article

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

```
##    user  system elapsed
##   3.711   0.250 158.150
```

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