

For consideration under COVID -19 Initiatives by NITs

Title: Development of Cough Recognition App to Track the Spread of the Coronavirus

Category: Cough detection App, Data Analytics, AI to predict disease status.

Abstract:

People sick with COVID-19 experience variety of symptoms but a dry cough is among the most common symptoms, so the prevalence of that cough can be used as a proxy for their overall health. As COVID-19 cases continue to peak and we need affordable healthcare systems and hospitals overwhelmed, to see patients who may have normally been kept in the hospital for observation and sent home for recovery instead. The researchers are running a survey to collect audio clips of coughs, speech, throat clearing, and laughter. The audio will then be clipped and used to train the AI. The coughs will be treated as a positive example, while the speech, throat clearing, and laughter will be treated as negative examples, training the model not to confuse these sounds with coughs. The more data you can give to an AI model, the better it performs. For this kind of model, the researchers are able to use data from a large number of participants, allowing for greater accuracy. Remote monitoring through a cough detection model addresses these issues. To achieve it, this project proposes a smartphone application where the cough detection model is designed to run in the background of a phone, monitoring with microphone data. Then, the cough detection model determines if audio samples has a cough and then send it to the cloud for further processing. If the number of coughs per day decreases, it indicates to the doctor that their patient's condition is improving.

Expected Time-line: 3 months

Remarks: Funding requirement -Rs. 1, 00,000/-

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