
Automatic thermal and mask screening system

¹Aditya Singh (USN:1DS21EC018), ¹Ayaan Shakil (USN:1DS21EC040),
¹Shrushti Pattar (USN:1DS21EC197), ¹Niveditha K.M. (USN: 1DS21EC136),
²Dr. M. Sindhu Shree M., ³Adithya T.G.,
⁴Dr. Pavithra G., ⁵Dr. T.C.Manjunath* Ph.D. (IIT Bombay), Sr. Member IEEE, Fellow IE,
Chartered Engineer

¹First year BE UG (ECE) Second Sem Students, Dept. of Electronics & Communication Engg.,
Dayananda Sagar College of Engineering, Bangalore, Karnataka

²Assistant Professor & Mini-Project Guide, ECE Dept., DSCE, Bangalore, Karnataka

³UG B.Tech. (CSE) Student of Third Semester, Dept. of Computer Science & Engg., PES
University, Bangalore

⁴Associate Professor & Mini-Project Guide, ECE Dept., DSCE, Bangalore, Karnataka

⁵Professor, HOD & Mini-Project Guide, ECE Dept., DSCE, Bangalore, Karnataka

Abstract

The work presented in this paper presents the design and development of a automatic thermal mask screening system. In recent times, the entire world has faced major difficulties with COVID virus for over 3 years. In order to avoid infection from the virus, we have been instructed to follow protocols like social distancing, wearing masks, temperature regulation and sanitization was required. But it was really a big problem to do so in a public place. The work presented here is the mini-project work of the second sem students of electronics & communication engineering department of Dayananda Sagar College of Engg., Bangalore.

Keywords – Thermal, Scan, Mask, Simulation, Covid.

1. Introduction to the work

In this section, we present the basic introductory concepts to the work. Due to COVID, recent times we faced a lot of difficulties. We faced lockdown, almost 5.29 lakh people lost their lives due to this deadly virus [17]. We have seen losses due in terms of the economy as all of sudden the whole world got stuck in lockdown. So there was a need to remove lockdown and start the regular economic practices as usual but we also have to ensure life safety while doing this. Many people were involved in this to maintain COVID protocols and ensure life safety as well as prevent economic losses [1] [2].

2. Proposed Methodologies Adopted

In this section, the proposed methodology that is being adopted is presented in a nutshell. We use the hardware & the software tools to develop the proposed methodology [20]. The flowchart of the proposed methodology is shown in the Fig. 1. The block-diagram of the proposed methodology is shown in the Fig. 2 [5].

3. Methodology

In this project, Arduino is used for controlling the whole system by taking input from the ML Model which is running on LAPTOP/COMPUTER [6] [7].

4. Results & Discussions

The results or the outcome of the mini-project work could be summarized as follows [10].

- We have developed a Face detection model for detecting face masks using machine learning.
- We have developed Smart Gate for COVID Care.
- Develop a real time automated system for implementing good covid care [13]
- The system will be able to Automate all tasks on the door.
- It will reduce manpower. It will prevent manpower from being vulnerable to infection [12]

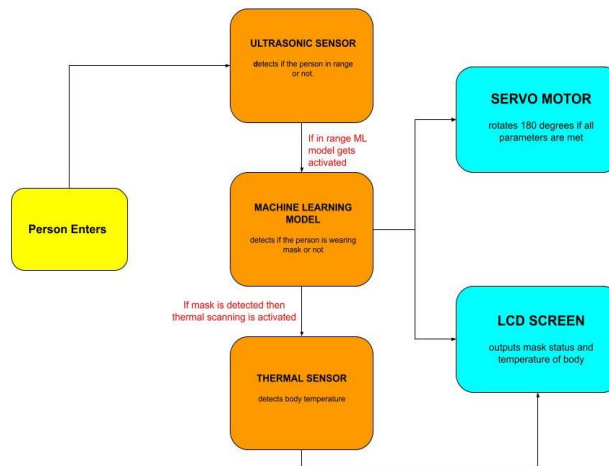


Fig. 1 : Block diagram of the proposed methodology



Fig. 2 : Mask being detected by the algorithm – phase 1



Fig. 3 : Mask being detected by the algorithm – phase 2



Fig. 4 : Mask being detected by the algorithm – phase 3

5. Conclusions

The work presented in this paper presents the design and development of a automatic thermal mask screening system. In recent times, the entire world has faced major difficulties with COVID virus for over 3 years. In order to avoid infection from the virus, we have been instructed to follow protocols like social distancing, wearing masks, temperature regulation and sanitization was required. But it was really a big problem to do so in a public place.

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