

# Multi-Doc Summarization

## COVID-19

Sharon Wang  
Week 8

# Current Strategy

1. Delete article repeats from corpus.
2. Use CatE to extract quality phrases for each category name.
3. Add sentences to a summary for a category name if it contains at least 2 of the phrases, has a cosine similarity greater than 0.3, does not contain a vague subject and/or object, is a declarative sentence, and has a length of at least 5 words.
4. Delete redundant sentences (Word Mover's Distance threshold of 1.5).
5. Order sentences in summary by chronological order.

To do:

- Organize sentences in summary by location.
- During the initial extraction, only output the 50 most relevant sentences (determined with cosine similarity) to control the length of the summary.

# 'China' Summary Organized by Date and Time

- 1 2020-01-23 22:59 Total reported cases: 59 Deaths: 0 Jan. 11 Wuhan Municipal Health Commission reports China's first death from the new type of coronavirus, a 61-year-old man.
- 2 2020-01-23 22:59 Total reported cases: 45 (42 in China, 2 in Thailand, 1 in Japan) Deaths: 2 Jan. 19 A 3rd death and more than 100 new cases are announced in China, with reports in Beijing, Shanghai and Shenzhen.
- 3 2020-01-23 22:59 Total reported cases: 201 (198 in China, 2 in Thailand, 1 in Japan) Deaths: 3 Jan. 20: China confirms human-to-human transmission of the new coronavirus, after two people in Guangdong caught the disease from family members who had been to Wuhan.
- 4 2020-01-23 22:59 The Public Health Agency of Canada starts asking travellers if they have been in Wuhan, China, in the past 14 days.
- 5 2020-01-23 22:59 Total reported cases: 581 (571 in China, 4 in Thailand, 1 in Japan, 1 in South Korea, 1 in the U.S.. 1 in Taiwan, 1 in Hong Kong and 1 in Macao) Deaths: 17 Jan. 23 China closes access to Wuhan and is poised to lock down two neighbouring cities.
- 6 2020-01-25 9:00 People collapsing in the streets of Wuhan, coverups of unreported deaths and travellers \"escaping\" quarantine in China at risk of spreading the coronavirus.
- 7 2020-01-25 9:00 The outbreak started in Wuhan, China and travellers have brought the virus to other countries.
- 8 2020-01-25 9:00 Today, we publish the first clinical data from individuals confirmed to be infected with 2019-nCoV from Wuhan, China.
- 9 2020-01-27 15:56 \"When people present with a respiratory illness ... they are screened for their travel history, especially considering any contact with the Wuhan city or provinces nearby in China, any contact with ill people who have been in Wuhan,\" Dr. Vera Etches told CBC.
- 10 2020-01-27 17:06 The virus, which has so far infected at least 2,700 people and killed 81, seems to have emerged from a seafood market in Wuhan, China, before spreading around the world.
- 11 2020-01-29 23:08 In the meantime, Dr. Vera Etches said residents who haven't travelled recently to the Hubei province of China – or been in close contact with someone who has – have little reason to worry.
- 12 2020-01-29 23:08 If the ill person has recently been to the city of Wuhan in Hubei province, or been in contact with someone who has, officials ask them to call ahead to the hospital so the patient bypasses the emergency room and is treated in isolation.
- 13 2020-01-31 14:26 Major U.S. airlines such as Delta and American have cancelled all flights to mainland China until the end of March.
- 14 2020-02-02 5:40 Also, six officials in the city of Huanggang, next to Wuhan in Hubei province, were fired over \"poor performance\" in handling the outbreak, the official Xinhua News Agency reported.
- 15 2020-02-02 5:40 Qatar Airways joined the growing number of airlines suspending flights to mainland China.
- 16 2020-02-03 9:00 World Health Organization) Flights cancelled Air Canada joined other airlines by temporarily suspending direct flights to Beijing and Shanghai, China, between Jan. 30 and Feb. 29, 2020.
- 17 2020-02-03 9:00 Ottawa deploys officials to China to co-ordinate airlift of Canadian citizens Situation for Canadian trapped in Wuhan growing dire, says daughter 'In limbo' While many Canadians are trying to get out of China, David Klinck is one of those people trying to get into the country.
- 18 2020-02-03 9:00 Klinck originally booked a flight between Montreal and Guangzhou, China last week, with a connecting flight in Beijing.
- 19 2020-02-03 9:00 \"Hopefully we can fly to Hong Kong and then kind of go in through the back door and try to find a way with a boat or with a bus to get back into [mainland] China.
- 20 2020-02-04 9:00 The vast majority of coronavirus cases initially occurred near Wuhan, China, and surrounding cities.
- 21 2020-02-06 21:15 woman fears for parents trapped in China amid coronavirus outbreak \"What we would look for would be sign of fever, a respiratory infection, flu-like symptoms, combined with recent travel history to that part of China,\" he said, referring to Wuhan, the Chinese city at the epicentre of the current global coronavirus outbreak.
- 22 2020-02-06 23:44 The World Health Organization (WHO) declared the outbreak of the new coronavirus an emergency of \"international concern\" on Jan. 30, after it was first reported from Wuhan, China, late last year.
- 23 2020-02-06 23:44 Infectious disease specialist says risk to Canadians is low 0:46 What to do if you think you've been exposed If you think you have been exposed to the coronavirus – for example, if you have travelled to Wuhan or Hubei province and are having symptoms – the Public Health Agency of Canada advises avoiding contact with others and following up with your health-care professional.
- 24 2020-02-06 23:44 A woman walks in front of the closed wholesale seafood market, in Wuhan, China, where health authorities believe the coronavirus might have originated.
- 25 2020-02-07 23:24 Updated Top doctors say 62 Ontarians still being tested for coronavirus Airlift departs Wuhan to repatriate Canadians from China's coronavirus outbreak zone Windsor Regional Hospital has tested a handful of people for coronavirus.
- 26 2020-02-08 11:00 \"Is how do you figure out who those people that are currently infected were in contact with.\" Treating the coronavirus: improvising now, but with real hope on the horizon Chinese doctor who sounded the alarm about coronavirus dies from the illness The ultrastructural morphology exhibited by the 2019 Novel Coronavirus (2019-nCoV), which was identified as the cause of an outbreak of respiratory illness first detected in Wuhan, China, is seen in an illustration released by the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, U.S. January 29, 2020.

# 'Mask' Summary Organized by Date and Time

1	2020-02-12 11:07	WATCH   Dr. Samir Gupta on some of the science behind COVID-19: Respirologist Dr. Samir Gupta explains how the coronavirus is spread, and why you should not wear a mask.
2	2020-02-14 11:25	Chinese officials and hospitals have repeatedly spoken of a shortage of protective equipment, including face masks.
3	2020-02-14 11:25	Employees must wear masks all day and report their temperature twice a day.
4	2020-02-23 14:31	A woman wearing a face mask walks in the Biblioteka Imeni Lenina metro station in Moscow on Feb. 7.
5	2020-02-23 14:31	They also have a system of sorts for deciding who needs a face mask and advice to see a medical professional. '
6	2020-02-24 9:00	It's not an exaggeration.\" Coronavirus fears putting a damper on cruise bookingsCoronavirus would likely cancel Tokyo Olympics if it was to start tomorrow, virologist says But medical workers on the front lines in Hubei have publicly complained about shortages of face masks, goggles and other vital protective gear, and the Chinese government has been slow to accept outside assistance – the first WHO advance team, led by Canadian expert Bruce Aylward, was finally allowed into the country on Feb. 10.
7	2020-02-24 13:00	The family member was wearing a mask during their interaction, Williams said.
8	2020-02-29 19:58	She was wearing a mask when she arrived at the hospital.
9	2020-02-29 19:58	She was not wearing a mask.
10	2020-02-29 19:58	Dr. Karim Kurji, York Region's Medical Officer of Health, says the case involving the 34-year-old woman involves a 'number of complexities' because she took three flights and was not wearing a mask. (
11	2020-02-29 19:58	Officials worked out a time for the person to go to the emergency department, the person arrived wearing a mask, presented symptoms of coronavirus and was immediately put on \"airborne/droplet/contact\" precautions, he said.
12	2020-03-04 9:00	Natalia Goodwin/CBC ) Azad said her store is currently out of face masks, and she can't order any more.
13	2020-03-04 9:00	\"Something as simple as that could make a big difference, I think.\" Sara Azad, co-owner of the Brisson Pharmacy, says she's been taking the opportunity to educate the public as residents scramble to buy face masks and hand sanitizer.
14	2020-03-12 8:00	Yes, however, health officials advise that any person in self-isolation should avoid contact with others – keeping a distance of at least two metres – and wear a mask that covers their nose and mouth.
15	2020-03-12 20:16	Gloves should be worn by staff handling towels or laundry.
16	2020-03-14 8:00	Fear of catching the coronavirus has led to panic buying of products such as face masks, hand sanitizer and disposable gloves.
17	2020-03-14 8:00	Dr. Strigley said that face masks are best used if you are sick, and want to protect others from getting infected when you cough or sneeze.
18	2020-03-14 8:00	She points out that people often end up touching their face when putting on, taking off or adjusting a face mask, plus it does nothing to protect a person's eyes.
19	2020-03-14 8:00	(Andrew Kelly/Reuters) If you still want to wear a face mask, there are two main types on the market.
20	2020-03-14 8:00	The second type of mask is the called the N95 which has a firmer exterior.
21	2020-03-14 8:00	\"If you think you're protected because you're wearing a glove, but if you then touch your face with the glove, then you're at risk,\" she said.
22	2020-03-18 3:00	First came the phony e-commerce sites purporting to sell face masks and other in-demand products.
23	2020-03-19 2:20	\"Our crews are expected to use full protective equipment, and that includes a protective suit, an N95 mask, eye protection and gloves,\" he said.
24	2020-03-19 2:20	We have to know when we can use our N95 masks, and when ... we can use paper masks.
25	2020-03-19 10:57	Slovak police officers unload a government Airbus-319 shortly after it arrived from Beijing loaded with 100,000 test kits for the novel coronavirus and one million face masks. (
26	2020-03-19 10:57	A woman wearing a protective mask walks past a banner thanking health-care workers hanging at one of the entrances of the Timone hospital and the IHU Mediterranee Infection Institute in Marseille, southeastern France. (
27	2020-03-22 9:23	Croatian soldiers wearing masks and carrying shovels could be seen helping efforts to clear the damage on the streets of Zagreb.
28	2020-03-22 11:20	Graham Hughes/The Canadian Press) Nurses at three Edmonton clinics have refused to swab patients for COVID-19 because they say they aren't being provided with N95 face masks by Alberta Health Services.
29	2020-03-22 11:20	Honeywell is also ramping up production of coveted N95 medical masks in Rhode Island, Trump said at a dinner-hour press briefing.
30	2020-03-22 11:20	The country is sending to Italy about 100,000 face masks and respirators that were among hundreds of thousands seized in the country earlier this week.
31	2020-03-22 11:20	The country's election commission says all voters will be required to wear masks and use disposable gloves at ballot booths during the April 15 parliamentary elections.
32	2020-03-23 8:00	Andrew Kelly/Reuters) They were planning to sell their stash, at huge markups, on Amazon, but Amazon reportedly stopped them as well as several other profiteers around the country who were also trying to corner the market on sanitizer, wipes and face masks.



# 'Symptoms' Summary Organized by Date and Time

1	2020-01-11 3:57	The patient who died was identified as a 61-year-old man who had been hospitalized after suffering shortness of breath and severe pneumonia.
2	2020-01-11 3:57	(Lauren DeCicca/Getty Images) Common symptoms include a runny nose, headache, cough and fever.
3	2020-01-11 3:57	Shortness of breath, chills and body aches are associated with more dangerous kinds of coronaviruses, according to the U.S. Centers for Disease Control and Prevention.
4	2020-01-14 20:09	Richard Brow, the agency's representative in Thailand, said anyone with a fever and cough who had spent time in Wuhan should get checked out by a health worker.
5	2020-01-17 17:08	Health officials also asked Thai AirAsia and China Southern Airlines, which run direct daily flights from Wuhan, to halt boarding by those suffering from high fever and respiratory symptoms, and reschedule their flights.
6	2020-01-20 16:19	Symptoms include fever and difficulty in breathing, which are similar to many other respiratory diseases and pose complications for identifying cases.
7	2020-01-20 21:55	Reuters) Foreign Affairs Minister François-Philippe Champagne urges Canadians to keep track of Global Affairs Canada's travel advisories, calling the current outbreak situation "very fluid." The department has updated its travel advisory for China, urging Canadians to take precautions such as avoiding large crowds and high-risk areas including farms and slaughterhouses, and avoiding contact with anyone who is exhibiting symptoms of a coronavirus, such as fever, cough or difficulty breathing.
8	2020-01-20 21:55	The agency said it is important for all travellers to monitor their health for fever, cough and difficulty breathing for 14 days when they return to Canada.
9	2020-01-21 1:01	Symptoms of 2019-nCoV are mainly fever, with a few reports of people having difficulty breathing, and chest x-rays showing signs of pneumonia in both lungs.
10	2020-01-22 0:29	Screening measures initiated at Vancouver airport for China coronavirus outbreakU.S. officials confirm first U.S. case of China coronavirus Practise good coughing, sneezing etiquette The symptoms of coronavirus mimic other common viruses, such as a fever, coughing and shortness of breath, said Kandola.
11	2020-01-22 9:00	Additional signs at airports in Toronto, Montreal and Vancouver will remind passengers to speak to border officials if they have flu-like symptoms such as fever and cough.
12	2020-01-22 9:00	John Lesavage/CBC) The first U.S. patient illustrates one of the weaknesses of airport screening – the man in his 30s did not have symptoms when he arrived and was in good condition, so he wouldn't be picked up in a check for fever.
13	2020-01-22 9:00	Rather, when the man started feeling ill, he went to a doctor, with a fever and cough.
14	2020-01-22 9:00	The value of airport screening and engagement with travellers, if you will, is more about giving them the information they need so that if they do become sick after they've left the airport they know what to do." Health officials stress precautions for travellers to prevent infection while in China, such as staying away from animal markets, washing hands, observing cough hygiene, not coming into contact with sick people and telling health-care providers about their travel if flu-like symptoms occur.
15	2020-01-22 22:20	It starts with a cough and fever, but can have deadly consequences.
16	2020-01-23 9:01	Follow the spread of the new coronavirus with this interactive map Many countries are screening travellers from China for symptoms of the virus, which can cause fever, coughing, breathing difficulties and pneumonia.
17	2020-01-23 14:52	Trevor Brine/CBC) That includes people who have a fever and acute respiratory illness, with or without pneumonia, coupled with travel to Wuhan within 14 days before the onset of their symptoms, or who have had close contact with a sick person associated with the outbreak in Wuhan.
18	2020-01-24 7:33 1:56	Initial symptoms of the virus can mirror those of the cold and flu, including cough, fever, chest tightening and shortness of breath, but can worsen to pneumonia.
19	2020-01-25 10:00	They were subsequently under observation in Quebec City and Montreal, but they have all tested negative for the disease which can cause a fever, cough and respiratory distress.
20	2020-01-26 0:29	Masks are flying off shelves in B.C., but using them has 'no proven benefit' against coronavirus Dix and Henry are asking B.C. residents who may have been exposed to coronavirus – or who are experiencing symptoms associated with the disease, such as a fever and cough – to call their doctor, local health office, or 811.
21	2020-01-26 15:20	The federal health department's website says symptoms of most coronaviruses are usually mild to moderate and can include a runny nose, headache, cough, sore throat and/or fever, as well as a general feeling of being unwell.
22	2020-01-27 9:00	"I am worried for me and my family." The risk of outbreak in Canada remains low, Tam said in reiterating that if someone has travelled to the affected area in Wuhan and has fever or flu-like symptoms, they should call a doctor.

# Organize by Location

2 options:

1. Use NER to extract LOC from article titles, or articles itself. May not always work.
2. Use a location knowledge base (eg <https://www.iso.org/obp/ui/#iso:code:3166:CN>) to identify locations in article titles/articles.