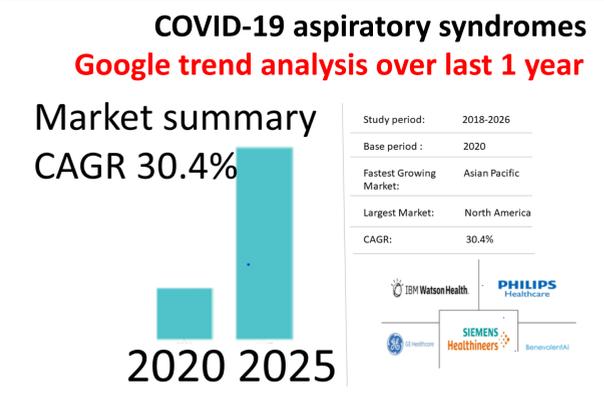


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### Background

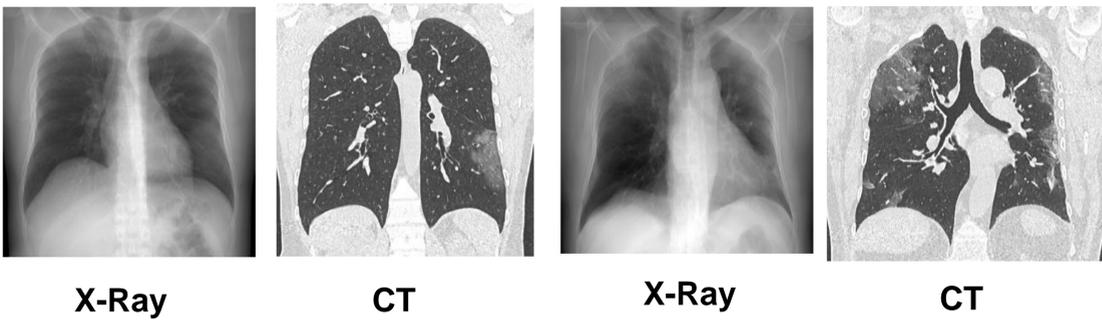


- June 2020 Siemens Healthineers unveiled the world's first-ever intelligent x-ray system with integrated AI.
- September 2020, Care stream Health, the U.S.-based company, announced the launch of an advanced DRX-Compass x-ray System to provide accurate and efficient x-rays for medical imaging centers and mid-tier hospitals globally.

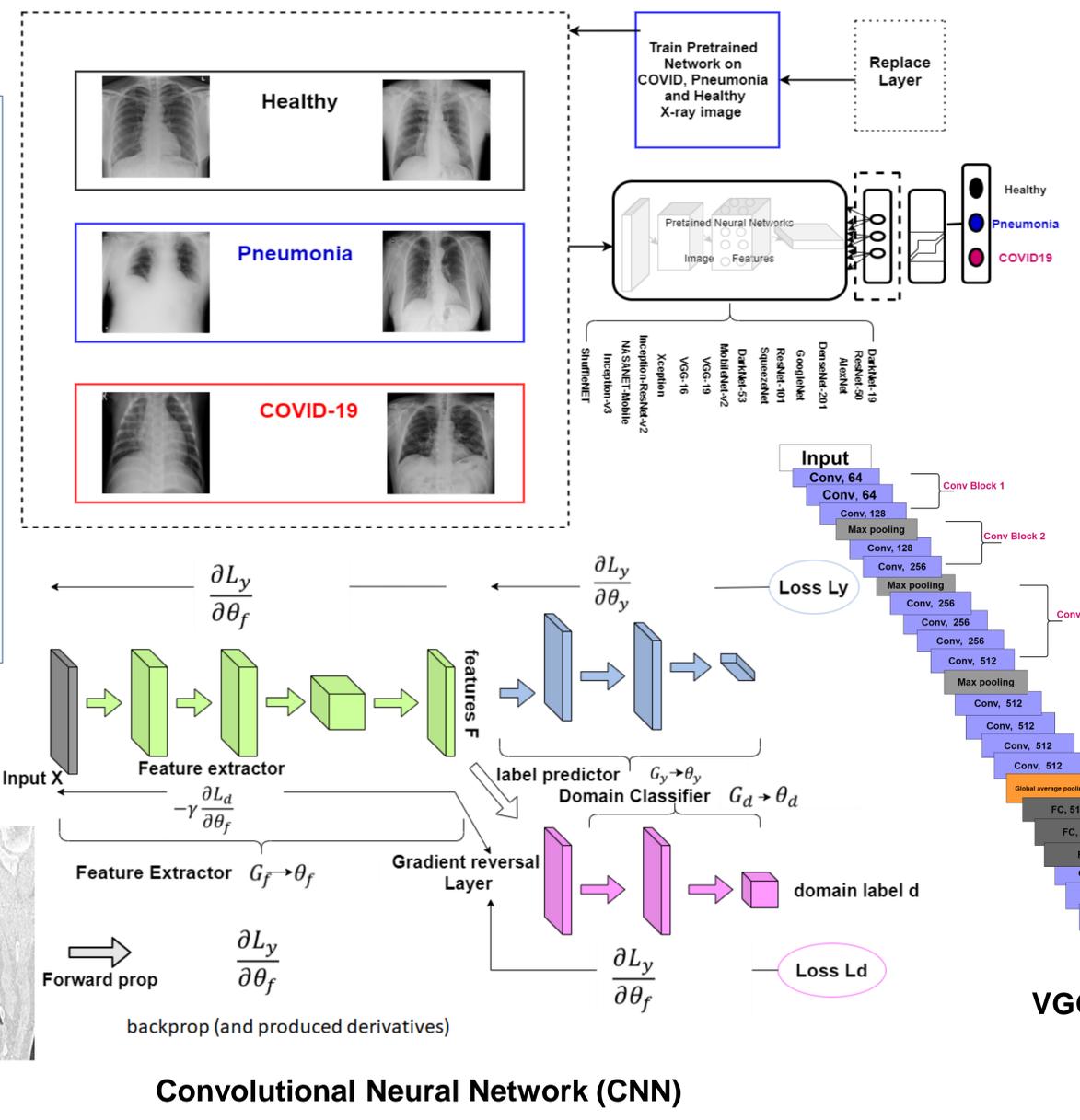


**Top Trend Takeaways**  
A change in attitude and acceptance of AI in medical imaging  
There is a renewed value in partnerships to expand AI in medical imaging

### COVID-19 X-Ray vs. COVID-19 CT

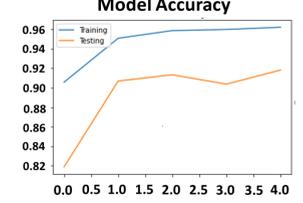
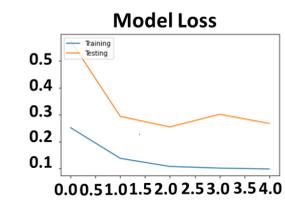


### Flowchart of Proposed Deep Learning Based COVID-19 Induced Pneumonia Detection



### Performance Evaluation

Model name	Training Accuracy	Testing Accuracy	Recall	Precision	F1 Score
CNN	95.25	92.47	97.18	91.32	94.16
VGG-19 (IoT)	96.01	91.67	91.67	91.67	91.67
Transfer learning	93.0	78.0	82.0	85.0	81.0



### Conclusions and Future Works

- Sign of viral pneumonia on lung CT is more prominent than X-ray.
- CT is expensive and is not practical during pandemic.
- CT is also not available in rural hospital settings.
- Deep learning can detect pneumonia with high accuracy.
- This AI based method can be used as a routine diagnostic procedure for seasonal flu, Influenza and asthma from CXR.
- It offers doctors more confidence while examining noisy data for disease diagnosis and treatment strategy selection.
- It will allow OEM healthcare industries to embed AI platform in their existing imaging system.
- In future, we would like to develop a robust system by testing on bigger datasets from different scanners.

### Contact

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