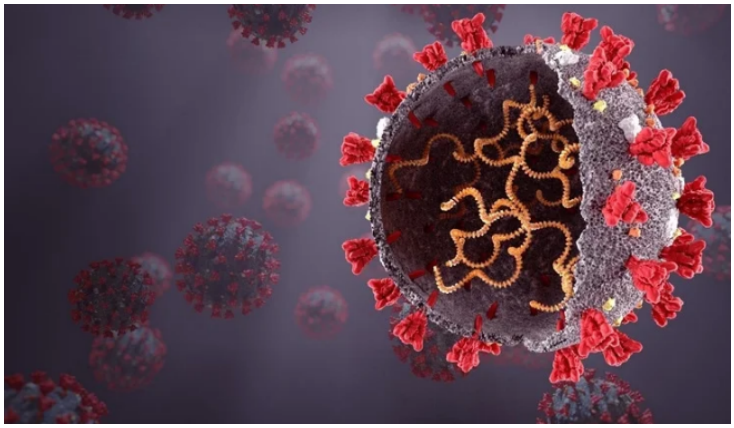
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Australia uses machine learning to provide early warning for emerging COVID-19 variants

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It is hoped this new approach will eventually be used to develop vaccines to prevent future variants and pandemics



Researchers at the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia's national science agency, have developed a faster and more comprehensive way to identify emerging and dangerous COVID 19 variants, by analysing the RNA of the whole variant, rather than the current method of monitoring changes to the spike protein.

There are more than 11 genes within the COVID-19 virus, and these interact with the human immune system in different ways. By looking beyond just the spike protein, researchers can better predict how a new variant might behave inside the human body.

It is hoped that the research could help inform an early warning system that can determine which variants will be the deadliest to humans.

CSIRO scientist, Dr Denis Bauer, said up until now, the method of tracking new variants was to look for genetic changes in variants that are currently being monitored, such as Delta and Omicron.

"By harnessing the capability of a powerful machine-learning tool we developed, called VariantSpark, we were able to analyse the genomes of 10,000 COVID-19 samples, which is the largest number of samples ever analysed in this way," Dr Bauer said.