

Face-mask detection using Raspberry Pi

Under the Guidance of

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Motivation

- Monitoring large crowds and **picking out defaulters** is a difficult task in large public places.
- **Automation of monitoring** would help in reducing risk of spread of the infection.

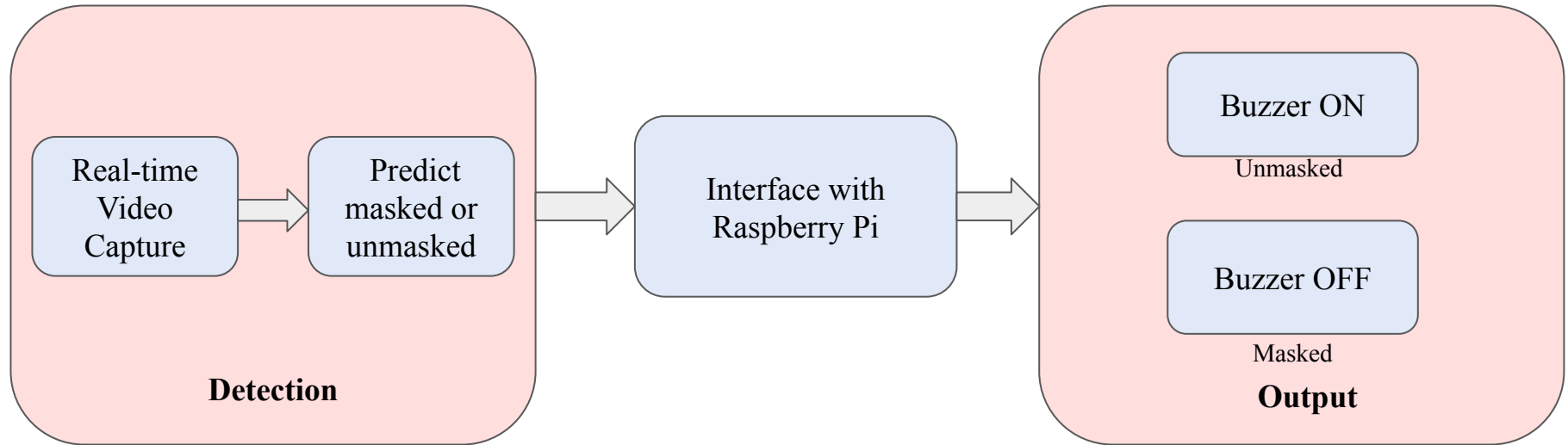
Problem statement

Design a methodology to detect whether a person is masked or not.

Objectives

- Develop an algorithm to perform mask detection
- Detect masks for multiple people
- Signal if the mask is not found

Block Diagram:



Hardware:

- Raspberry Pi 4B
- 16 GB Memory card
- 5 MP Raspberry Pi camera
- Buzzer

Dataset analysis and description

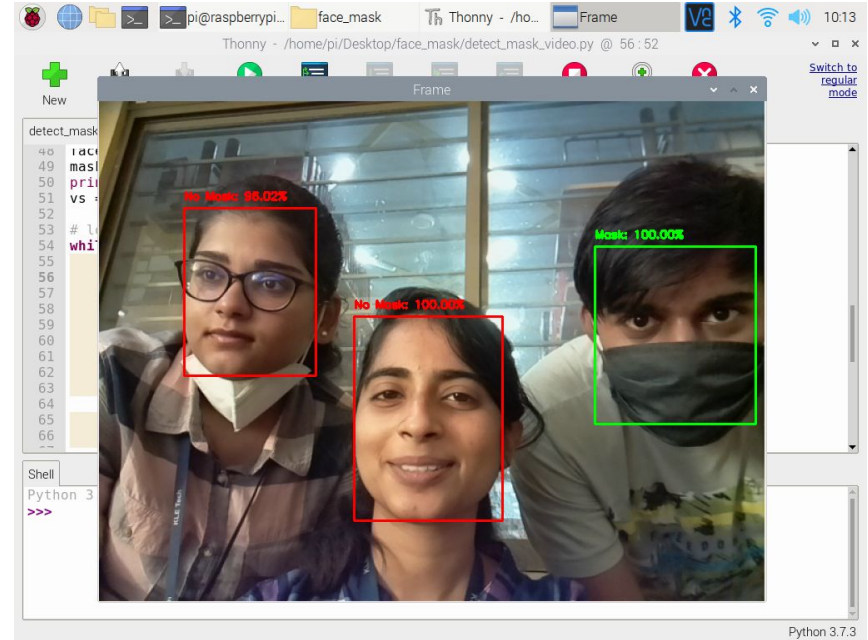
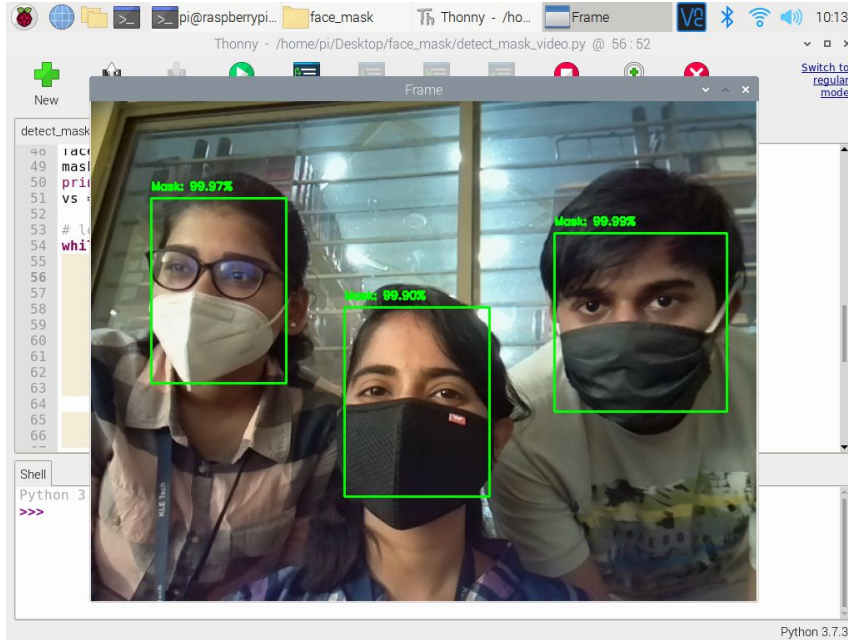
Dataset : Real World Masked Face Detection (RMFD) : 1376 images

Number of classes : 2

1. With_mask : 690 images
2. Without_mask : 686 images



Experimental results



Conclusion and Future Scope

- We were successful in implementing the above mentioned objectives. The hardware is capable of detecting multiple masked and non-masked faces.
- This project can be deployed in public places like malls, theatres and universities where crowd monitoring is required.

Thank you