

# **FACE MASK DETECTION SYSTEM USING DEEP LEARNING**

## **A MINI PROJECT REPORT**

*Submitted by*

**SWATHI G(511919104019)**

**SWETHA B (511919104020)**

**SWAPNA K (511919104306)**

*In partial fulfillment for the award of the degree*

*Of*

**BACHELOR OF ENGINEERING**

*In*

**COMPUTER SCIENCE AND ENGINEERING**



**5119 - PRIYADARSHINI ENGINEERING COLLEGE,**

**VANIYAMBADI – 635 751**

**ANNA UNIVERSITY, CHENNAI 600 025**

**JUNE 2022**

# **ANNA UNIVERSITY, CHENNAI 600 025**

## **BONAFIDE CERTIFICATE**

Certified that this project report “**FACE MASK DETECTION SYSTEM USING DEEP LEARNING**”, is the bonafide work of “**SWATHI G, SWETHA B, SWAPNA K** ” who carried out the project work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

### **SIGNATURE**

Prof.A.S.KUMARESAN,M.E,FIE.,(Ph.D)

### **HEAD OF THE DEPARTMENT,**

Associate professor,

Department of CSE,

Priyadarshini Engineering College,

Vaniyambadi-635 751,

Tirupattur District.

### **SIGNATURE**

Ms.A.VANATHI.M.E,

### **SUPERVISOR,**

Associate professor,

Department of CSE,

Priyadarshini Engineering college,

Vaniyambadi-635 751,

Tirupattur District.

## CERTIFICATE OF EVALUATION

**College Name** : Priyadarshini Engineering College, Vaniyambadi 635 751.

**Branch & Semester:** Computer Science and Engineering – 6<sup>th</sup> Semester

S.No	Name of the students	Register number	Title of the project	Name of the supervisor
1.	SWATHI G	511919104019	FACE MASK DETECTION SYSTEM USING DEEP LEARING	Ms.A.VANATHI, Associate Professor, Department of CSE.
2.	SWETHA B	511919104020		
3.	SWAPNA K	511919104306		

The report of the project work submitted by the above students in partial fulfillment for the award of Bachelor of Engineering Degree in Computer Science and Engineering of Anna University were evaluated and confirmed to the report of the project work done by the above students and then evaluated.

Submitted for the University Project Viva-Voce examination held on \_\_\_\_\_ at Priyadarshini Engineering College, Vaniyambadi – 635 751.

**INTERNAL EXAMINER**

**EXTERNAL EXAMINER**

## ACKNOWLEDGEMENT

First of all, I praise & thank the almighty from the depth of my heart who has been with me as source of strength, compact & inspiration in the completion of this project work. At the outset, I would like to decide my sincere thanks to our honorable **Chairman, Managing, Trustee, Correspondent** for providing me infrastructural Facilities to work in.

I also express my sincere gratitude to our respected and beloved principal **Dr.K.VIJAYARAJ,ME.,Ph.D.**, for his extremely valuable guidance and support, also providing all facilities to complete our project.

I also express my sincere gratitude to our Head of the Department **Prof.A.S.KUMARESAN,ME.,FIE.,Ph.D.**, for this support and encouragement, which held me for the completion of this project.

I express my sincere thanks and respect to our project coordinator **Dr.V.MALA,M.E.,Ph.D.**, Associated professor, Department of Computer Science and Engineering, who guided me for doing project Successfully.

With immense pleasure I regard my deep sense of indebtedness and gratitude to my project Guide **Ms.A.VANATHI.,ME.**, Associated Professor, Department of Computer Science and Engineering , who was notonly a source of inspiration but also for motivating me with her gratitude and continuous support in the execution of the project.

I am thankful to get constant encouragement support and guidance from all the **Teaching and Non-Teaching Faculty Members** of the Department of Computer Science and Engineering and I also thank my **Family and Friends** who aided me in completing the Project. To one and all, I own acknowledgement who directly aided me in completing the project.

**SWATHI G**

**SWATHA B**

**SWAPNA K**

## **ABSTRACT**

Global pandemic COVID-19 circumstances emerged in an epidemic of dangerous disease in all over the world. Wearing a face mask will help prevent the spread of infection and prevent the individual from contracting any airborne infectious germs. Using Face Mask Detection System, one can monitor if the people are wearing masks or not. Here HAAR-CASACADE algorithm is used for image detection. Collating with other existing algorithms, this classifier produces a high recognition rate even with varying expressions, efficient feature selection and low assortment of false positive features. HAAR feature-based cascade classifier system utilizes only 200 features out of 6000 features to yield a recognition rate of 85-95%. According to this motivation we demand mask detection as a unique and public health service system during the global pandemic COVID-19 epidemic. The model is trained by face mask image and non-face mask image

## TABLE OF CONTENTS

CHAPTER NO	TITLE	PAGE NO.
	ABSTRACT	V
1	INTRODUCTION	
	1.1 General	1
	1.2. Motivation of the work	1
	1.2 Objectives and scope of the projects	2
	1.3 problem statement	3
	1.3.2 Existing System	3
	1.3.1 Disadvantages of Existing System	3
	1.4 Proposed System	3
	1.4.1 Proposed System Advantages	3
2	LITERATURE SURVEY	4
3	PROJECT DESCRIPTION	
	3.1 Introduction	9
	3.2 Module Diagram	
	3.2.1 Detailed Architecture	10
	3.2.2 modules	11
	3.2.3 user Diagram	12
	3.2.4 Activity Diagram	14
	3.2.5 Use case Diagram	14

<b>4</b>	<b>SOFTWARE SPECIFICATION</b>	
	4.1 System Requirement	15
	4.2 Hardware Requirement	15
	4.3 software requirement	16
	4.4 language specifiction	17
<b>5</b>	<b>IMPLEMENTAION</b>	
	General	20
	5.1 Code implementation	20
	5.2 Snapshots	27
<b>6</b>	<b>CONCLUSION &amp; REFERENCES</b>	
	6.1 Conclusion and Future Work	28
	6.2 References	30

