

Multi-Doc Summarization

COVID-19

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Week 3

CatE Results Post-Processing

Performed **stemming and lemmatization** on phrases

(<https://nlp.stanford.edu/IR-book/html/htmledition/stemming-and-lemmatization-1.html>).

Then deleted repeats. Also stemmed the COVID-19 corpus to be consistent.

Economy	Death	Vaccine
falter	reach	therapeut
packag	1000-case	gerdt
econom	toll	antivir
growth	1629	clinic
stimulus	count	treatment
stimul	record	trial
slump	fatal	therapi
global_economi	surpass	anti-vir
recess	climb	research

Strategy for Summarization

- Use cosine similarity to further narrow down to the important and relevant sentences.
- For each sentence S in the corpus that contains either q or p_i , compute $\sum \cos(v(w_i), v(q)) / |S|$ where S contains w_1, w_2, \dots, w_n .
- Only add sentence S to the summary if the summation is greater than a certain value.
- The average **cosine similarity of word-embedding** (using **fastText**) for 24 queries was calculated to be **0.286**, so right now I'm only adding a sentence to the summary if the summation is greater than 0.286.
- Will also experiment with **Spherical embedding**.

'Economy' Results

- 1 Canada is officially in a recession, C.D. Howe Institute says.
- 2 WATCH | Canada's economy to be particularly hard hit by COVID-19, says expert: Canada faces several economic disadvantages as it emerges from the pandemic but having the U.S. as its major trading partner could help, says Peter Hall, the chief economist for Export Development Canada.2:03 Meanwhile, Prime Minister Justin Trudeau spoke with New Zealand's Prime Minister Jacinda Ardern to share information about fighting the pandemic while protecting the economy.
- 3 However, the growth in registered cases is still exponential, she said, and the country is nowhere near its peak."
- 4 Coronavirus Brief (CBC) Canada is officially in a recession because of the pandemic, C.D. Howe says.16:16 IN BRIEF Canada is officially in a recession because of the pandemic, C.D. Howe says Canada is officially in a recession that's been caused by the COVID-19 pandemic, the C.D. Howe Institute's Business Cycle Council declared today.
- 5 The council, which monitors recessions and recoveries in Canada, said the economy peaked in February, just before drastic measures to slow the spread of the coronavirus were implemented across the country.
- 6 The council rejects the "two quarters" rule and instead defines a recession as a "pronounced, persistent and pervasive decline in aggregate economic activity" based largely on GDP and the job market.
- 7 In the council's view, this is the first recession Canada has seen since the financial crisis that began in 2008 – and the data suggests this one is on track to be quite a bit worse than that one.
- 8 While Air Canada predicts better times for the industry by Christmas, airline analyst Helane Becker points out that other countries will need to lift their pandemic restrictions and reopen their economies first in order to convince people to travel.
- 9 Increased testing and contact tracing are considered by experts to be an essential part of any plan to reopen the economy.
- 10 EI claimants are going weeks without income as federal call system slows to a crawl ANALYSIS | As weather improves, questions about outdoor COVID-19 transmission risks grow And while provinces eye ways to jump-start their economies, people across the country are struggling to receive EI payments after losing their jobs due to the pandemic.
- 11 But he said at a White House event that "maybe millions of lives" have been saved by shutting down the economy.
- 12 Around the country, protesters have demanded governors reboot the battered economy.
- 13 Most Germans support the lockdown enforced by the country's 16 states and backed by Chancellor Angela Merkel, despite its heavy toll on the economy, which is expected to contract by a record of more than six per cent this year.
- 14 Spain's government expects that the eurozone's fourth-largest economy will shrink by 9.2 per cent this year and that unemployment will reach 19 per cent of the working-age population.
- 15 The slow reopening of state economies around the United States has taken on political overtones, as Republican politicians and individuals affiliated with Trump's re-election promoted such protests in electoral swing states, such as Michigan.
- 16 Protesters, many from more rural, Trump-leaning parts of Michigan, have argued it has crippled the economy statewide even as the majority of deaths from the virus are centred on the southeastern Detroit metro area.

'Death' Results

1 "The latest: The lives behind the numbers: What we know about the first 1,000 COVID-19 deaths in Canada.
2 A CBC News tally of COVID-19-related deaths based on provincial data, regional health information and CBC's reporting lists 3,656 deaths in Canada and two known coronavirus-related deaths of Canadians abroad.
3 The province also reported two new deaths.
4 But as temperatures climb, so have the number of cases.
5 Read more about what's happening in N.B. Nova Scotia is reporting two more deaths at the Northwood long-term care home in Halifax.
6 That brings the death toll in the province to 31. While the number of deaths has trended lower in recent days, New Jersey's toll, second only to New York's, stood at 7,742, which Murphy cited as a key reason for maintaining his stay-at-home order.
7 Iowa hit a record for the second straight day.
8 That's a 20 per cent increase from the previous day's count.
9 According to a tally by Johns Hopkins University, Russia has more than 124,000 cases and 1,222 deaths.
10 Spain's death toll for the virus reached 25,100 after 276 more people died in the last 24 hours.
11 The total confirmed infections reached 216,582, with another 1,147 reported cases in the last day.
12 France is among countries most affected by the pandemic, having recorded some 24,594 deaths and 167,346 confirmed cases so far.
13 The country has reported a total of 82,875 confirmed cases and 4,633 deaths.
14 There have been more than 1,600 deaths across the continent.
15 Brazil has the most cases and deaths in Latin America, with more than 92,000 infections and over 6,400 deaths.
16 Edmar Barros/The Associated Press) Turkey's health minister has announced 78 new deaths in the past 24 hours, bringing the death toll from COVID-19 to 3,336. Russia's confirmed infections of 124,054 had briefly surpassed Turkey's.
17 Two more people have died of COVID-19, bringing the total number of deaths in the province to 114. "With the president denying the threat of the pandemic, you get a lot of people defying lockdown measures." "The system is collapsing" Brazil has more than 87,000 confirmed coronavirus cases and more than 6,000 deaths, according to figures from Johns Hopkins University, giving it the highest number of cases in Latin America.
18 WATCH | Bolsonaro downplays COVID-19 threat as Brazil's death toll rises: An infectious disease specialist says Brazil is fighting two enemies during the COVID-19 pandemic: the virus and the president.
19 Deaths doubling every 8 days The federal government has failed in its responsibility to safeguard citizens, but some state and local officials have been trying, Taschner said. "We are doubling the number of cases every 10 days, and the number of deaths is doubling in eight days." Unlike other developing nations, Brazil offers free universal public health care, Vieira-Meyer said, but the system is strongest in the big cities.
20 A CBC News tally of COVID-19-related deaths based on provincial data, regional health information and CBC's reporting lists 3,507 deaths in Canada and two known coronavirus-related deaths of Canadians abroad.
21 Arruda also announced 163 more COVID-19-related deaths.
22 The province has recorded 29 deaths related to COVID-19. In a major study, remdesivir shortened patients' recovery time from 15 days to 11 on average and may have also reduced deaths.
23 Hancock also announced the British death toll had risen by 739 to 27,510 deaths – just below that of Italy, which was one of the first and worst-hit European countries.
24 The country registered another daily high in coronavirus cases, with nearly 2,000 recorded in the past 24 hours.
25 Brazil reported a record 7,218 cases in the last 24 hours and 435 additional fatalities.
26 Wuhan health officials raise death toll linked to COVID-19 by 50% "You could never say, 'Well, you know, [the WHO] didn't tell us how serious it was."
27 "Protesters, many from more rural, Trump-leaning parts of Michigan, have argued it has crippled the economy statewide even as the majority of deaths from the virus are centred on the southeastern Detroit metro area.

'Vaccine' Results

- 1 Here's a closer look at that research and what it might reveal.
- 2 A pair of recent studies raised the notion of airborne transmission, but Mark Loeb, a professor at Hamilton's McMaster University who specializes in infectious disease research, cautions against putting too much stock in them.
- 3 Researchers found traces of RNA from SARS-CoV-2 in washrooms and some high-traffic areas in hospitals in Wuhan, China, and in Nebraska, and suggested it got into those areas through the air, though there was no evidence the particles were still infectious.
- 4 Gary Moore/CBC) If the virus were airborne, we'd know by now, said Dr. Allison McGeer, an infectious disease specialist with Sinai Health in Toronto who is leading a national research team studying how COVID-19 is transmitted. "I think those are provocative and those are hypothesis-generating, but then they need to be tested in the field." Loeb is running such a field test himself – a randomized controlled trial of the use of medical versus N95 masks among health care workers to see if there is a difference in the transmission of COVID-19. There is no proven treatment or vaccine for the virus, which first emerged in China in late 2019. As for the issue at hand: The U.S. is fast-tracking approval of the antiviral drug remdesivir to help treat COVID-19.