article

Quillo

2024-03-09

Libs

```
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(stringr)
library(httr)
library(rvest)
```

```
#url
url <- 'https://arxiv.org/search/?query=5G&searchtype=all&abstracts=show&order=-announced_date_first&si

parse_url(url)
```

```
## $scheme
## [1] "https"
##
## $hostname
## [1] "arxiv.org"
##
## $port
## NULL
##
## $path
## [1] "search/"
##
## $query
## $query$query
## [1] "5G"
##
## $query$searchtype
## [1] "all"
##
## $query$abstracts
## [1] "show"
```

```
##
## $query$order
## [1] "-announced_date_first"
##
## $query$size
## [1] "50"
##
## $query$start
## [1] "0"
##
##
## $params
## NULL
##
## $fragment
## NULL
##
## $username
## NULL
##
## $password
## NULL
##
## attr(,"class")
## [1] "url"
```

```
start <- proc.time()
title <- NULL
author <- NULL
subject <- NULL
abstract <- NULL
meta <- NULL
```

```
pages <- seq(from = 0, to = 100, by = 50)

for( i in pages){

  tmp_url <- modify_url(url, query = list(start = i))
  tmp_list <- read_html(tmp_url) %>%
    html_nodes('p.list-title.is-inline-block') %>%
    html_nodes('a[href^="https://arxiv.org/abs"]') %>%
    html_attr('href')

  for(j in 1:length(tmp_list)){

    tmp_paragraph <- read_html(tmp_list[j])

    # title
    tmp_title <- tmp_paragraph %>% html_nodes('h1.title.mathjax') %>% html_text(T)
    tmp_title <-  gsub('Title:', '', tmp_title)
    title <- c(title, tmp_title)

    # author
    tmp_author <- tmp_paragraph %>% html_nodes('div.authors') %>% html_text
    tmp_author <- gsub('\\s+',' ',tmp_author)
```

```
    tmp_author <- gsub('Authors:','',tmp_author) %>% str_trim
    author <- c(author, tmp_author)

    # subject
    tmp_subject <- tmp_paragraph %>% html_nodes('span.primary-subject') %>% html_text(T)
    subject <- c(subject, tmp_subject)

    # abstract
    tmp_abstract <- tmp_paragraph %>% html_nodes('blockquote.abstract.mathjax') %>% html_text(T)
    tmp_abstract <- gsub('\\s+',' ',tmp_abstract)
    tmp_abstract <- sub('Abstract:','',tmp_abstract) %>% str_trim
    abstract <- c(abstract, tmp_abstract)

    # meta
    tmp_meta <- tmp_paragraph %>% html_nodes('div.submission-history') %>% html_text
    tmp_meta <- lapply(strsplit(gsub('\\s+', ' ',tmp_meta), '[v1]', fixed = T),'[',2) %>% unlist %>% st
    meta <- c(meta, tmp_meta)
    cat(j, "paper\n")
    Sys.sleep(1)

  }
  cat((i/50) + 1,'/ 9 page\n')

}
```

```
## 1 paper
## 2 paper
## 3 paper
## 4 paper
## 5 paper
## 6 paper
## 7 paper
## 8 paper
## 9 paper
## 10 paper
## 11 paper
## 12 paper
## 13 paper
## 14 paper
## 15 paper
## 16 paper
## 17 paper
## 18 paper
## 19 paper
## 20 paper
## 21 paper
## 22 paper
## 23 paper
## 24 paper
## 25 paper
## 26 paper
## 27 paper
## 28 paper
## 29 paper
```

```
## 30 paper
## 31 paper
## 32 paper
## 33 paper
## 34 paper
## 35 paper
## 36 paper
## 37 paper
## 38 paper
## 39 paper
## 40 paper
## 41 paper
## 42 paper
## 43 paper
## 44 paper
## 45 paper
## 46 paper
## 47 paper
## 48 paper
## 49 paper
## 50 paper
## 1 / 9 page
## 1 paper
## 2 paper
## 3 paper
## 4 paper
## 5 paper
## 6 paper
## 7 paper
## 8 paper
## 9 paper
## 10 paper
## 11 paper
## 12 paper
## 13 paper
## 14 paper
## 15 paper
## 16 paper
## 17 paper
## 18 paper
## 19 paper
## 20 paper
## 21 paper
## 22 paper
## 23 paper
## 24 paper
## 25 paper
## 26 paper
## 27 paper
## 28 paper
## 29 paper
## 30 paper
## 31 paper
## 32 paper
```

```
## 33 paper
## 34 paper
## 35 paper
## 36 paper
## 37 paper
## 38 paper
## 39 paper
## 40 paper
## 41 paper
## 42 paper
## 43 paper
## 44 paper
## 45 paper
## 46 paper
## 47 paper
## 48 paper
## 49 paper
## 50 paper
## 2 / 9 page
## 1 paper
## 2 paper
## 3 paper
## 4 paper
## 5 paper
## 6 paper
## 7 paper
## 8 paper
## 9 paper
## 10 paper
## 11 paper
## 12 paper
## 13 paper
## 14 paper
## 15 paper
## 16 paper
## 17 paper
## 18 paper
## 19 paper
## 20 paper
## 21 paper
## 22 paper
## 23 paper
## 24 paper
## 25 paper
## 26 paper
## 27 paper
## 28 paper
## 29 paper
## 30 paper
## 31 paper
## 32 paper
## 33 paper
## 34 paper
## 35 paper
```

```
## 36 paper
## 37 paper
## 38 paper
## 39 paper
## 40 paper
## 41 paper
## 42 paper
## 43 paper
## 44 paper
## 45 paper
## 46 paper
## 47 paper
## 48 paper
## 49 paper
## 50 paper
## 3 / 9 page
```

```
#making data frame
papers <- data.frame(title, author, subject, abstract, meta)
papers[1:50,]
```

```
##
## 1                                                                                    Boosting Fairness and
## 2                                                                  Performance evaluation of conditional
## 3                                                                                      ZF Beamforming
## 4                                                                                           Scalable N
## 5                                                                                               Neura
## 6                                                                 Tensor Decomposition-based Time Varying Cha
## 7                                                                        Over-The-Air Double-Threshold Deep
## 8                                                          Towards Intent-Based Network Management: Large Language Mod
## 9                                                Target Localization and Performance Trade-Offs in Cooperative ISAC
## 10                                                                                          Penetratio
## 11                                                                                  An Experimental
## 12                                                                Exploring Upper-6GHz and mmWave in Real-Wo
## 13                                  Diffraction and Scattering Aware Radio Map and Environment Reconstructio
## 14                                                                                              Attac
## 15  RF-Flashlight Testbed for Verification of Real-Time Geofencing of EESS Radiometers and Millimete
## 16                                                                      Impact of new 5G network co
## 17                                                                      Gravity effects on a bio-in
## 18                                                             HBF MU-MIMO with Interference-Aware Beam Pair L
## 19                                               Analyzing Downlink Coverage in Clustered Low Earth Orbit Satellite C
## 20
## 21                                                                          Towards Automated Causal Discove
## 22                                             Exploring Emerging Trends in 5G Malicious Traffic Analysis and Increm
## 23                                                                  Cluster-then-Match: Efficient Manag
## 24                                                                Electric Field Evaluation of Reconfigur
## 25
## 26       YOLO-Ant: A Lightweight Detector via Depthwise Separable Convolutional and Large Kernel Des
## 27                                                                      Towards Energy Efficient RAN:
## 28                                                                                                  5G
## 29 Universal Design Methodology for Printable Microstructural Materials via a New Deep Generative Le
```

```
## 30                                                                                                  Adaptive Constellation Mu
## 31
## 32                                                                                                        Evaluation of EAP Usage fo
## 33                                                                                          Towards 6G Evolution: Three Enhancements,
## 34                                                                                  Exploring RIS Coverage Enhancement in Factories:
## 35                                                                                                                                  A
## 36                                                                                                                        Neural
## 37                                                                                              Preserving Data Privacy for ML-drive
## 38                                                                                                                      A Multi
## 39                                                                                   RIS-Empowered LEO Satellite Networks for 6G: Pr
## 40                                                                                                  Structured Satellite-UAV-T
## 41                                                                                        Modeling of Key Quality Indicators for En
## 42                                                                  System-level Analysis of Adversarial Attacks and Defenses on
## 43
## 44                                                                                    Compression effects and scene details on the s
## 45                                                                           Environmental Awareness Dynamic 5G QoS for Retaining
## 46                                                                                  Design of a 5G Multimedia Broadcast Applicatio
## 47
## 48                                                                                                                        Can 5G
## 49                                                                                        Energy- and Quality-Aware Video Request P
## 50                                                                                                  Design and Prototyping of
##
## 1
## 2
## 3
## 4
## 5
## 6
## 7
## 8
## 9
## 10
## 11
## 12
## 13
## 14
## 15
## 16
## 17
## 18
## 19
## 20
## 21
## 22
## 23
## 24
## 25
## 26
## 27
## 28
## 29
## 30
## 31 James Moore (1), Aaron M. Graham (1), Manos M. Tentzeris (2), Vincent Fusco (1), Stylianos D. Asi
## 32
```

```
## 33
## 34
## 35
## 36
## 37
## 38
## 39
## 40
## 41
## 42
## 43
## 44
## 45
## 46
## 47
## 48
## 49
## 50
##                                          subject
## 1                          Machine Learning (cs.LG)
## 2     Networking and Internet Architecture (cs.NI)
## 3                           Information Theory (cs.IT)
## 4     Networking and Internet Architecture (cs.NI)
## 5                         Signal Processing (eess.SP)
## 6                           Information Theory (cs.IT)
## 7                         Signal Processing (eess.SP)
## 8     Networking and Internet Architecture (cs.NI)
## 9                         Signal Processing (eess.SP)
## 10                Cryptography and Security (cs.CR)
## 11                                  Multimedia (cs.MM)
## 12    Networking and Internet Architecture (cs.NI)
## 13                        Signal Processing (eess.SP)
## 14                Cryptography and Security (cs.CR)
## 15                        Signal Processing (eess.SP)
## 16                        Signal Processing (eess.SP)
## 17           Soft Condensed Matter (cond-mat.soft)
## 18    Networking and Internet Architecture (cs.NI)
## 19                        Signal Processing (eess.SP)
## 20                          Information Theory (cs.IT)
## 21                            Machine Learning (cs.LG)
## 22                Cryptography and Security (cs.CR)
## 23    Networking and Internet Architecture (cs.NI)
## 24                    Systems and Control (eess.SY)
## 25    Networking and Internet Architecture (cs.NI)
## 26 Computer Vision and Pattern Recognition (cs.CV)
## 27    Networking and Internet Architecture (cs.NI)
## 28    Networking and Internet Architecture (cs.NI)
## 29           Materials Science (cond-mat.mtrl-sci)
## 30                          Information Theory (cs.IT)
## 31                 Applied Physics (physics.app-ph)
## 32                Cryptography and Security (cs.CR)
## 33                          Information Theory (cs.IT)
## 34                        Signal Processing (eess.SP)
## 35                          Information Theory (cs.IT)
```

```
## 36                    Signal Processing (eess.SP)
## 37              Cryptography and Security (cs.CR)
## 38    Networking and Internet Architecture (cs.NI)
## 39                     Information Theory (cs.IT)
## 40                     Information Theory (cs.IT)
## 41    Networking and Internet Architecture (cs.NI)
## 42              Cryptography and Security (cs.CR)
## 43                     Information Theory (cs.IT)
## 44              Cryptography and Security (cs.CR)
## 45                               Robotics (cs.RO)
## 46                            Multimedia (cs.MM)
## 47               Applied Physics (physics.app-ph)
## 48                    Signal Processing (eess.SP)
## 49            Image and Video Processing (eess.IV)
## 50                   Systems and Control (eess.SY)
##
## 1
## 2
## 3
## 4
## 5
## 6
## 7                                                                With the evolution of 5G wireless commun
## 8
## 9
## 10
## 11
## 12
## 13
## 14
## 15
## 16
## 17
## 18
## 19
## 20
## 21
## 22
## 23
## 24
## 25
## 26
## 27
## 28
## 29
## 30
## 31
## 32
## 33
## 34
## 35
## 36
## 37
## 38
```

```
## 39
## 40
## 41
## 42 While the open architecture, open interfaces, and integration of intelligence within Open Radio A
## 43                                                                                                We introdu
## 44
## 45
## 46
## 47
## 48
## 49
## 50
```

	meta
1	Thu, 7 Mar 2024 12:03:04 UTC (520 KB)
2	Thu, 7 Mar 2024 10:11:07 UTC (837 KB)
3	Wed, 6 Mar 2024 12:57:37 UTC (1,074 KB)
4	Wed, 6 Mar 2024 00:03:00 UTC (7,249 KB)
5	Tue, 5 Mar 2024 15:37:06 UTC (2,095 KB)
6	Tue, 5 Mar 2024 13:13:01 UTC (2,258 KB)
7	Tue, 5 Mar 2024 04:29:31 UTC (5,725 KB)
8	Mon, 4 Mar 2024 17:29:57 UTC (1,296 KB)
9	Mon, 4 Mar 2024 13:34:04 UTC (784 KB)
10	Mon, 4 Mar 2024 09:27:11 UTC (774 KB)
11	Fri, 1 Mar 2024 18:52:21 UTC (4,338 KB)
12	Fri, 1 Mar 2024 16:59:34 UTC (11,737 KB)
13	Fri, 1 Mar 2024 02:20:01 UTC (33,141 KB)
14	Thu, 29 Feb 2024 16:24:19 UTC (475 KB)
15	Wed, 28 Feb 2024 16:35:32 UTC (788 KB)
16	Wed, 28 Feb 2024 16:18:14 UTC (519 KB)
17	Wed, 28 Feb 2024 10:13:30 UTC (1,865 KB)
18	Tue, 27 Feb 2024 15:09:20 UTC (1,705 KB)
19	Mon, 26 Feb 2024 05:13:02 UTC (1,175 KB)
20	Mon, 26 Feb 2024 02:09:19 UTC (2,965 KB)
21	Thu, 22 Feb 2024 12:13:58 UTC (2,732 KB)
22	Thu, 22 Feb 2024 07:52:20 UTC (1,420 KB)
23	Thu, 22 Feb 2024 07:20:59 UTC (1,581 KB)
24	Tue, 20 Feb 2024 16:46:06 UTC (1,299 KB)
25	Tue, 20 Feb 2024 14:51:02 UTC (25,339 KB)
26	Tue, 20 Feb 2024 01:35:23 UTC (14,095 KB)
27	Mon, 19 Feb 2024 09:38:55 UTC (705 KB)
28	Sun, 18 Feb 2024 20:01:55 UTC (1,355 KB)
29	Fri, 16 Feb 2024 22:16:09 UTC (1,581 KB)
30	Fri, 16 Feb 2024 19:55:30 UTC (534 KB)[v2] Wed, 28 Feb 2024 19:09:24 UTC (534 KB)
31	Fri, 16 Feb 2024 19:20:08 UTC (955 KB)
32	Fri, 16 Feb 2024 18:44:57 UTC (1,094 KB)
33	Fri, 16 Feb 2024 16:04:32 UTC (2,588 KB)
34	Fri, 16 Feb 2024 00:46:26 UTC (1,313 KB)
35	Thu, 15 Feb 2024 20:16:29 UTC (339 KB)[v2] Tue, 20 Feb 2024 08:31:14 UTC (1 KB) (withdrawn)
36	Thu, 15 Feb 2024 13:51:21 UTC (2,938 KB)
37	Thu, 15 Feb 2024 05:06:53 UTC (631 KB)
38	Mon, 12 Feb 2024 14:31:20 UTC (2,788 KB)
39	Mon, 12 Feb 2024 02:47:23 UTC (25,510 KB)
40	Mon, 12 Feb 2024 01:26:17 UTC (3,092 KB)
41	Sun, 11 Feb 2024 00:22:17 UTC (779 KB)

```
## 42     Sat, 10 Feb 2024 00:26:44 UTC (11,196 KB)[v2] Tue, 13 Feb 2024 16:54:48 UTC (11,191 KB)
## 43                                                    Fri, 9 Feb 2024 22:38:47 UTC (194 KB)
## 44                                                  Wed, 7 Feb 2024 09:14:18 UTC (1,148 KB)
## 45                                                  Fri, 9 Feb 2024 15:23:05 UTC (1,462 KB)
## 46                                                  Fri, 9 Feb 2024 14:29:31 UTC (3,067 KB)
## 47                                                    Fri, 9 Feb 2024 09:50:49 UTC (418 KB)
## 48                                                     Fri, 9 Feb 2024 01:41:36 UTC (65 KB)
## 49                                                  Thu, 8 Feb 2024 20:47:00 UTC (1,216 KB)
## 50                                                  Thu, 8 Feb 2024 11:11:38 UTC (9,428 KB)
```

```r
#geting proc and start time
end <- proc.time()
end - start
```

```
##    user  system elapsed
##   3.767   0.223 157.669
```

```r
#saving articles to R data and csv
save(papers, file = "artilce_5G.RData")
write.csv(papers, file = "Arxiv papers on 5G.csv")
```