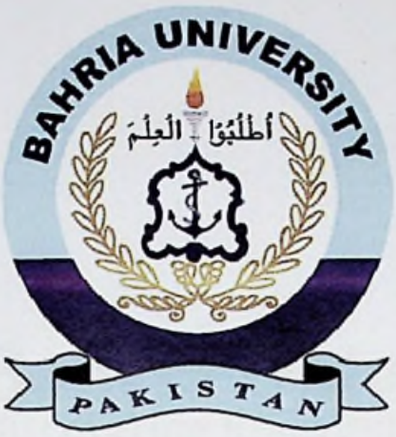

FINAL YEAR PROJECT REPORT

COVID-19 DETECTION USING X-RAY IMAGES

In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)

By

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FALL-2022

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

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ACKNOWLEDGEMENTS

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express my gratitude to my research supervisor, Sir Talha Alam for his invaluable advice, guidance and his enormous patience throughout the development of the research.

In addition, We would also like to express my gratitude to our loving parent and friends who had helped and given me encouragement.

COVID-19 DETECTION USING X-RAY IMAGES

ABSTRACT

Corona virus which was originally emerged in China in the end of 2020, extend quickly over the entire world. It has affected the lifestyle, health and the world economy. This is challenging to examine the true patients as soon to stop dispersion of this outbreak to rapidly cure the infected patients. Hence there is an immense requirements for automatic identification tools because there is no machine-driven toolkits accessible and the manual RT-PCR test is time consuming and inconvenient. Current studies have conveyed that the use of radiology image methods suggest that these images consist of important data about COVID-19 virus. AI techniques in combination with diagnosis radiological could be useful for observation of this virus. It is also efficient to control the problem of a lack of specialized physicians in rural areas. In our proposed model, we have experimented the performance of three pre-trained Convolutional Neural Network (CNN) models such as Mobile-Net, VGG-16, and ResNet50 to differentiate the infected patients from pneumonia, normal cases by using X-ray images for early diagnosis of COVID-19 infection. We have observed the supremacy of ResNet50 with accuracy and sensitivity of 95.44%. In contrary Mobile-net achieved the accuracy of 95.13% with less computational power to train our dataset as compared to Resnet50 and VGG16. This study is helpful for the researchers to develop a successful neural network for quick detection.

Keys: Convolutional Neural Network; Covid-19; radiological imaging; Deep Learning; pneumonia

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