



AI-based Voice Screening App Delivers Fast and Accurate Results for Parkinson's and Severe COVID



A research team of engineers and neurologists from the Royal Melbourne Institute of Technology University (RMIT) developed a voice screening app that could support the early detection of Parkinson's disease and severe COVID-19.

Although common symptoms of Parkinson's include slow movement, tremors, rigidity and imbalance, diagnosing Parkinson's can still be very challenging as symptoms may vary among people.

Currently, Parkinson's can only be diagnosed by a neurologist and through having an evaluation, which can take up to 90 minutes.

Previous attempts to develop a computerised voice assessment to spot Parkinson's has failed due to the fact that there are significant differences in people's voices.

Their voices change as a result of rigidity, tremor and slowness; therefore, clinicians find it difficult to formulate an accurate assessment. Similarly, in patients with COVID-19 lung infection can cause changes in the voice, and these changes can make it difficult for people to recognise in the early stages.

In creating this new app, researchers used the voice recordings of people diagnosed with the diseases and a controlled group of healthy people expressing three sounds – A, O and M. These sounds result in fast and accurate detection of the disease.

Powered by artificial intelligence, the system is trained to identify the disease based on a person's voice, performing an immediate analysis of the voice. It can then take up to 10 second to reveal whether the person may have Parkinson's or COVID-19 disease.

The system has learnt to compare the voices of people with Parkinson's against those without. By making screening faster and more accessible, early detection and diagnosis could help manage these illnesses.

Co-researcher Dr Quoc Cuong Ngo, from School of Engineering, claims the new technology is more rapid and advanced than any similar AI-based approach, stating, "Our screening test App can measure, with great precision, how the voice of someone with Parkinson's disease or person at high risk of hospitalisation from COVID-19 is different from healthy people".

Source: [RMIT University](#)

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