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Live Face Mask Discernment System Using Python

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Abstract — Corona virus and COVID-19 pandemic has affected the nation seriously and after this worldwide pandemic COVID-19, the several need for health protection system increases in which face mask is the most important need. The main motive of this project is to recognize the presence or absence of a face mask on human faces on live streaming video. We have done this by the help of deep learning to develop our face mask detector model. The system which is used for this, is Single Shot Detector (SSD) due to its good performance, exactness, execution and high speed. We also have used concepts of transfer learning in neural networks to finally output presence or absence of a face mask in an image or a video stream. Experimental results and output show that our model performs well on the test data with 100% and 99% precision and recall, respectively. Image processing means the analysis and manipulation of a digitized image. This work can also be nominate as use of computer algorithms, in order to get enhanced and clearly visible image. Image processing basically includes the following steps:

1. *Importing the image with the help of image acquisition tools present in OpenCV.*
2. *Examine and manipulating the image (image is defined as a two-dimensional function).*
3. *A perfect output in which result can allot image or a report that is based on examine the image.*

Keywords —

- Covid-19 pandemic
- Jetbrains Pycharm
- Face Mask Discernment
- Python programming

I. INTRODUCTION

The motive of this project is to detect the presence or absence masked and unmasked faces on live streaming

video. For complete this project, we will use basic concepts of transfer learning in authors are invited to submit papers that neural networks to finally show output presence or absence of a mask in a video stream.

The year 2020 and 2021 has shown mankind some mind boggling series of events amongst which the corona virus disease is the most life changing and threatening event which has started in world since the year 2020 began. Affecting the health and lives of human beings. During this pandemic we have to follow strict measures in order to prevent the spread of disease. People who wear face mask, they step out of their house and society strictly ensure that people are wearing face mask during they are in public places or gatherings.

II. RELATED WORKS

Some research have already been completed in this field which is shown below:

- [1] A Novel Approach to Detect Face Mask to Control Covid Using Deep Learning.
- [2] Correctly Detect Face-Masks for COVID-19 from Visual Information.
- [3] Literature Survey of Human Recognition with Face.
- [4] Performance Evaluation of Intelligent Face Mask Detection System with various Deep Learning Classifiers.
- [5] Validating the Correct Wearing of Protection Mask by Taking a Selfie - Design of a Mobile Application 'Check Your Mask' to Limit the Spread of corona virus.
- [6] An Automatic System to Monitor the Physical Distance and Face Mask Wearing of Construction Workers in COVID-19 Pandemic.