 ## 16 Connie Loizos  
 ## 17 Jonathan Shieber  
 ## 18 Danny Crichton  
 ## 19 Henry Pickavet  
 ## 20 Danny Crichton  
 ## 21 Jonathan Shieber

## 22	Devin Coldewey
## 23	Josh Constine
## 24	Kirsten Korosec
## 25	Dharna Noor on Earther, shared by Brian Kahn to Gizmodo
## 26	Jackie Rocheleau
## 27	Ryan F. Mandelbaum
## 28	Jason Plautz on Earther, shared by Brian Kahn to Gizmodo
## 29	George Dvorsky
## 30	Dell Cameron
## 31	Ryan F. Mandelbaum
## 32	Ryan F. Mandelbaum
## 33	Alex Cranz
## 34	Catie Keck
## 35	Ryan F. Mandelbaum
## 36	Ryan F. Mandelbaum
## 37	Ryan F. Mandelbaum
## 38	Sarah Durn
## 39	Dharna Noor on Earther, shared by Brian Kahn to Gizmodo
## 40	Ed Cara
## 41	Brian Kahn on Earther, shared by Jody Serrano to Gizmodo
## 42	Dharna Noor on Earther, shared by Brian Kahn to Gizmodo
## 43	George Dvorsky
## 44	Dharna Noor on Earther, shared by Brian Kahn to Gizmodo
## 45	Jocelyn Timperley on Earther, shared by Brian Kahn to Gizmodo
## 46	Veronika Kero
## 47	Rachel Kraus
## 48	<a href="https://www.facebook.com/bbcnews">https://www.facebook.com/bbcnews</a>
## 49	<a href="https://www.facebook.com/bbcnews">https://www.facebook.com/bbcnews</a>
## 50	Jacqueline Howard, CNN
## 51	Michelle Toh and Serenitie Wang, CNN Business
## 52	<a href="https://www.facebook.com/bbcnews">https://www.facebook.com/bbcnews</a>
## 53	<a href="https://www.facebook.com/bbcnews">https://www.facebook.com/bbcnews</a>
## 54	<a href="https://www.facebook.com/bbcnews">https://www.facebook.com/bbcnews</a>
## 55	Beth Mole
## 56	David Murphy
## 57	David Murphy
## 58	David Murphy
## 59	David Murphy
## 60	Steve Dent
## 61	Igor Bonifacic
## 62	Jon Fingas
## 63	Mariella Moon
## 64	Nicole Lee
## 65	Christine Fisher
## 66	Mat Smith
## 67	Rachel England
## 68	Jon Fingas
## 69	Mariella Moon
## 70	Richard Lawler

## 71	Engadget
## 72	Devindra Hardawar
## 73	Wirecutter
## 74	Andrew Tarantola
## 75	Richard Lawler
## 76	Chris Ip
## 77	Tom Simonite
## 78	Molly Wood
## 79	Julian Chokkattu
## 80	Parker Hall
## 81	Gregory Barber
## 82	WIRED Staff
## 83	Cecilia D'Anastasio
## 84	Boone Ashworth, Lauren Goode
## 85	Kyle Wiens
## 86	Dieter Bohn
## 87	Jay Peters
## 88	Casey Newton
## 89	Casey Newton
## 90	Casey Newton
## 91	Jay Peters
## 92	Casey Newton
## 93	Chaim Gartenberg
## 94	Jacob Kastrenakes
## 95	Nilay Patel
## 96	Zack Whittaker
## 97	Natasha Lomas
## 98	Taylor Hatmaker
## 99	Sarah Buhr
## 100	Natasha Lomas
## 101	Ingrid Lunden
## 102	Walter Thompson
## 103	Anthony Ha
## 104	Lucas Matney
## 105	Connie Loizos
## 106	Darrell Etherington
## 107	Jonathan Shieber
## 108	Mike Butcher
## 109	Jonathan Shieber
## 110	Taylor Hatmaker

##	Publisher	Date Published
## 1	Lifehacker.com	2020-02-10
## 2	Gizmodo.com	2020-02-26
## 3	Engadget	2020-03-06
## 4	Engadget	2020-02-25
## 5	Engadget	2020-02-10
## 6	Engadget	2020-03-02
## 7	Wired	2020-02-18
## 8	Wired	2020-02-14

## 9	Wired	2020-02-10
## 10	Wired	2020-02-23
## 11	The Verge	2020-02-13
## 12	The Verge	2020-02-25
## 13	TechCrunch	2020-02-13
## 14	TechCrunch	2020-02-24
## 15	TechCrunch	2020-02-10
## 16	TechCrunch	2020-02-20
## 17	TechCrunch	2020-03-05
## 18	TechCrunch	2020-03-02
## 19	TechCrunch	2020-02-27
## 20	TechCrunch	2020-02-29
## 21	TechCrunch	2020-02-28
## 22	TechCrunch	2020-02-14
## 23	TechCrunch	2020-02-11
## 24	TechCrunch	2020-02-17
## 25	Gizmodo.com	2020-03-05
## 26	Gizmodo.com	2020-02-26
## 27	Gizmodo.com	2020-02-10
## 28	Gizmodo.com	2020-02-18
## 29	Gizmodo.com	2020-03-02
## 30	Gizmodo.com	2020-02-26
## 31	Gizmodo.com	2020-02-20
## 32	Gizmodo.com	2020-02-19
## 33	Gizmodo.com	2020-02-11
## 34	Gizmodo.com	2020-02-24
## 35	Gizmodo.com	2020-02-26
## 36	Gizmodo.com	2020-03-04
## 37	Gizmodo.com	2020-02-13
## 38	Gizmodo.com	2020-03-04
## 39	Gizmodo.com	2020-02-12
## 40	Gizmodo.com	2020-02-21
## 41	Gizmodo.com	2020-03-07
## 42	Gizmodo.com	2020-03-04
## 43	Gizmodo.com	2020-03-06
## 44	Gizmodo.com	2020-02-28
## 45	Gizmodo.com	2020-03-05
## 46	Mashable	2020-03-09
## 47	Mashable	2020-02-27
## 48	BBC News	2020-02-18
## 49	BBC News	2020-02-23
## 50	CNN	2020-02-17
## 51	CNN	2020-02-24
## 52	BBC News	2020-03-04
## 53	BBC News	2020-02-15
## 54	BBC News	2020-02-19
## 55	Ars Technica	2020-02-29
## 56	Lifehacker.com	2020-02-24
## 57	Lifehacker.com	2020-02-14



## 58	Lifehacker.com	2020-02-13
## 59	Lifehacker.com	2020-03-06
## 60	Engadget	2020-03-09
## 61	Engadget	2020-02-10
## 62	Engadget	2020-02-10
## 63	Engadget	2020-02-12
## 64	Engadget	2020-02-20
## 65	Engadget	2020-03-04
## 66	Engadget	2020-02-10
## 67	Engadget	2020-02-26
## 68	Engadget	2020-02-10
## 69	Engadget	2020-02-21
## 70	Engadget	2020-03-07
## 71	Engadget	2020-03-04
## 72	Engadget	2020-02-24
## 73	Engadget	2020-02-20
## 74	Engadget	2020-03-03
## 75	Engadget	2020-02-26
## 76	Engadget	2020-02-12
## 77	Wired	2020-02-14
## 78	Wired	2020-02-10
## 79	Wired	2020-02-20
## 80	Wired	2020-02-16
## 81	Wired	2020-02-14
## 82	Wired	2020-02-14
## 83	Wired	2020-02-24
## 84	Wired	2020-02-11
## 85	Wired	2020-03-05
## 86	The Verge	2020-03-04
## 87	The Verge	2020-03-06
## 88	The Verge	2020-02-13
## 89	The Verge	2020-02-25
## 90	The Verge	2020-03-03
## 91	The Verge	2020-02-17
## 92	The Verge	2020-02-28
## 93	The Verge	2020-03-05
## 94	The Verge	2020-02-19
## 95	The Verge	2020-02-12
## 96	TechCrunch	2020-03-05
## 97	TechCrunch	2020-02-19
## 98	TechCrunch	2020-03-05
## 99	TechCrunch	2020-03-07
## 100	TechCrunch	2020-02-21
## 101	TechCrunch	2020-02-11
## 102	TechCrunch	2020-03-06
## 103	TechCrunch	2020-03-02
## 104	TechCrunch	2020-02-13
## 105	TechCrunch	2020-03-02
## 106	TechCrunch	2020-02-21

```
## 107    TechCrunch    2020-02-24
## 108    TechCrunch    2020-02-11
## 109    TechCrunch    2020-02-21
## 110    TechCrunch    2020-03-05
```

### c. Provide Summary Statistics & RDS File

#### Summary Statistics

We see that 74 unique accounts wrote the 110 articles, one account was deleted so of the 74 it is possible to identify 73. The 110 articles were published by only 9 unique publishers. This appears to suggest that most of the content regarding Data Science and Big Tech is published by a relatively small quantity of publishers.

```
str(theNews)
```

```
## 'data.frame':    110 obs. of  4 variables:
## $ Title          : Factor w/ 110 levels "'I have sensation in my breasts again'",...: 3
7 63 10 72 56 5 78 58 103 2 ...
## $ Author         : Factor w/ 74 levels "Alex Cranz","Andrew Tarantola",...: 5 22 40 13
66 54 26 27 65 57 ...
## $ Publisher      : Factor w/ 10 levels "Ars Technica",...: 6 5 4 4 4 4 10 10 10 10 ...
## $ Date Published: Date, format: "2020-02-10" "2020-02-26" ...
```

```
saveRDS(theNews, "theNews.RDS")
```

## 5. API Client

The search function allows users to search to see if a topic has been in the news in the last month. The user is able to obtain the title, author, publisher, date, and time of publication from their desired search. They can specify how many results they wish to see as well. The max request for one search is 100.

```
search <- function(q = "water", pageSize = 10){
  if(endpoint == "https://newsapi.org/v2/everything?"){
    queryParams <- list("q" = q,"apiKey" = Sys.getenv("NEWS_API_Key"), "pageSize" = pageS
    ize)
    Nws <- GET(endpoint, query = queryParams)
    print(http_status(NwsGet)$message)
    fromJ <- fromJSON(content(Nws,"text"))

    x1 <- data.frame(fromJ$articles$title)
    x2 <- data.frame(fromJ$article$author)
    x3 <- data.frame(fromJ$article$source$name)
    x4 <- data.frame(fromJ$article$publishedAt)
    x <- cbind(x1,x2,x3,x4)
    x <- setNames(x, c("Title", "Author", "Publisher", "Date Published"))
    x
  }
}

saveRDS(x, "api_client_output.RDS") #The rds save resets with each use of the function
```

```
search() #An empty search will default to 10 articles about water
```

```
## [1] "Success: (200) OK"
```

```

##                                                                    Tit
le
## 1                                Should You Drink Water Out of a Chocolate Syrup Bottl
e?
## 2                                The Big (Yet Hidden) Consequences of Antarctica's Record He
at
## 3 The best water filter bottles for traveling: Portable clean water is a must-pack it
em
## 4                                Use This Website to Stop Touching Your Damn Face With Your Virus Han
ds
## 5                                The best water filter bottles for travelling from the
UK
## 6                                Make sure your tap water is safe to drink with one of the
se
## 7                                What everyone should know about drinking tap wat
er
## 8                                Cars submerged after major water main brea
ks
## 9                                8 of the best water filters in the
UK
## 10                               How to Actually Enjoy the Painful Pleasure of Spicy Fo
od
##      Author      Publisher      Date Published
## 1    Joel Kahn Lifehacker.com 2020-02-14T15:30:00Z
## 2    Matt Simon      Wired 2020-02-11T13:00:00Z
## 3    Veronika Kero      Mashable 2020-02-20T18:32:02Z
## 4    David Murphy Lifehacker.com 2020-03-06T20:00:00Z
## 5    Joseph Green      Mashable 2020-02-26T08:00:00Z
## 6    Miller Kern      Mashable 2020-02-18T15:10:49Z
## 7    Miller Kern      Mashable 2020-02-12T10:00:00Z
## 8      <NA>          CNN 2020-02-28T13:08:09Z
## 9    Joseph Green      Mashable 2020-02-20T07:00:00Z
## 10   Kristin Wong Lifehacker.com 2020-02-25T15:55:00Z

```

```
search("Politics", 16)
```

```
## [1] "Success: (200) OK"
```

```

##
Title
## 1 Why we can't blame social networks for
our polarized politics
## 2 Van Jones criticizes Dems' 'fant
asy football politics'
## 3 Avlon: Coronavirus doesn't care a
bout partisan politics
## 4 Result of Iowa debacle: Even more cy
nicism about politics?
## 5 The Dangerous Seducti
on of a Trillion Trees
## 6 Pete Buttigieg Deletes Tweet Slamming Bernie Sanders and 'Revolution
ary Politics' of 1960s
## 7 Now is the time to start your politics podcast. Her
e's how to get started.
## 8 Researchers have already tested Google's algorit
hms for political bias
## 9 Politics this week
## 10 Politics this week
## 11 Politics this week
## 12 Politics this week
## 13 Politics this week
## 14 'Big dreams never die:' Elizabeth Warren drops out of the race, and
women know exactly why
## 15 British politician wants to sleep over at your house. He'll bring a box of chocola
tes and a sleeping bag.
## 16 Newfoundland and Labrador premier stepping down | Power
& Politics - CBC News
## Author Publisher
## 1 Casey Newton The Verge
## 2 <NA> CNN
## 3 <NA> CNN
## 4 <NA> CNN
## 5 Brian Kahn on Earther, shared by Brian Kahn to Gizmodo Gizmodo.com
## 6 Matt Novak Gizmodo.com
## 7 (Deleted account) Mashable
## 8 Ars Staff Ars Technica
## 9 The Economist Economist.com
## 10 The Economist Economist.com
## 11 The Economist Economist.com
## 12 The Economist Economist.com
## 13 The Economist Economist.com

```

## 14

Rebecca Ruiz

Mashable

## 15

Rachel Thompson

Mashable

## 16

&lt;NA&gt;

Youtube.com

## Date Published

## 1 2020-02-28T11:00:00Z

## 2 2020-02-09T01:14:57Z

## 3 2020-02-27T14:31:43Z

## 4 2020-02-09T20:51:18Z

## 5 2020-02-15T15:00:00Z

## 6 2020-02-26T12:30:00Z

## 7 2020-03-03T12:00:00Z

## 8 2020-02-15T17:15:07Z

## 9 2020-02-27T15:49:31Z

## 10 2020-03-05T16:09:45Z

## 11 2020-02-20T15:56:57Z

## 12 2020-02-13T16:09:32Z

## 13 2020-02-27T16:12:17Z

## 14 2020-03-05T19:22:56Z

## 15 2020-02-11T12:04:04Z

## 16 2020-02-18T00:39:19Z