Long Nguyen
CS4650
3/26/2022

[CS 4650] HW 5

1) Github Url:

https://github.com/KingFuGitHub/Natural-Language-Processing/blob/master/Natural%20Language%20Processing.py

Screen capture of my code:

```python
# Natural Language Processing.py > ...
1  import spacy
2  from newsapi import NewsApiClient
3  from spacy.lang.en import English
4  import matplotlib.pyplot as plt
5  from wordcloud import WordCloud
6
7  # Natural Language Processing
8
9  myList = []
10
11 #saves the API dataset locally inside a txt file
12 text_file = open('/Users/KingFu/Desktop/Class 2022 Spring/CS 4650/[CS4650] HW5/data.txt', 'w')
13
14 nlp = spacy.load('en_core_web_lg')
15
16 newsapi = NewsApiClient(api_key='02f0ae732bcb4f2db1d77ef4288f237e')
17
18 data = newsapi.get_everything(q='coronavirus', language='en', from_param='2022-03-04',
19                               to='2022-03-24', sort_by='relevancy', page_size = 100)
20 articles = data['articles']
21
22 for index, article in enumerate(articles):
23     print("Article: "+ str(index+1) + ": "+ str(article['title']))
24     text_file.write("Article: "+ str(index+1) + ": "+ str(article['title'])+"\n"+str(article['c
25     doc = nlp(article['content'])
26     print("Keywords: ")
27     for index, ent in enumerate(doc.ents):
28         print(str(index+1)+". "+str(ent.text) + " (" + str(ent.label_)+")")
29         myList.append(ent.text)
30     print()
31
32 text_file.close()
33
34 unique_string=(" ").join(myList)
35 wordcloud = WordCloud(width = 1000, height = 500, colormap='tab20c').generate(unique_string)
36 plt.figure(figsize=(15,8))
37 plt.imshow(wordcloud)
38 plt.axis("off")
39 plt.show()
40 plt.close()
41
```

Output:

Article: 1: Rabbi Chaim Kanievsky, Venerated Talmudic Scholar, Dies at 94
Keywords:
1. Haredi (ORG)

Article: 2: Can Eric Adams Cheerlead New Yorkers Past the Pandemic?
Keywords:
1. Adams (PERSON)
2. Democrat (NORP)
3. David Solomon (PERSON)
4. Goldman Sachs (ORG)
5. Jonathan (PERSON)

Article: 3: Moderna Asks F.D.A. to Authorize a Second Booster for All Adults
Keywords:
1. second (ORDINAL)
2. Tel Aviv (GPE)
3. Moderna (GPE)
4. Israel (GPE)
5. Amir Cohen (PERSON)
6. Reuters (ORG)
7. Moderna (PERSON)
8. late Thursday (DATE)

Article: 4: China Reports Its First Covid Deaths in Over a Year
Keywords:
1. Scarcely two months (DATE)
2. Omicron (ORG)
3. the United States (GPE)

Article: 5: Can Ashish Jha, 'A Comforting Voice,' Tamp Down Covid's Political Divide?
Keywords:
1. Jha (PERSON)
2. Bihar (GPE)
3. India (GPE)
4. nine (DATE)
5. Toronto (GPE)
6. The Providence Journa (ORG)

Article: 6: Preschoolers Can Shed Their Masks, Mayor Adams Says
Keywords:
1. Earlier this month (DATE)
2. Adams (PERSON)
3. 12th (DATE)
4. under 5 (DATE)

Article: 7: 2 Years After Declaring Pandemic, W.H.O. Urges Continued Vigilance
Keywords:
1. The World Health Organization (ORG)
2. 2020 (DATE)
3. two years to the day (DATE)

...

```
Article: 95: COVID-19 update for March 22: No deaths, hospitalizations keep dropping | 2,500 unvaxxed B.C. health-care
  workers lost jobs | Health minister says no end in sight for federal restrictions - Vancouver Sun
Keywords:
1. daily (DATE)
2. B.C. (GPE)
3. daily (DATE)

Article: 96: US Surgeon General orders tech companies to reveal sources of COVID-19 misinformation
Keywords:
1. Biden (PERSON)
2. Vivek Murthy (PERSON)
3. The Washington Post (ORG)

Article: 97: Hong Kong reports 37529 new COVID-19 cases, 150 deaths - Reuters.com
Keywords:
1. HONG KONG (GPE)
2. March 5 (DATE)
3. Reuters (ORG)
4. Hong Kong (GPE)
5. 37,529 (CARDINAL)
6. Saturday (DATE)
7. 150 (CARDINAL)

Article: 98: Almost a third of people report lingering symptom 6-12 months after COVID-19 -study - Reuters
Keywords:
1. March 4 (DATE)
2. Reuters (ORG)
3. third (ORDINAL)
4. at least one (CARDINAL)
5. between 6 and 12 months (DATE)
6. 152,000 (CARDINAL)
7. Denmark (GPE)

Article: 99: Belgium set to remove almost all COVID restrictions - Reuters.com
Keywords:
1. BRUSSELS (GPE)
2. March 4 (DATE)
3. Reuters (ORG)
4. Monday (DATE)

Article: 100: Bali welcomes first foreign tourists after COVID quarantine rule lifted - Reuters.com
Keywords:
1. the I Gusti (FAC)
2. the first day (DATE)
```
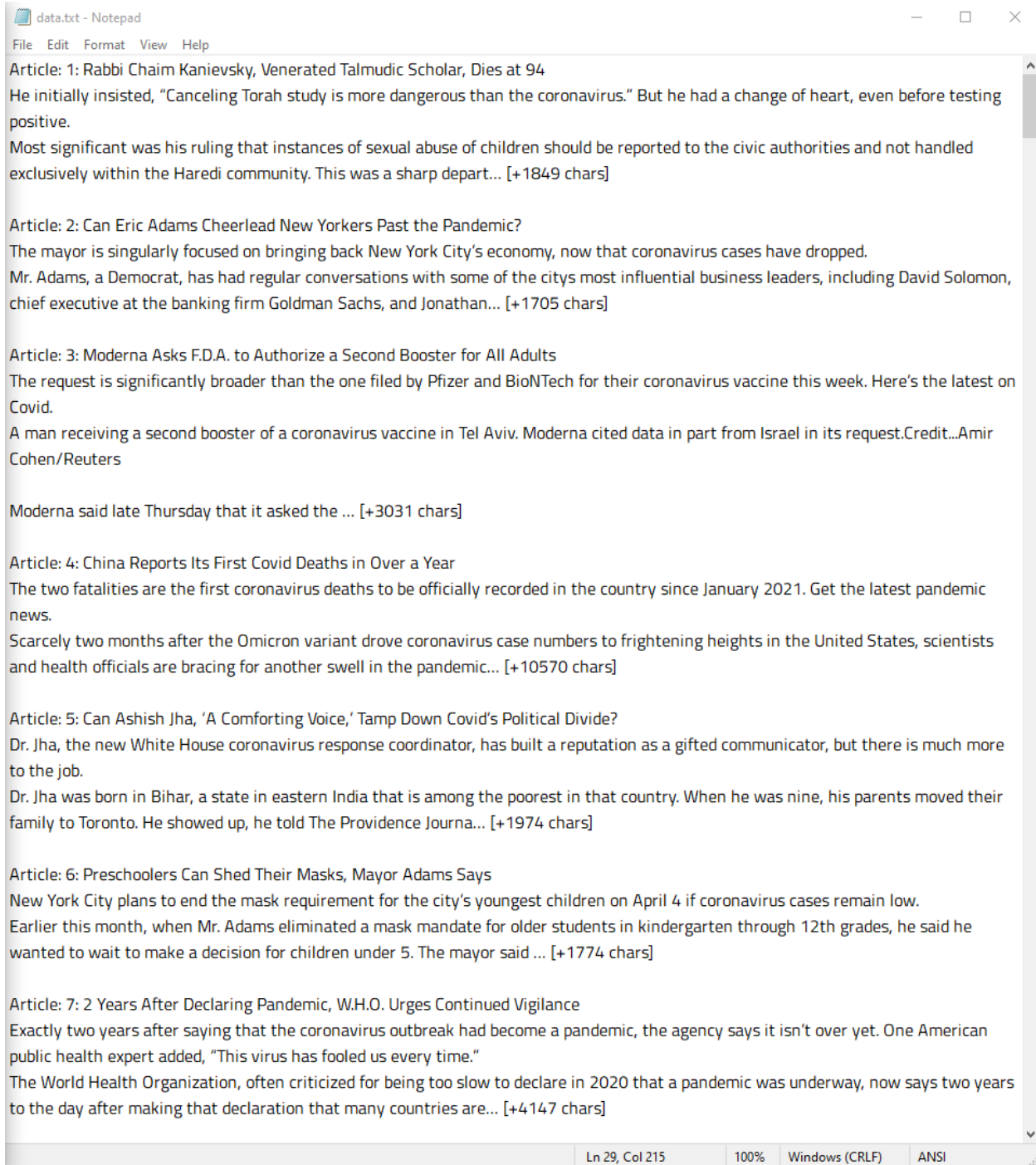
3) Screen capture of dataset:

Article: 1: Rabbi Chaim Kanievsky, Venerated Talmudic Scholar, Dies at 94

He initially insisted, "Canceling Torah study is more dangerous than the coronavirus." But he had a change of heart, even before testing positive.

Most significant was his ruling that instances of sexual abuse of children should be reported to the civic authorities and not handled exclusively within the Haredi community. This was a sharp depart... [+1849 chars]

Article: 2: Can Eric Adams Cheerlead New Yorkers Past the Pandemic?

The mayor is singularly focused on bringing back New York City's economy, now that coronavirus cases have dropped.

Mr. Adams, a Democrat, has had regular conversations with some of the citys most influential business leaders, including David Solomon, chief executive at the banking firm Goldman Sachs, and Jonathan... [+1705 chars]

Article: 3: Moderna Asks F.D.A. to Authorize a Second Booster for All Adults

The request is significantly broader than the one filed by Pfizer and BioNTech for their coronavirus vaccine this week. Here's the latest on Covid.

A man receiving a second booster of a coronavirus vaccine in Tel Aviv. Moderna cited data in part from Israel in its request.Credit...Amir Cohen/Reuters

Moderna said late Thursday that it asked the ... [+3031 chars]

Article: 4: China Reports Its First Covid Deaths in Over a Year

The two fatalities are the first coronavirus deaths to be officially recorded in the country since January 2021. Get the latest pandemic news.

Scarcely two months after the Omicron variant drove coronavirus case numbers to frightening heights in the United States, scientists and health officials are bracing for another swell in the pandemic... [+10570 chars]

Article: 5: Can Ashish Jha, 'A Comforting Voice,' Tamp Down Covid's Political Divide?

Dr. Jha, the new White House coronavirus response coordinator, has built a reputation as a gifted communicator, but there is much more to the job.

Dr. Jha was born in Bihar, a state in eastern India that is among the poorest in that country. When he was nine, his parents moved their family to Toronto. He showed up, he told The Providence Journa... [+1974 chars]

Article: 6: Preschoolers Can Shed Their Masks, Mayor Adams Says

New York City plans to end the mask requirement for the city's youngest children on April 4 if coronavirus cases remain low.

Earlier this month, when Mr. Adams eliminated a mask mandate for older students in kindergarten through 12th grades, he said he wanted to wait to make a decision for children under 5. The mayor said ... [+1774 chars]

Article: 7: 2 Years After Declaring Pandemic, W.H.O. Urges Continued Vigilance

Exactly two years after saying that the coronavirus outbreak had become a pandemic, the agency says it isn't over yet. One American public health expert added, "This virus has fooled us every time."

The World Health Organization, often criticized for being too slow to declare in 2020 that a pandemic was underway, now says two years to the day after making that declaration that many countries are... [+4147 chars]

Article: 8: Ukraine, Coronavirus, Pompeii: Your Friday Evening Briefing
Here's what you need to know at the end of the day.
10. And finally, if he could turn back time

Daylight saving time begins Sunday in the U.S., as clocks spring forward an hour and we gain an extra hour of daylight. In Britain, France and Germany, t... [+1185 chars]

Article: 9: Knocked Down by Covid in Beijing, Vincent Zhou Is Getting Back Up
Zhou missed the men's individual event at the Olympics because of the coronavirus. He is trying to shake off the memory in hopes of excelling at the figure skating world championships.
Its a fair question. He double masked. He wore a face shield on flights. In China, he ate alone in the Olympic cafeteria, carefully pulling down his mask between bites. He often kept such a distance ... [+1316 chars]

Article: 10: Rise of Omicron Subvariant in Europe Could Be Sign for U.S.
Past coronavirus surges in Europe have predicted what was to come in the United States, but experts say the trend is more a cause for caution than alarm. New York's experience offers lessons to health experts.
A street festival in Cologne, Germany. Coronavirus cases are rising in Europe after many countries lifted most pandemic restrictions.Credit...Thilo Schmuelgen/Reuters

Experts warn that another coron... [+3741 chars]

Article: 11: Covid Vaccine Clinics Return to NYC Public Schools. Will They Work?
Adults in New York City have among the highest vaccination rates in the country. But the rates for children are far lower, raising concerns as coronavirus cases start to head back up.
While the clinics will help certain parents by making vaccines easier to access, they may not be enough to convince others, who have not been persuaded about the safety and efficacy of the shots and ... [+1653 chars]

Article: 12: Doug Emhoff, Vice President's Husband, Tests Positive for the Coronavirus
Vice President Kamala Harris tested negative for the virus on Tuesday, an aide said, but Mr. Emhoff's positive test forced her to back out of an event with President Biden.
Ms. Harris stood alongside Mr. Biden earlier Tuesday during a bill signing. She also was at the Presidents Daily Brief in the Oval Office, according to her schedule. Mr. Biden last received a negativ... [+1314 chars]

Article: 13: Is the Coronavirus Pandemic Over? New Yorkers Are Cautiously Optimistic.
(*Or at least that's the hope.) After several false starts, New York's latest comeback finally feels like the real thing.
The arc of the pandemic, from the dark beginnings to this new awakening, is efficiently told through the story of the chef Sean Rembold, who has worked in some of Brooklyns best loved kitchens. For h... [+2357 chars]

Article: 14: What you need to know about the coronavirus right now - Reuters.com
What you need to know about the coronavirus right now Reuters.com
March 10 (Reuters) - Here's what you need to know about the coronavirus right now:

...

Article: 96: US Surgeon General orders tech companies to reveal sources of COVID-19 misinformation

President Biden's surgeon general Dr. Vivek Murthy has formally called on tech companies to provide information on sources and the scale of COVID-19 misinformation, The Washington Post has reported. "This is about protecting the nation's health," he told The …

President Biden's surgeon general Dr. Vivek Murthy has formally called on tech companies to provide information on sources and the scale of COVID-19 misinformation, The Washington Post has reported. … [+1728 chars]

Article: 97: Hong Kong reports 37529 new COVID-19 cases, 150 deaths - Reuters.com

Hong Kong reported 37,529 new coronavirus infections on Saturday and 150 deaths, as the city clings to a "zero-COVID" strategy despite spiralling cases that have spread through care homes and overwhelmed healthcare facilities.

HONG KONG, March 5 (Reuters) - Hong Kong reported 37,529 new coronavirus infections on Saturday and 150 deaths, as the city clings to a "zero-COVID" strategy despite spiralling cases that have spread… [+2419 chars]

Article: 98: Almost a third of people report lingering symptom 6-12 months after COVID-19 -study - Reuters

Almost a third of people report at least one ongoing symptom between 6 and 12 months after their coronavirus infection, a survey of 152,000 people in Denmark has found.

March 4 (Reuters) - Almost a third of people report at least one ongoing symptom between 6 and 12 months after their coronavirus infection, a survey of 152,000 people in Denmark has found.

The study… [+2716 chars]

Article: 99: Belgium set to remove almost all COVID restrictions - Reuters.com

Belgium will remove almost all its coronavirus restrictions from Monday, ending a requirement to wear masks in almost all places and scrapping the need to show a COVID-19 pass for indoor venues from cafes to sports halls.

BRUSSELS, March 4 (Reuters) - Belgium will remove almost all its coronavirus restrictions from Monday, ending a requirement to wear masks in almost all places and scrapping the need to show a COVID-1… [+1672 chars]

Article: 100: Bali welcomes first foreign tourists after COVID quarantine rule lifted - Reuters.com

Indonesia's resort island of Bali on Monday welcomed its first foreign tourists under relaxed coronavirus rules that no longer require arrivals to quarantine, part of a broader easing of curbs in the Southeast Asian country after infections declined.

Foreign tourists carrying their luggage walk as they arrive at the I Gusti Ngurah Rai International Airport, as the local government kicks off the first day of the 'quarantine free' trial, amid the c… [+1966 chars]

Bonus: wordcloud