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Fujitsu, TSH embark on AI R&D for COVID-19 diagnosis

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The new AI technology will learn from past CT scans of COVID-19 pneumonia patients, reducing the burden on doctors making diagnoses

Fujitsu and Tokyo Shinagawa Hospital (TSH) have announced the launch of a joint R&D project for AI technology to support diagnostic imaging via chest CT (Computed Tomography), which represents a promising candidate for the effective diagnosis of COVID-19 pneumonia.

The newly-proposed technology supports doctors performing diagnostic imaging on patients suspected of having COVID-19 pneumonia, presenting the likelihood of infection through a numerical, three-dimensional visualization of the spread of shadows in the lungs using chest CT imaging. Applying AI to this analysis could significantly reduce the burden on doctors who diagnose COVID-19 pneumonia by automating a process that normally demands the visual confirmation of hundreds of chest CT images per patient.

Fujitsu and Tokyo Shinagawa Hospital anticipate that the system will deliver early detection of cases of COVID-19 pneumonia based on chest CT image findings, even in cases in which the possibility of infection is determined to be low upon initial examination.

This joint research will enhance AI diagnostic support technology for novel coronavirus pneumonia, and Fujitsu ultimately aims to commercialize the technology as a healthcare solution for frontline medical professionals.

Joint development of AI imaging support technology

When diagnosing COVID-19 pneumonia, patterns of abnormal opacities in the lungs as well as the spread of shadows across the entire lung is important information. Patterns of abnormal shadows are detected using AI developed by Fujitsu Laboratories, Ltd. While showing the possibility of COVID-19 infection with the AI technology, the aim is to shorten the amount of time doctors spend visually confirming the three-dimensional spread of the shadow from hundreds of chest CT images and to allow even non-specialists to efficiently diagnose COVID-19 pneumonia.

Image Caption: The envisioned flow of novel coronavirus infection testing (AI diagnostic imaging developed through this joint R&D effort)