Corona Virus (Covid-19) Symptoms Detector Device

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Abstract **- It has been confirmed that Coronavirus disease 2019 (COVID-19) has infected more than 2.7 million people worldwide and caused more than 180,000 deaths. Moreover, some related major serious respiratory diseases have arisen in recent years, such as severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), and Liu et al. have recorded a higher reproductive number of COVID-19 than SARS. More and more consumers are now obsessed about their well-being, and for states, good health is considered a top priority. Fortunately, Leung et al. found that with the use of surgical face masks, coronavirus spread could be reduced. In reality, WHO urges clients to wear face masks if they have respiratory difficulties or treatment for people with symptoms Moreover, many public service providers encourage customers to use the service only if they wear masks as a result, identification of facial masks has become a key obstacle to computer vision to support global society, but research related to detection of facial masks has become a key computer.**

Index Terms **- COVID-19, pulse sensor, temperature sensor, machine Learning, image processing.**

I.INTRODUCTION

Head pose classification is widely used for pre-processing before facial recognition and multi-angle problems, as algorithms often require an input image to be a front face, much like a face recognition. But people wear face masks, inspired by the COVID-19 pandemic, to cover themselves safely, protecting most areas of the face. This makes it impossible to apply any traditional algorithms to the classification of head poses in the current scenario. The project then established an HGL approach to the characterization of the head pose by introducing an interpretation of the color texture of the image and a line portrait. The proposed HGL solution combines the HSV color space Hchannel with a facial portrait and a gray scale background and trains CNN for the classification features to be extracted. The pulse sensor and its circuitry shall measure the oxygen level of the person and shall alert and also verify the temperature using the temperature sensor. Notify that the temperature level is negative or not. The MAFA dataset evaluation reveals that the recommended solution has increased performance relative to the facial landmark recognition and convolutionary neural network algorithms.

II.MOTIVATION

- And reduce the number of patients.
- Our primary objective is to conveniently identify Unmask Individual by using image processing. Check the temperature and amount of oxygen in this project sensor.
- To discourage people's awareness

III.PROBLEM STATEMENT

Now a days in mall there is manually monitor Temperature only, but our device is check unmask person their temperature and pulse rate also check our system by using image processing and Raspberry pi.

IV.LITERATURE SURVEY

1. Paper Name: Multi-angle Head Pose Classification when Wearing the Mask for Face Recognition under the COVID19 Coronavirus Epidemic
Author: Shuang Li, Xin Ning, Lina Yu, Liping Zhang, Xiaoli Dong, Yuan Shi, WeiHe
Abstract: -Head pose classification is usually used for pre-processing before face recognition and multi-angle problems, as algorithms such as 10 face recognition enable the front face to be the input image. But people wear face masks, inspired by the COVID-19 pandemic, to cover themselves safely, protecting most areas of the face. This makes it impossible to apply any traditional algorithms to the classification of head poses in the current scenario. This paper therefore established an HGL approach to the classification of the head pose by following images

and a line portrait color texture analysis. The proposed HGL approach blends HSV color space with a face portrait and a grayscale background, and trains CNN to extract classification features. The MAFA dataset evaluation reveals that the recommended solution has increased performance relative to the facial landmark recognition and convolutionary neural network algorithms (Front accuracy: 93.64 percent, Side accuracy: 87.17 percent).

2. Paper Name: Adversarial Examples – Security Threats to COVID-19 Deep Learning Systems in Medical IoT Devices
Author Name: Md. Abdu Rahman, M. Shamim Hossain.
Abstract: Medical IoT instruments such as COVID-19 are gradually being part of pandemic surveillance settings. Existing literature indicates that researchers have successfully used deep learning (DL) algorithms to distinguish COVID-19 phenomena from medical IoT system raw data. Radiological media such as CT scanning and X-ray images, body temperature monitoring using thermal cameras, safe social distance identification through live face tracking, and face mask detection from camera images are examples of IoT technologies. In DL algorithms, however, researchers have found several vulnerabilities to adverse disturbances. In this post, we evaluated a number of COVID-19 diagnostic methods that rely on DL algorithms with unique adversarial instances. Our test findings show that DL models that do not embrace security models for adversarial disruption remain vulnerable to adversarial attacks. Finally, the adverse example generation process, the introduction of the attack model, and the demolition of current DL-based diagnostic applications for COVID-19 are discussed in depth. We hope this report will raise awareness of adversarial risks and motivate others to protect DL models against healthcare system attacks.

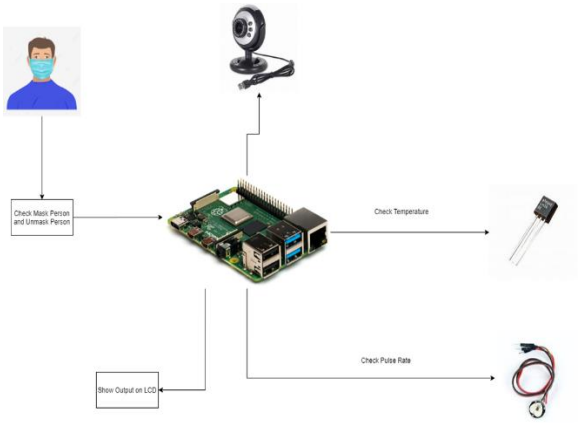
3. Paper Name: Detection of Respiratory Infections using RGB-infrared sensors on Portable Device.
Author Name: Zheng Jiang, Meghan Hu, Zhengkai Gao.
Abstract:-Coronavirus Disease 2019 (COVID-19) caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoV-2) has been a serious global pandemic in recent months and has caused immense human fatalities worldwide. Early detection and separation of potential virus vectors is important in order to deter the propagation of the pandemic in such a large-scale pandemic. Latest findings have shown that the abnormal respiratory state caused by viral infections is a significant feature of COVID-19. Many people tend to wear masks after the pandemic to reduce the chance of being sick. We therefore introduce a portable non-contact approach in this paper to monitor the health issues of people wearing masks by observing the respiratory characteristics of RGB-infrared sensors. First of all, we use facial recognition to conduct a procedure for the processing of respiratory data for people wearing masks. A bi-directional GRU neural network with attention feature is then added to respiratory data to obtain a health screening result. The results of the validation tests indicate that, with 83.69 per cent precision, 90.23 per cent sensitivity and 76.31 per cent accuracy on the real-world dataset, our model will identify the health status of respiratory disorders. This study reveals that the proposed RGB-infrared sensors can be used as a pre-scan platform for respiratory infections on a handheld device, providing a theoretical basis for promoting controlled clinical trials and thereby helping to resolve the evolving COVID-19 pandemic. You can see the prototype videos of the suggested approach at: https://doi.org/10.6084/m9.figshare. 120280322.

4. Paper Name: Automated evaluation of COVID-19 risk factors coupled with realtime, indoor, personal localization data for potential disease identification, prevention and smart quarantining
Author: J. Barabas*, R. Zalman† and M. Kochlan†
Abstract: More than five million people have been contaminated since the start of the latest COVID-19 pandemic, and the figures are still increasing. Therefore, early identification of symptoms and appropriate hygienic practices are of the utmost importance, especially in innovations where individuals communicate randomly or opportunistically.

5. Paper Name: Health Monitoring Based on IoT using RASPBERRY PI
Author: Amandeep Kaur, Ashish Jasuja.
Abstract: The future of medical technology is a changing area that is accelerating with emerging developments, and now is the time when the "Internet

of Things (IoT)" vision has become a reality. IoT may play an important role in the world of healthcare by treating chronic illnesses on the one hand and avoiding diseases 1on the other. Remote health tracking is one potential solution to this need (using IoT). With reduced health insurance costs, more care is required for patients. Considering that the system is compact, it is easier to use remote health surveillance to promote self-monitoring. The device is compact and also enables online health tracking. Remote health tracking is accomplished by uploading the collected data to the Bluemix server, this 1information can be accessed by the doctor at any time and any aberrations can be detected in a timely manner. The Bluemixus MQTT protocol.

V.SYSTEM ARCHITECTURE



VI.CONCLUSION

We would create a model that would recognize whether or not a person is wearing a mask and also determine whether a person has a low temperature or an oxygen ratio to alert.

VII.ACKNOWLEDGMENT

The preferred spelling of the word “acknowledgment” in American English is without an “e” after the “g.” Use the singular heading even if you have many acknowledgments.

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