A MAJOR PROJECT

on

IMPLEMENTATION OF FACE MASK DETECTION USING OPENCV

Submitted to

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

In partial fulfilment of the requirement for the award of the degree of

BACHELOR OF TECHNOLOGY

in

ELECTRONICS AND COMMUNICATION ENGINEERING

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY & MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
NAAC Accredited Institution with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

June, 2022

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Date:

CERTIFICATE

This is to certify that the project work entitled "**IMPLENTATION OF FACE MASK DETECTION USING OPENCV**" work done by **MADDI NIKITHA (187Y1A0422) AND PERABATHULA VAMSHI KRISHNA (187Y1A0451)** students of Department of Electronics and Communication Engineering, is a record of bonafide work carried out by the members during a period from January, 2022 to June, 2022 under the supervision of **E. SREENIVASULU, Assistant Professor**. This project is done as a fulfilment of obtaining Bachelor of Technology Degree to be awarded by Jawaharlal Nehru Technological University Hyderabad, Hyderabad.

The matter embodied in this project report has not been submitted by us to any other university for the award of any other degree.

MADDI NIKITHA **PERABATHULA VAMSHI KRISHNA**

This is to certify that the above statement made by the candidates is correct to the best of my knowledge.

Date: (**E. SREENIVASULU**)

The Viva-Voce Examination of above students, has been held on……

Head of the Department External Examiner

Principal

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LIST OF ABBREVIATIONS

ML	Machine Learning
AI	Artificial Intelligence
NLP	Natural language processing
CNN	Convolutional neutral networks
SSD	Single shot detection
SVM	Support vector machine
YOLO	You Only Look Once
FPN	Feature Pyramid Network
RMFD	Real World Masked Face Dataset
API	Application programming Interface
IOU	Intersection over Union
GPU	Graphics Processing Unit
TFPU	TensorFlow Processing Unit
CPU	Central Preprocessing Unit
IBM	International Business Machine
MRI	Magnetic resonance imaging

ABSTRACT

COVID-19 pandemic has rapidly increased health crises globally and is affecting our day to-day lifestyle. Many measures are recommended by WHO to control the infection rate and avoid exhausting the limited medical resources. A motive for survival recommendations is to wear a safe facemask, stay protected against the transmission of coronavirus. By wearing a facemask, the most effective preventive care must be taken against COVID-19. Monitoring manually if the individuals are wearing face mask correctly and to notify the victim in public and crowded areas is a difficult task.

This project approaches a simplified way to achieve facemask detection and notifying the individual if not wearing facemask. Our project uses image processing and machine learning techniques. We collect data of images of face with and without masks and then image processing applied to it. We are giving data set of samples containing images with and without mask. So that we train the data using machine learning techniques like convolution neural networks. We use image processing technique viola jones algorithm to take images as input.

The output will be of color bounded box shown as without mask if the detected face is without mask and it sends the information to person and higher authorities too. If the person is wearing mask the bounded box will be of shown as mask. It indicates that it is safe now. The system runs in real- time and detects if an individual face has a facemask, if not then notifies the person-in-charge that the individual has not been equipped with a mask.