**Significance of the Research Work**

**1.** The fine-tuned VGG16 model that we proposed obtained an accuracy of 99.458% in the early phase of detection of COVID-19 pandemic. The model can be highly beneficial in real-life health care scenarios because X-Ray images contain a lot of information about COVID patients.

2. This model can detect hundreds of images and classify them into COVID-19 positive and normal which will help in extra attention to the radiologists and doctors.

3. The major problem of Covid19 testing is time complexity but using this model hundreds of images can be scanned in very few amount of time without any manual feature extraction which will be very effective in mass testing in rural areas.

4. This study will greatly impact in the study of deep convolutional networks and transfer learning. The study also opens a vast research area about the application of deep neural networks in medical image analysis.