

# **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**

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## CERTIFICATE

This is to certify that the project entitled  
“MASK DETECTION”

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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**

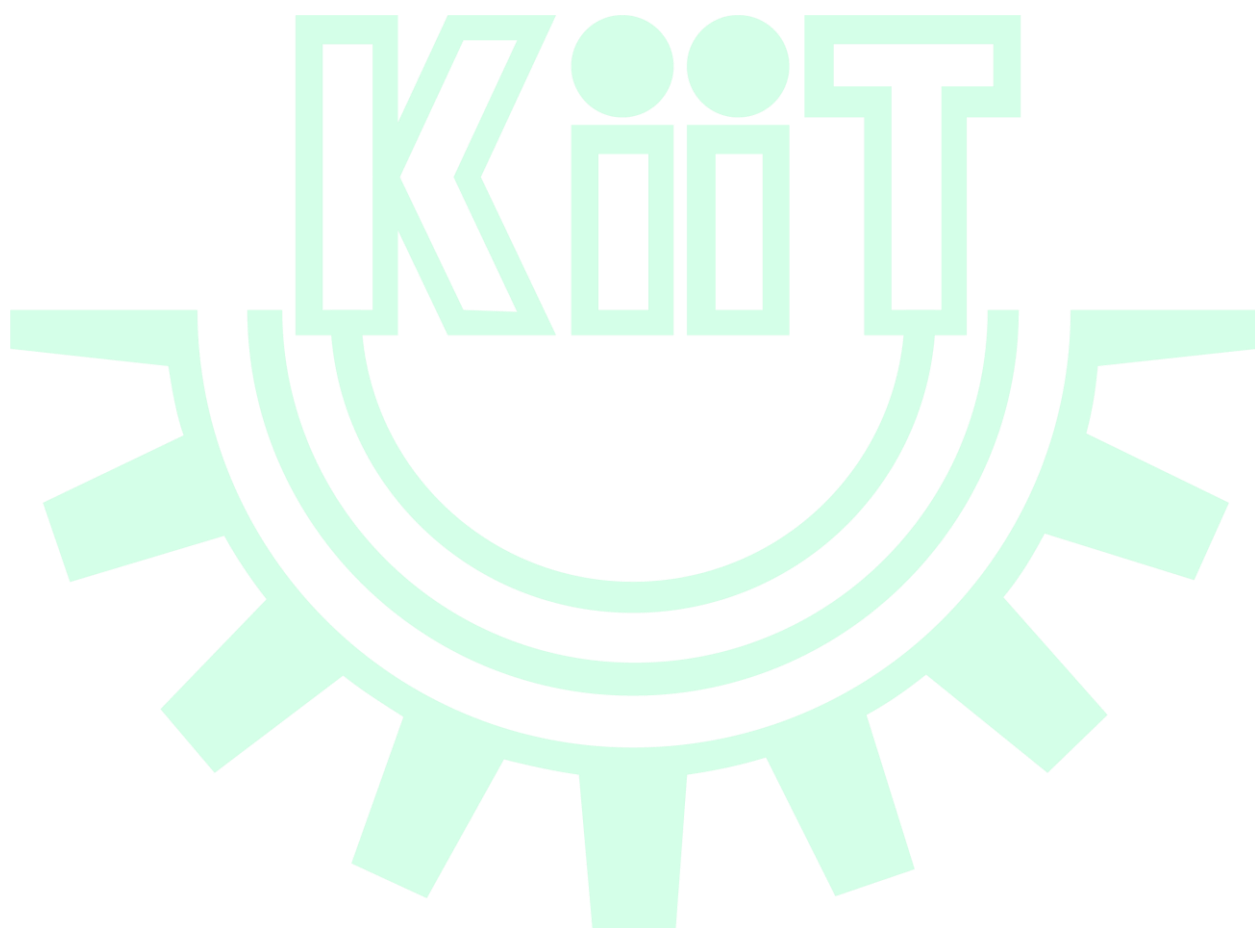
**Project Guide**

## **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

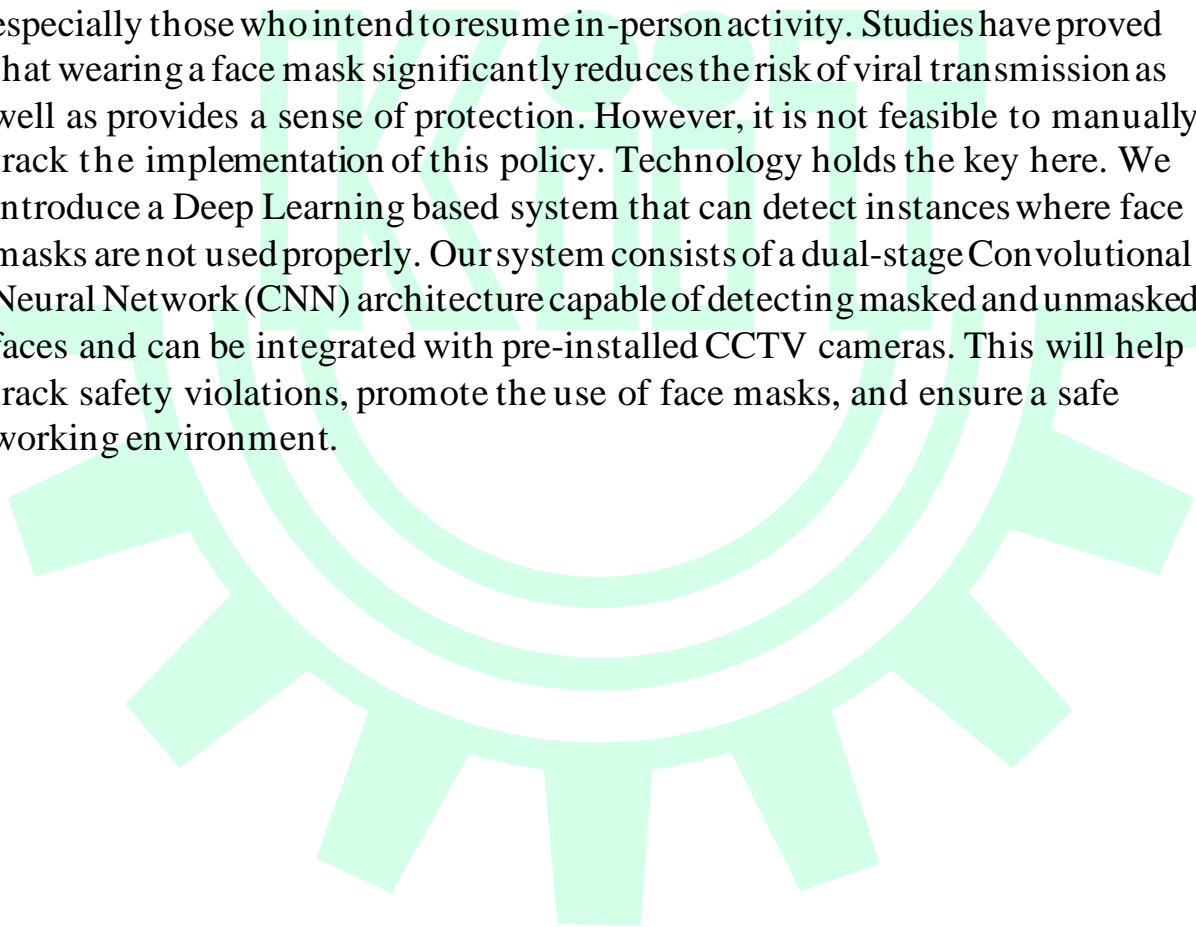
GOVIND YADAV



# 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.



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