FACE MASK DETECTION

Presentation
By

T.RAHUL [187Y1A0492]

K.BHARDWAJ [187Y1A0471

Under the Guidance of

MS.T.TANUJA

Assistant Professor

Department of ECE

Department of Electronics and Communication Engineering

MARRI LAXMAN REDDY

Institute of Technology and Management

MLRS

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Introduction

- Face mask detection is an object detection and classification problem with two different classes (Mask and Without Mask).
- It is used to detect the person's face with whether he wear mask or not.
- If anyone is found to be without a face mask, then it shows that he doesn't wear the mask.
- As all the workplaces are opening. The number of cases of COVID-19 are still getting registered throughout the country. Hence to ensure that people wear masks while coming to work we hope this module will help in detecting it.

Introduction

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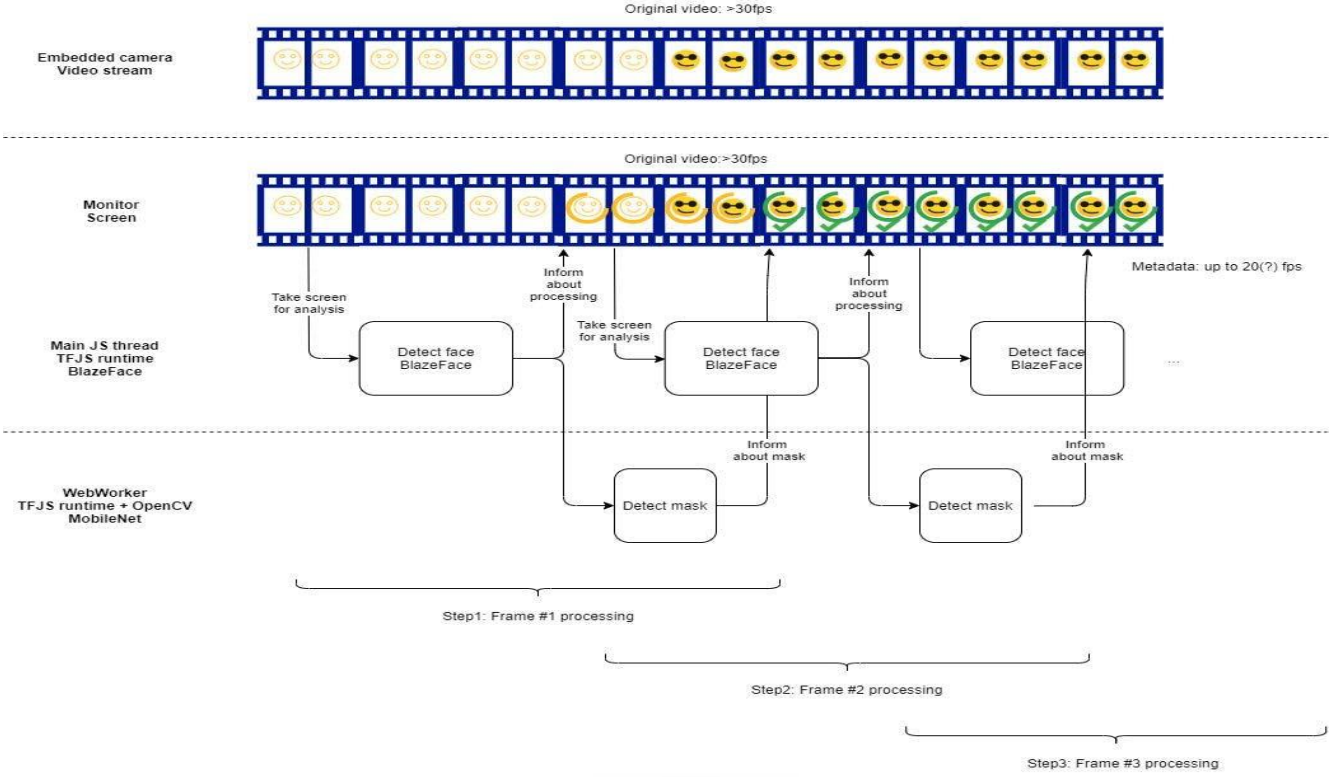
Objective of the Work

- The main goal of the project is to implement this system at entrances of colleges, airports, hospitals and offices where chances of spread of COVID-19 through contagion are relatively higher.
- Scientists have concluded that wearing face masks work on decreasing COVID-19 transmission. In 2020, the rapid spread of COVID-19 led the World Health Organization to declare COVID- 19 as a global pandemic.

Literature Survey

- S.MAMATA [2321-404X], REAL TIME FACE DETECTION AND TRACKING USING OPENCV,ARTIFICIAL INTELLIGENCE
- Prof. Dr. CHRISTOPH LIPPAERT, Digital Health-MACHINE LEARNING

Block Diagram

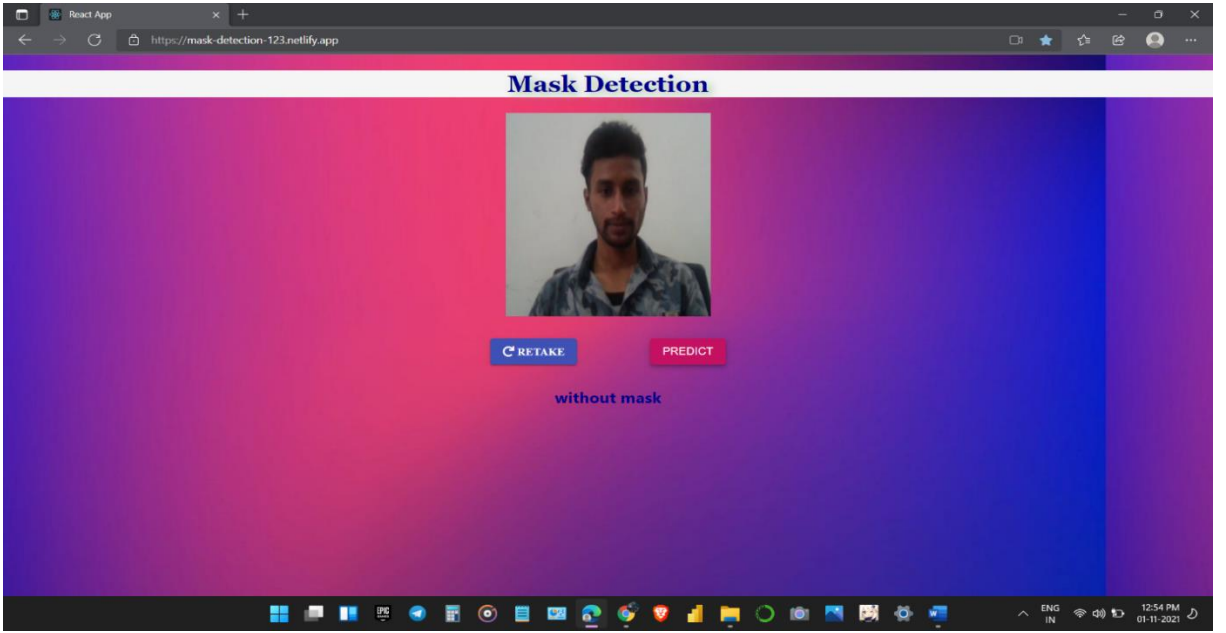


Procedure

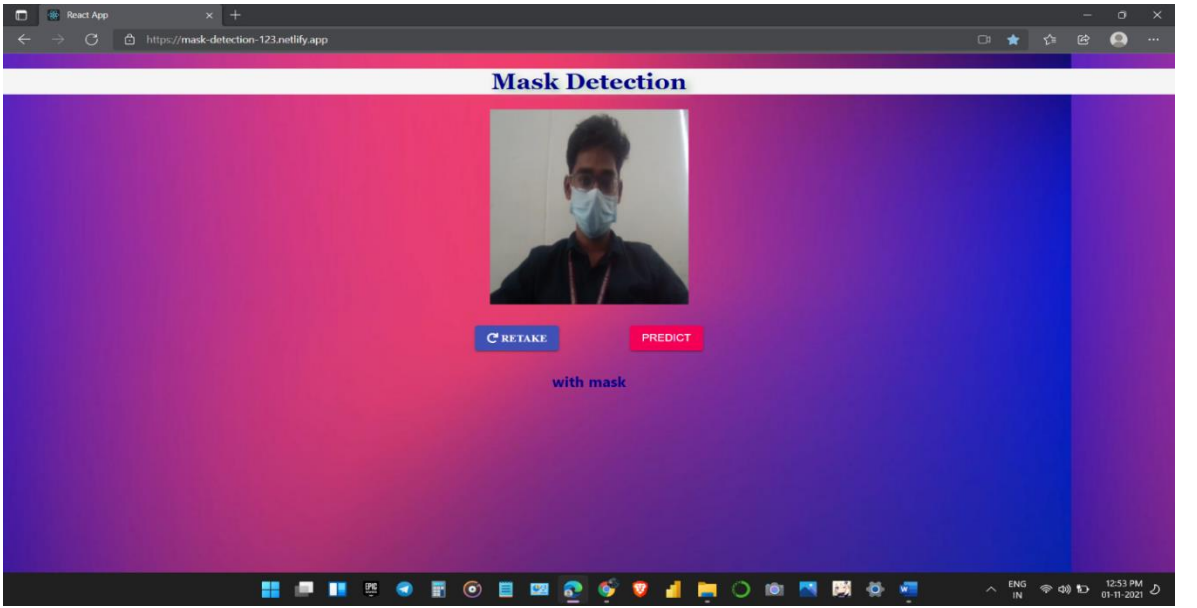
- It is an object detection and classification problem with two different classes (Mask and Without Mask).
- A hybrid model using deep and classical machine learning for detecting face mask will be presented.
- A dataset is used to build this face mask detector using CNN (Neural Network). We have already trained by using dataset in CNN and deployed in REACT (Tensor flow JS).
- The code in face mask detection is java script and deployed in Tenser flow.
- When they are processed then there code will be directed to a browser with a different survey and there will be a connection to all hardware components which we are going to implement in future

Results And Analysis

The trained model checks with corresponding two data sets and shows the output whether wear mask or not.



Results And Analysis



The accuracy of this mask detection is 95%.

Conclusion

- As stronger device we have as better performance results regarding taking metrics it is demonstrated The proposed system to classify face mask detection using COVID-19 precaution both in images and videosusing convolution neural network.
- In order to investigate the performance, the proposed method an extensive experimentation is conducted on 50 various Image datasets. We conducted experimentation under varying number of training and testing percentage for 10 random trails.

Future Scope

The future work is as follows: -

- Perform the classification efficiently
- Using multiple datasets which could attain the optimum prediction.
- Database creation and addition of people in that database who are frequent defaulters

Improve the overall time complexity of the entire workflow.

- Integrate the Person identification model and face mask detection model into a single detection algorithm.

References

1. Hsu, R. L., Abdel-Mottaleb, M., and Jain, A. K. (2002). Face detection in color images. IEEE transactions on pattern analysis and machine intelligence

2. Meenpal, T., Balakrishnan, A., and Verma. Facial mask detection using semantic segmentation. In International Conference on Computing, Communications and Security


Thank You..