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(54) Title of the invention : COVID 19 DETECTION USING ADVANCED CNN

<p>(51) International classification :G06N0003040000, G06K0009620000, G06N0003080000, G06T0007000000, G06K0009460000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)Dr.Rekharani Maddula Address of Applicant :Assistant Professor in Physics, Sri Indu College of Engineering and Technology Hyderabad ----- ----- 2)Dr.Shaik Rasool Saheb 3)Dr.Shaik Rasool Saheb 4)N.Rajeswaran 5)Dr.G.Venkata Hari Prasad 6)Dr.N.Herald Anantha Rufus Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)N.Rajeswaran Address of Applicant :Department of EEE Malla Reddy Engineering College Maisammaguda Secunderabad Telangana State India ----- ----- 2)Dr.D.Sudha Address of Applicant :Department of ECE CMR College of Engineering and Technology, Hyderabad ----- ----- 3)Dr.Rekharani Maddula Address of Applicant :Assistant Professor in Physics, Sri Indu College of Engineering and Technology Hyderabad ----- ----- 4)Dr.G.Venkata Hari Prasad Address of Applicant :Department of ECE, CMR College of Engineering and Technology Hyderabad -----</p>
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(57) Abstract :

Corona virus disease 2019 (COVID-19) is an infectious disease that begins with flu-like symptoms. COVID-19 began in China and spread rapidly throughout the world. This disease usually results in Pneumonia. Due to the fact that pulmonary infections can be observed via radiography images. This proposal focuses on the detection of corona virus disease (COVID-19) based on Deep Transfer Learning (DTL) methods by analyzing Chest X-ray (CXR) images. The proposed DTL framework classifies CXR images as COVID-19 infected or normal images. Along with the custom CNN, four different pre-trained deep Convolution Neural Networks (CNNs) were used: Vgg-16, ResNet-50, InceptionV3, and MobileNet. The CNN models were trained using CXR datasets collected from open access provided by Kaggle and GitHub. In this study, the classification accuracy of Covid-19 and the normal image is 94%, and the AUC was 0.98. Pre-trained CNN models may be used to support radiologists invalidating their initial screening. This proposal studies deep learning approaches for automatically analyzing chest X-ray images to provide health professionals with precise tools for screening COVID-19.

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