A PROJECT REPORT

on

"MASK DETECTION"

Submitted to

KIIT Deemed to be University

In partial fulfilment of the requirement for the award of

BACHELOR'S DEGREE IN
COMPUTER SCIENCE AND ENGINEERING

By

DATTATRAYA DEB 1705304
GOVIND YADAV 1705310

Under the guidance of
Prof. Suresh Chandra Moharana

SCHOOL OF COMPUTER ENGINEERING
KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY
BHUBANESWAR, ODISHA – 751024

December 2020

KIIT Deemed to be University

School of Computer Engineering

Bhubaneswar, ODISHA 751024

CERTIFICATE

This is to certify that the project entitled

"MASK DETECTION"

Submitted by:

Dattatraya Deb 1705304

Govind Yadav 1705310

is a record of bonafede work carried out by them, in the partial fulfilment of the requirement for the award of Degree of Bachelor of Engineering (Computer Science and Engineering) at KIIT Deemed to be university, Bhubaneswar. This work is done during year 2020-2021, under your guidance.

Date:

Prof. SURESH CHANDRA MOHARANA

Project Guide

ACKNOWLEDGEMENTS

We are profoundly grateful to Prof. SURESH CHANDRA MOHARANA for his expert guidance and encouragement throughout to see that this project rights its target since its commencement to its completion. The work is a team effort minus which the completion of this project was not possible.

DATTATRAYA DEB

GOVIND YADAV

ABSTRACT

Face Detection has evolved as a very popular problem in Image processing and Computer Vision. Many new algorithms are being devised using convolutional architectures to make the algorithm as accurate as possible. These convolutional architectures have made it possible to extract even the pixel details.

The end of 2019 witnessed the outbreak of Coronavirus Disease 2019 (COVID-19), which has continued to be the cause of plight for millions of lives and businesses even in 2020. As the world recovers from the pandemic and plans to return to a state of normalcy, there is a wave of anxiety among all individuals, especially those who intend to resume in-person activity. Studies have proved that wearing a face mask significantly reduces the risk of viral transmission as well as provides a sense of protection. However, it is not feasible to manually track the implementation of this policy. Technology holds the key here. We introduce a Deep Learning based system that can detect instances where face masks are not used properly. Our system consists of a dual-stage Convolutional Neural Network (CNN) architecture capable of detecting masked and unmasked faces and can be integrated with pre-installed CCTV cameras. This will help track safety violations, promote the use of face masks, and ensure a safe working environment.

CONTENTS