

New AI tool is a potential timesaver for COVID-19 researchers

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Northwestern University computer scientists are aiming to speed up treatments and vaccines for COVID-19—by making researchers' jobs easier.

The team has developed a new tool that searches through [scientific](#)

[literature](#), predicting the most useful results for each user. After pulling documents of interest, the tool then uses [artificial intelligence](#) to generate a short, easy-to-skim summary of each [paper](#).

"Researchers can spend hours combing through documents and reading peer-reviewed papers," said Ning Wang, a [graduate student](#) who developed the tool. "Our tool provides the most salient details for academic articles rather than simply retrieving them. We hope this will be a time saver for researchers, guiding them to key information."

Wang worked on the project with Diego Klabjan, a professor of industrial engineering and [management sciences](#) in Northwestern's McCormick School of Engineering, and is advised by Han Liu, an associate professor of computer science in McCormick and of statistics in the Weinberg College of Arts and Sciences.

Wang initially developed the tool, now called CAVIDOTS (short for Coronavirus Document Text Summarization), to sift through and analyze financial news. But after the onset of the COVID-19 pandemic, Wang shifted his focus.

"When COVID-19 broke out, we noticed a large body of research papers related to the illness," he said. "We thought we could apply our algorithm to this challenge and see if we could get meaningful results."

To use CAVIDOTS, [users can visit a web-based application](#) and enter search terms. They can first enter large categories and then more specific keywords. The [tool](#) then searches through 30,000 documents in the COVID-19 Open Research Dataset (CORD-19), a free database housing scholarly articles related to the novel coronavirus.

CAVIDOTS merges similar results to save researchers time from sorting through redundant papers. Then it generates a summary for each paper,

highlighting only the most relevant information. The user can then click on the summary to access the full paper.

"We do hope this will help speed up research," Wang said. "We want to provide medical researchers with more efficient tools to acquire the information they need to fight the virus."

Provided by Northwestern University

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