



**FINAL YEAR PROJECT REPORT**

**COVID-19 DETECTION USING X-RAY  
IMAGES**

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

**By**

**NIMRAH HAFEEZ  
AQDAS ZUBAIR  
MIFRAH KHAN**

**54093 BSCS  
54106 BSCS  
54109 BSCS**

**SUPERVISED**

**BY**

**TALHA ALAM**

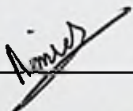
**BAHRIA UNIVERSITY (KARACHI CAMPUS)**

**FALL-2022**

APPROVAL FOR SUBMISSION


## 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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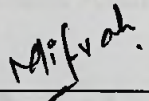
Name : Nimrah Hafeez

Reg No. : 54093

Signature : 

Name : Aqdas Zubair

Reg No. : 54106

Signature : 

Name : Mifrah Khan

Reg No. : 54109

Date : 2 - feb - 2022

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## 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

## TABLE OF CONTENTS

DECLARATION	2
APPROVAL FOR SUBMISSION	3
ACKNOWLEDGEMENTS	5
ABSTRACT	6
TABLE OF CONTENTS	7
LIST OF TABLES	10
LIST OF FIGURES	11
LIST OF SYMBOLS / ABBREVIATIONS	12
LIST OF APPENDICES	13

### CHAPTER

<b>1</b>	<b>INTRODUCTION</b>	<b>14</b>
	1.1 Background and Gene Structure	14
	1.2 Problem Statements	15
	1.3 Aims and Objectives	15
	1.3 Scope of the Project	16
<b>2</b>	<b>LITERATURE REVIEW</b>	<b>17</b>
	2.1 Existing Research on COVID-19 Using X-ray	17-18
	2.2 Comparison with state-of-the-art methods	18-25
	2.3 Summary	25

<b>3</b>	<b>MATERIALS AND METHODOLOGY</b>	<b>26</b>
3.1	Covid-19 rapid Artificial Intelligence detection	26
3.2	Machine learning	27
3.3	Deep Neural network-based screening model for covid-19	27-30
3.4	Dataset	30-33
3.5	Proposed Methodology	33-34
3.5.1	Preprocessing of data	34
3.5.2	Use of Pre-trained Models for COVID-19 Detection	35
3.5.3	The VGG-16 Model	36-38
3.5.4	The ResNet50 Model	38-41
3.5.5	The MobileNet Model	41-44
3.5.6	Training	44
<b>4</b>	<b>IMPLEMENTATION</b>	<b>46</b>
4.1	Experimental setup	46
4.1.1	Software requirements	46
4.1.2	Hardware requirements	46
4.2	Implementation using Tkinter	47
<b>5</b>	<b>RESULTS AND DISCUSSIONS</b>	<b>53</b>
5.1	Train phase	53-55
5.2	Complete performance evaluation	53-58

<b>6</b>	<b>CONCLUSION AND RECOMMENDATIONS</b>	<b>59</b>
6.1	Overview	59
6.2	Conclusion	59-60
6.3	Future prospects	60

<b>REFERENCES</b>	<b>61</b>
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<b>APPENDICES</b>	<b>69</b>
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