



# Face Mask Detection

Subject: Project - I (4IT31)

INFORMATION AND TECHNOLOGY DEPARTMENT

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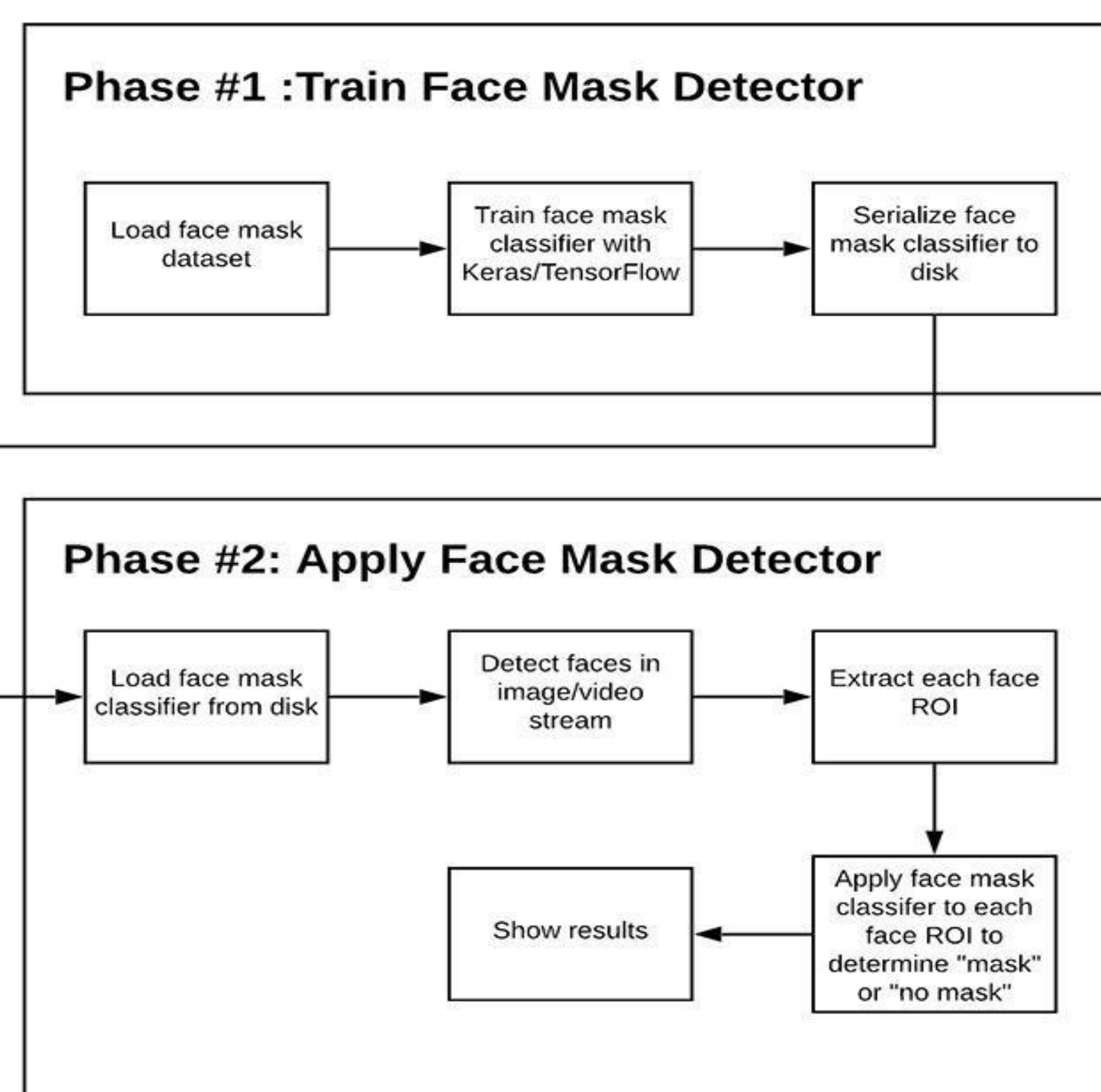
## A Introduction

The project, Face Mask Detection, where it uses facial and object recognition to accurately distinguish those who are with mask or without mask. The user can upload an image or open the video and the program will detect whether the person is wearing the mask or not. This will play an important role to control the spreading of Covid-19.

## B Abstract

The system accurately detects the face mask on human faces from image, video as well as from live camera. It provides attractive website interface to upload image or video and detect mask from that and if mask is not present on face then an email will be sent to admin.

## C Flow Chart



## D Project Implementation

### ➤ Training the model

Loading the face mask detection dataset from disk and training the model (using OpenCV, Tensorflow, keras, Sklearn) on the dataset, and then serializing the face mask detector to disk.

### ➤ Detecting the face mask

Once the face mask detector is trained, the system can load the mask detector and perform face detection. Then the system can classify each faces as with mask or without mask with displaying the percentage of accuracy.

### ➤ Front end

On the website user can upload Image, video or start live video to detect the face mask. The website also contains Demo, Gallery and About pages.

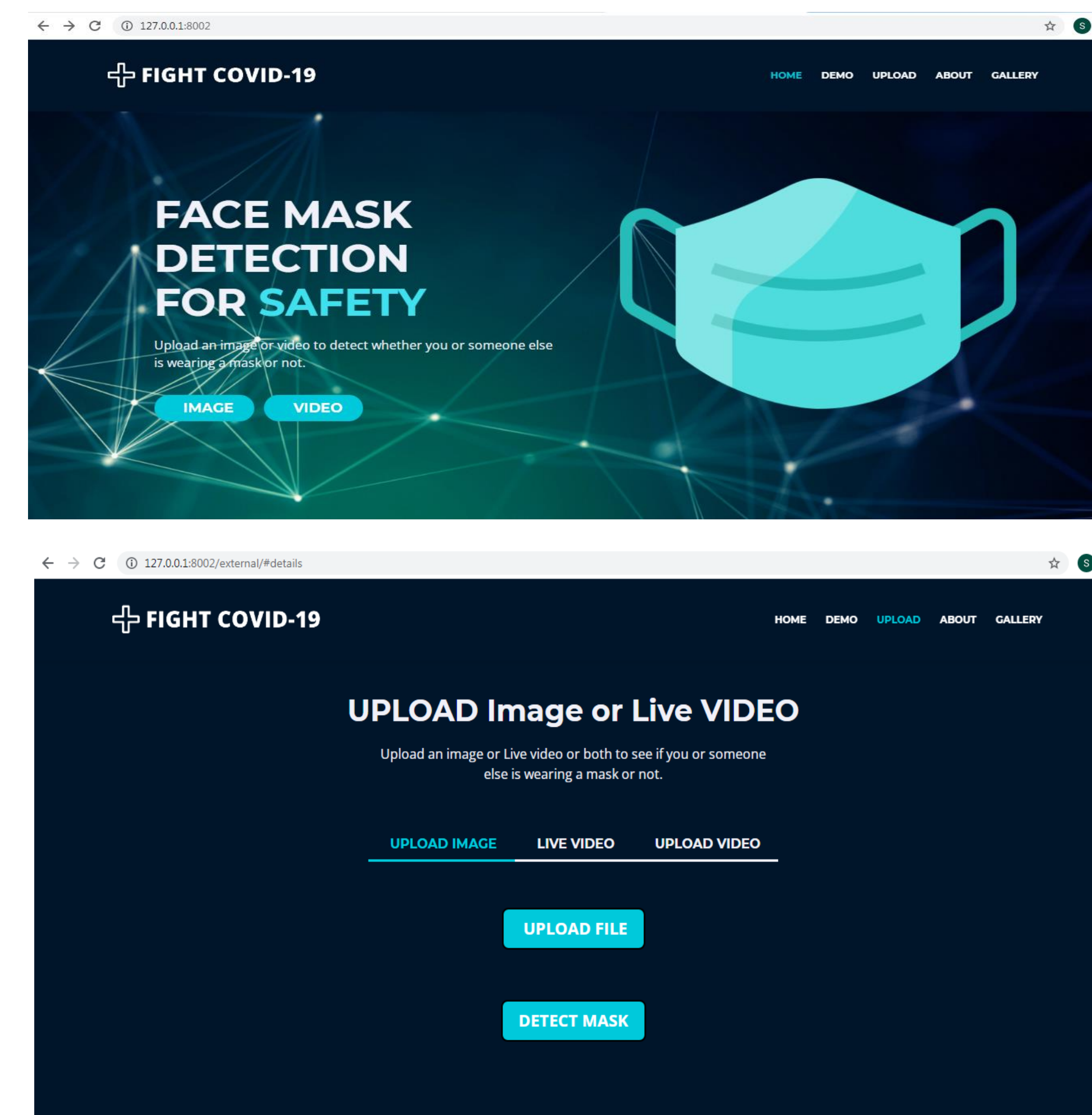
## E Tools

- Tensorflow
- keras
- Numpy
- opencv- python
- Matplotlib
- scipy
- ffpypayer
- Django

## F Model Accuracy



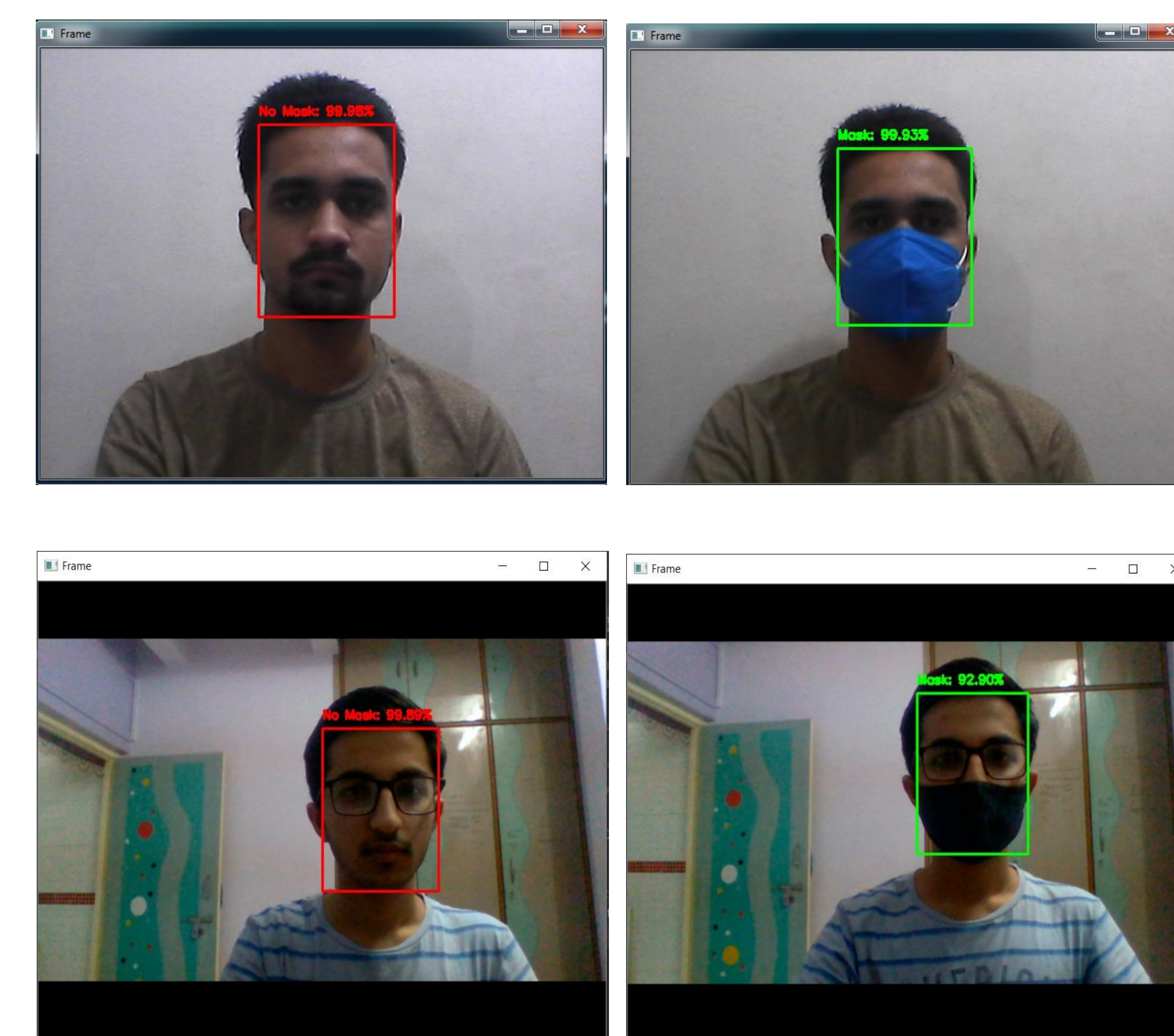
## G Main Page



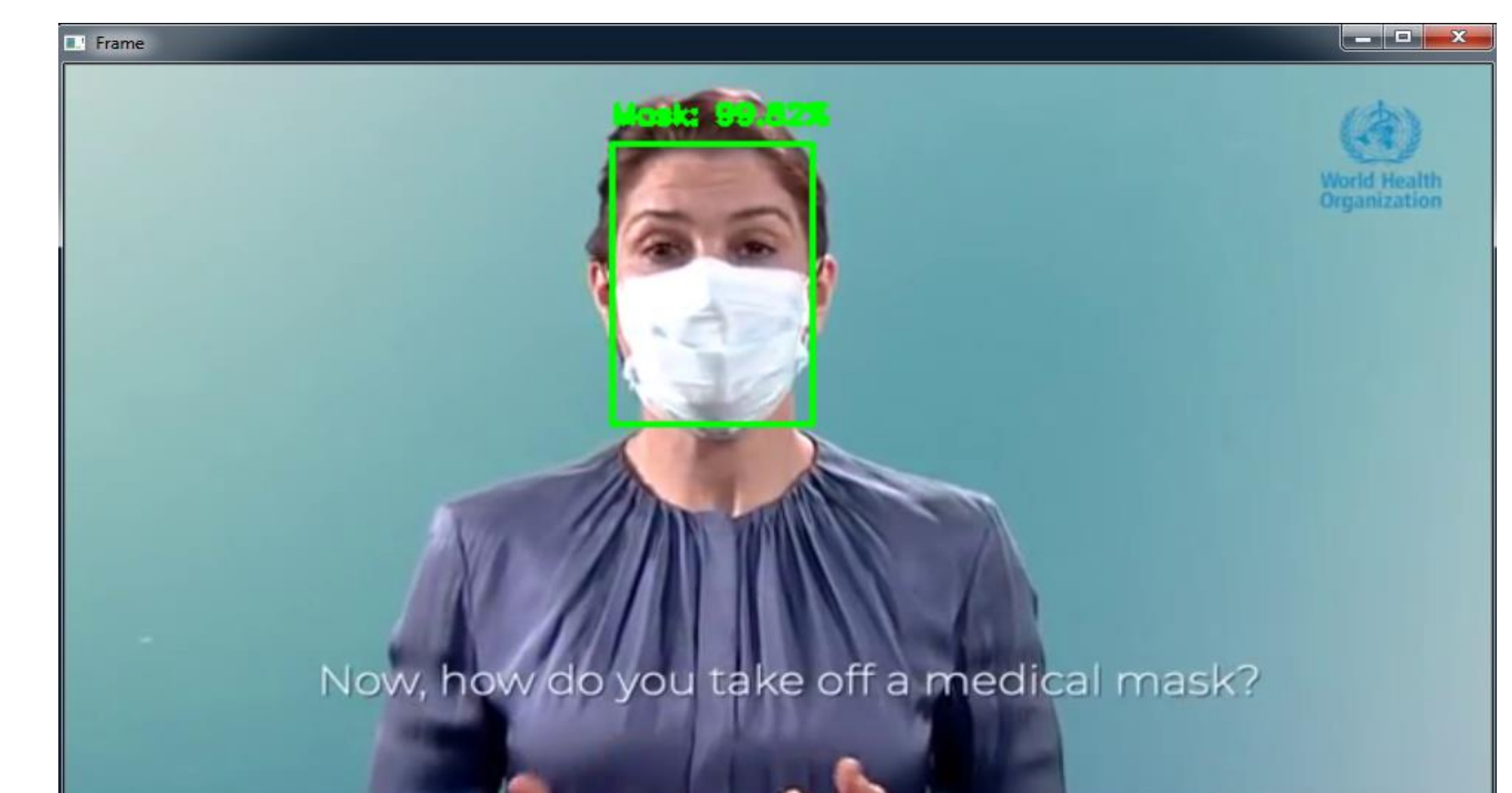
## H Detection from Image



## I Detection from Live video



## J Detection from uploaded video



## K Conclusion

Face mask detection system can be implemented at various public places to ensure that people are wearing mask or not and it can also be implemented with door unlocking system to prevent entry of that people who are not wearing the mask.