

# AI-based method to improve lungs CT scan reading

**Indore:** The Indian Institute of Technology (IIT), Indore IIT has collaborated with an Indore based hospital and a medical college at Odisha to develop an Artificial Intelligence (AI) based method to read lungs CT scan ground glass opacity with more than 90 per cent accuracy.

IIT-I in association with the Kalinga Institute of Medical Sciences, Odisha and Choithram Hospital and Research Center, Indore has used deep learning to improve the accuracy of lung CT scan reading that will aid in early detection of lung involvement in inflammation-mediated disease.

The method developed using deep-learning gives the scoring of CT scan in decimal points improving accuracy of reading by over 90 % claimed researchers. The researchers used a 2D U-Net-based deep learning approach to develop 2D images to segment the lungs and detect ground-glass-opacity (GGO) in specific lobes.

The research was conducted by associate professors Dr Hem Chandra Jha and Dr M

Tanveer at IIT Indore, Dr Nirmal Kumar Mohakud, professor at the Kalinga Institute of Medical Sciences and Dr Suchita Jain from Choithram Hospital and Research Centre.

Researchers have studied 380 CT scans of Covid-19 positive patients to carry the research and claim that the AI based method will overcome the limitations of manual methods of reading the CT scan.

Jha said "The effect of inflammation-mediated disease may start initially from the right lobe region of the lungs and subsequently affect the rest of the lungs. Our AI based method can be helpful in early detection of lung involvement and also increase accuracy."

Jha said that samples from more than 1,100 Covid-19 patients were collected for the study. "The study on geographically diverse large populations may help to understand the association of biochemical parameters and pattern of GGO in lung lobes with different SARS-CoV-2 variants," said Jha. TNN