

'Pandemic drone' in development to detect people with coronavirus

March 26 2020



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A 'pandemic drone' to remotely monitor and detect people with infectious respiratory conditions is being developed by the University of South Australia (UniSA) in partnership with a Canadian company.

The [drone](#) will be fitted with a specialized sensor and computer vision system that can monitor temperature, heart and respiratory rates, as well as detect people sneezing and coughing in crowds, offices, airports, cruise ships, aged care homes and other places where groups of people may work or congregate.

The UniSA team led by Defence Chair of Sensor Systems Professor Javaan Chahl, who holds a joint appointment with Defence, will work with Draganfly Inc, a North American drone technology company, to immediately start integrating commercial, medical and government customers.

Professor Chahl, working alongside Dr. Ali Al-Naji and Asanka Perera, achieved global recognition in 2017 when they demonstrated image-processing algorithms that could extract a human's [heart rate](#) from drone video.

Since then they have demonstrated that heart rate and breathing rate can be measured with high accuracy within 5-10 meters of people, using drones and at distances of up to 50 meters with fixed cameras. They have also developed algorithms that can interpret human actions such as sneezing and coughing.

He says the technology could be a viable screening tool for the COVID-19 pandemic.

"It might not detect all cases, but it could be a reliable tool to detect the presence of the disease in a place or in a group of people."

Professor Chahl says the technology was originally envisaged for war zones and natural disasters as well as remotely monitoring heart rates of premature babies in incubators.

"Now, shockingly, we see a need for its use immediately, to help save lives in the biggest health catastrophe the world has experienced in the past 100 years."

Draganfly CEO Cameron Chell says his company will use its sensor, software and engineering expertise to work with UniSA to integrate and deploy for government, medical and commercial customers.

"We are honoured to work on such an important project given the current pandemic facing the world with Covid-19. Health and respiratory monitoring will be vital not only for detection but also to understand health trends," Mr Chell says.

Provided by University of South Australia

Citation: 'Pandemic drone' in development to detect people with coronavirus (2020, March 26) retrieved 9 April 2024 from

<https://techxplore.com/news/2020-03-pandemic-drone-people-coronavirus.html>

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