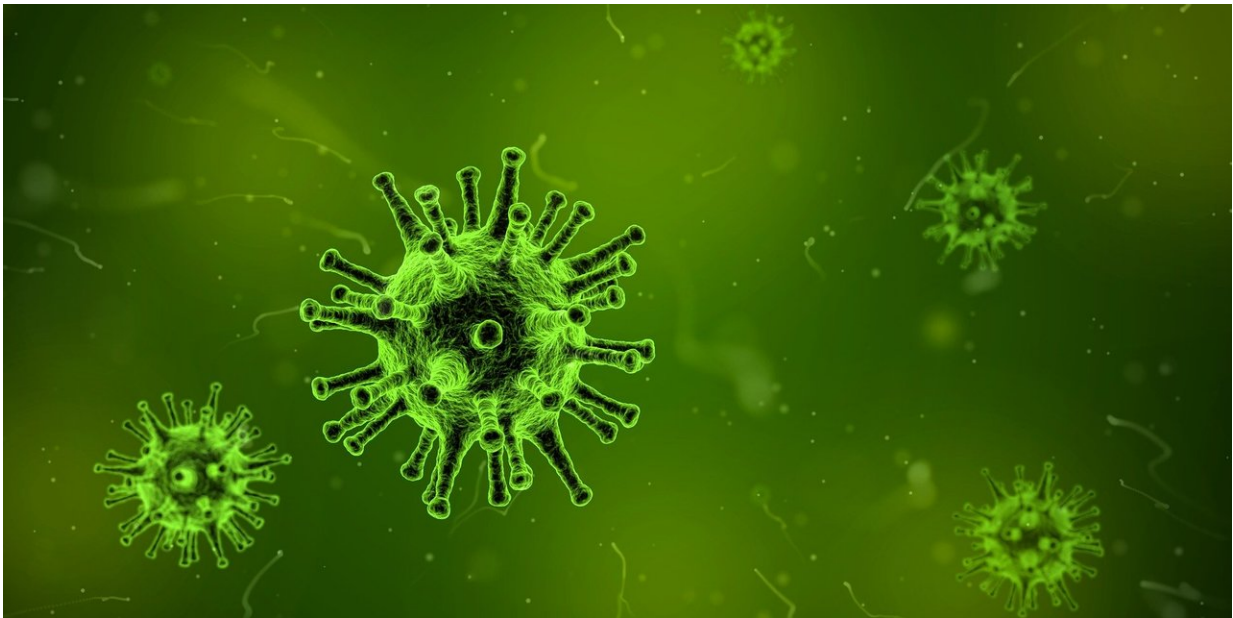


# Using AI and natural language processing to predict disease outbreaks earlier

January 27 2020, by Bob Yirka

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As the world prepares for yet another viral outbreak, scientists look for better ways to prevent them. One of the main areas of focus in such research is spotting possible outbreaks sooner. A new startup in Canada called [BlueDot](#) has applied AI and natural language processing to the problem and was one of the first to spot the outbreak of the Wuhan virus in China.

The viral [outbreak](#) in China, known in the press as the coronavirus, was first reported by the mainstream media the first week of January. By that time, a large number of people had already been infected in Wuhan, the capital of Hubei province. The city is the most populous in central China with over 11 million people. The coronavirus is believed to have jumped to humans from animals sold in food markets. As the outbreak spread, Chinese officials enacted quarantines to slow or stop its progress—they have been noticeably more forthcoming with details about the threat than others in the past. The Chinese government was strongly criticized for the way it handled the SARS epidemic nearly two decades ago—that outbreak led to the deaths of over 740 people worldwide.

As viral outbreaks continue to crop up, large businesses have come to see them as threats—outbreaks that close down entire cities are bad for business. Kamran Khan was listening; he understood the need for a rapid response to emerging diseases. He assembled a team and started a company called BlueDot—its mission is to spot potential outbreak hotspots and report them to clients. Their forecast method took a novel approach, blending artificial intelligence with [natural language](#) processing. The company built a system that scours the internet for news articles with information about diseases in humans and animals—it also pulls in international airline data. When the system spots a possible hotspot, it alerts epidemiologists on staff who study the data. If a threat is suspected, the company sends an alert to all of its paying customers. Such an alert was sent on December 31 of last year, giving details of a suspected outbreak in Wuhan—nearly a week before the [mainstream media](#) issued its alerts. The system also correctly predicted where the virus would strike first outside of China.

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