



IJIRCCCE

e-ISSN: 2320-9801 | p-ISSN: 2320-9798



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 10, Issue 5, May 2022

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.165



9940 572 462



6381 907 438



ijircce@gmail.com



www.ijircce.com

Security Surveillance Camera using Face Detection

Shubham Dornal, Vighnesh Khaire, Hritik Dhamale, Akash Khomane, Priyanka Halle

Student, Department of Computer Engineering, SKNSITS, Lonavala, Pune, India

Student, Department of Computer Engineering, SKNSITS, Lonavala, Pune, India

Student, Department of Computer Engineering, SKNSITS, Lonavala, Pune, India

Student, Department of Computer Engineering, SKNSITS, Lonavala, Pune, India

Professor, Department of Computer Engineering, SKNSITS, Lonavala, Pune, India

ABSTRACT: In present times, face acknowledgment has become probably the best innovation for PC vision. Face acknowledgment is generally an extremely challenging errand in PC vision, enlightenment, present, look. Face acknowledgment tracks target objects in live video pictures taken with a camcorder. In basic words, it is a framework application for consequently recognizing an individual from a still picture or video outline. In this framework, we propose face acknowledgment and temperature location with facial covering identification utilizing picture handling which is one of the high-exactness and effective facial covering identifier. This proposed framework predominantly comprises of three phases for example 1. Picture preprocessing 2. Face location and yield 3. Faces veil classifier. Our framework is fit for distinguishing veiled and exposed faces and can be incorporated with cameras and temperature of individual can be identified. This framework will assist with attaching security infringement, advance the utilization of facial coverings and it guarantees a protected work space..

KEYWORDS: -Convolutional Neural Network ,Face ,Mask , Temperature.

I. INTRODUCTION

Human Face generally assume pivotal part in application like security framework, credit and charge card check reconnaissance on recognize criminal public spots. The primary goals of the framework are to make a facial acknowledgment framework that can be imitated and in the long run beat this limit of human. This framework centers particularly around the human front facing faces. Various face acknowledgment calculations have been created and each has its own solidarity. More often than not we take a gander at a face and can remember it moment in the event that we are now acquainted with the face. This inherent capacity, if conceivable, can be legitimate and can be utilized for genuine applications. Presently a days the most generally utilized security is the CCTV (shut circuit Television) it doesn't distinguish neither perceive the individual who is he/she? The Project is "Security Surveillance Camera utilizing Face Detection" it identifies the individual through face. Face acknowledgment framework is proficient procedure for face acknowledgment in light of profound learning utilizing CNN with Dlib arrangement. In this task, picture will be caught utilizing camera and discernable tourist spots or facial elements like distance between eyes width of nose, jumps, jaws, facial structure and so forth will be removed and the picture will be changed over into advanced information. The caught advanced picture will be contrasted and the saved information base and if elements of that face are coordinated with saved picture, face will be perceived of that specific individual and an alarm will be set off. The alarm message has been shipped off the client with catch picture if not coordinated. Putting a facial covering on can decrease the gamble of getting tainted by an extraordinary degree, not exclusively to the one wearing it yet additionally to the others that he interacts with. Wearing veils each time we go out is something we can do with little exertion that can actually save lives, and that is exactly why it is in such a lot of interest right now of time. Subsequently we have proposed a framework with three unique modules for example Face Recognition , Face veil and estimating temperature of individual all the while.

II. PROBLEM STATEMENT

With the steady pandemic, have progressed assessment applications and advancement ministrations set up to moderate risk. For public security and flourishing, experts are proposing the wearing of facial covering and to control the spread of COVID19. The world is doing battling with Covid19 pandemic. There are so many chief preparation's depended upon to battle against Corona tainting. One of such most principal is Face Mask. As an issue of first significance, facial covering was not compulsory for each body but instead as the day impels researcher and Doctors have prescribed everybody to wear facial covering. Before long to see whether an individual is wearing Face Mask, we are proposing Face Mask Detection Technique.

III. LITERATURE SURVEY

- Paper-1: Raspberry Pi based Automatic Door Control System .

The application is specially designed it biometrics face recognition initialization forhome door unlocking using IOT paradigm and OpenCV (image processing). The major scope of the application is to secure and control the shelter in the owner's absentia.The user Interface of the work is rendered in such a way that, a typical household canunderstand the terminologies and usages.

Limitation: If an anonymous/relatives person comes, The camera takes the picture and goes to the API. The owner can decide to be itself weather the person get in or get out.

- Paper-2: Surveillance Camera using IoT and Raspberry Pi.

The implementation of the proposed surveillance camera is simple, where the captured data is encrypted at the transmitter side and decrypted at the receiver side. Hence, the proposed system provides a secured data transmission. The live feeding is deployed by using Rasbicam Remote App. The proposed model can be easily configured, where it allows us to test the image filters of the camera. Hence, the proposed surveillance camera using raspberry pi and IoT appears to be more superior to the conventional IP cameras.

Limitation: The proposed system saves and records video and captures images onlywhen the motion is detected

- Paper-3: Smart Surveillance with Smart Doorbell.

In this paper, we have developed a smart doorbell that can alert the residents when itdetects human presence and triggers the doorbell to notify its residents and also cansend the data to the cloud or any storage devices spontaneously. The smart doorbelldeveloped will have PIR or ultrasonic (passive infrared) sensor that detects the presence of humans over a given distance and can capture the picture of the object near the door. Further, this picture is e-mailed to the registered e-mail and also pushed to cloud as well offering the required privacy.

Limitation: Sending the email of every object detected without identifying the objects.

IV. SYSTEM ARCHITECTURE

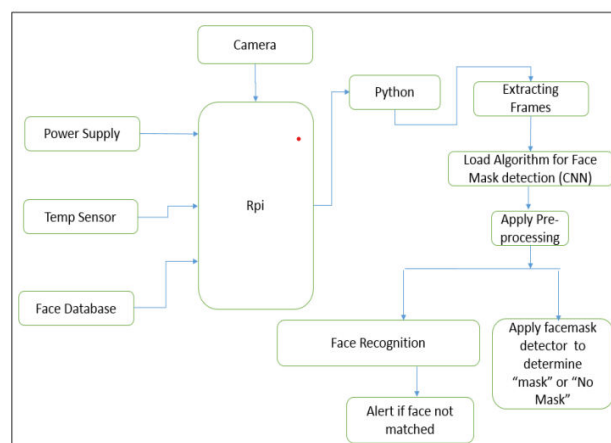


Fig. 01: - System Architecture

In the ongoing circumstance the security and wellbeing is a lot of significant remembering this we have proposed a thought. In this we will store a few pictures in the data set of family or work people. At the point when an individual comes before the entryway the camera will really look at the individual with the put away pictures in the data set. Assuming the individual is found in data set the email ready won't be finished. Furthermore, the individual found unidentified then he email or WhatsApp or wire alert is given to the approved individual. As well as we are fostering the undertaking for distinguishing regardless of whether individual is wearing a veil and in any event, for estimating the temperature of individual. This framework centers around how to distinguish an individual wearing a veil on picture or video transfer with the assistance of Deep Learning and Machine Learning utilizing Keras, TensorFlow, OpenCV and the Scikit-Learn library. We have utilized CNN design which is a precise and effective and can be applied to installed gadget. The model will compute the ROI(Region of Interest)for the assurance. We then process bouncing box an incentive for a specific face and guarantee that the container falls inside the limits of the picture. We then decide the class name in view of expectations returned by the cover identifier model and varieties are appointed for translation. The "Green" will be for with cover and "Red" will be for without veil. When all identification is executed we will show the result. What's more, the temperature of individual can likewise be recognized by utilizing temperature sensor.

Algorithm Used CNN

CNN or the convolutional brain organization (CNN) is a class of profound learning brain organizations. In short consider CNN an AI calculation that can take in an info picture, relegate significance (learnable loads and predispositions) to different viewpoints/objects in the picture, and have the option to separate one from the other.

CNN works by separating highlights from the pictures. Any CNN comprises of the accompanying:

- The info layer which is a grayscale picture
- The Output layer which is a paired or multi-class marks
- Secret layers comprising of convolution layers, ReLU (corrected direct unit) layers, thepooling layers, and a completely associated Neural Network

V. EXPERIMENTAL RESULTS

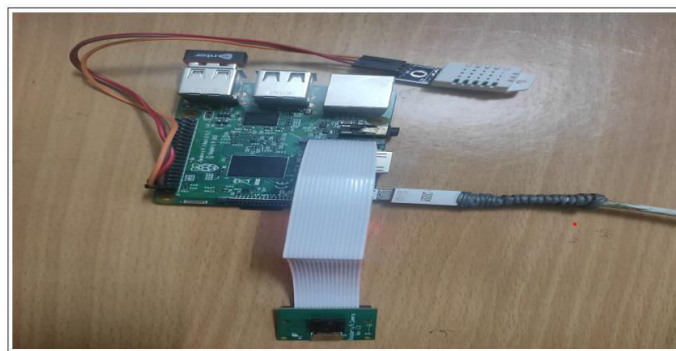


Fig 02: Hardware Setup



Fig 03: Hardware Setup

VI. CONCLUSION

In this venture the face location is finished with the put away pictures in the data set and picture isn't found, then, at that point, the cautions will be send approved clients with the picture , even the temperature and veil discovery is added which is currently more critical to get shielded from infection . The exactness of the model is accomplished and, the enhancement of the model is a persistent interaction and we are building a profoundly precise arrangement by tuning the hyper boundaries.

REFERENCES

1. B. N. Rao and R. Sudheer, "Surveillance Camera using IoT and Raspberry Pi," 2020 Second International Conference on Inventive Research in Computing Applications (ICIRCA), 2020, pp. 1172-1176, doi: 10.1109/ICIRCA48905.2020.9182983.
2. K. Selvaraj, S. Alagarsamy and M. Dhilipkumar, "Raspberry Pi based Automatic Door Control System," 2021 3rd International Conference on Signal Processing and Communication (ICPSC), 2021, pp. 652-656, doi: 10.1109/ICSPC51351.2021.9451687.
3. R.V. S.Lalitha, Kayiram Kavitha, N V Krishna Rao, G. Rama Mounika, V. Sandhya, " Smart Surveillance with Smart Doorbell ", 2019 Volume-8 Issue-8
4. Krishna Kumar and Narendra Kumar, "COVID-19 Epidemic Analysis using Machine Learning and Deep Learning Algorithms ",Journal 2020
5. Alzubaidi MA and Banihani R, "An IoT-based Framework for Early Identification and Monitoring of COVID-19 Cases ", Journal Pre-proof, 2020
6. Nadeem Ahmed and Wanli Xue , "A Survey of COVID-19 Contact Tracing Apps ",IEEE Access,2020
7. Ravi Pratap Singh and Mohd Javaid, "Internet of things (IoT) applications to fight against COVID-19 Pandemic ",2020
8. Michael. J. Horry and Subrata Chakraborty, "Role of IoT to avoid spreading of COVID-19", International Journal of Intelligent Networks,2020
9. Sahana Srinivasan and Ruchita R Biradar, "COVID-19 Monitoring System using Social Distancing and Face Mask Detection on Surveillance video datasets", IEEE 2021
10. Yash Indulkar, "Alleviation of COVID by means of Social Distancing Face Mask Detection Using YOLO V4",IEEE 2021
11. S. Vijaya Shetty and Pooja S, "Social Distancing and Face Mask Detection using Deep Learning Models: A Survey",IEEE 2021
12. Krishna Bhambani and Tanmay Jain, "Real-time Face Mask and Social Distancing Violation Detection System using YOLO",IEEE 2020
13. Mayank Dev and Rajiv Dey, "Face Mask Detector using Deep Transfer Learning and Fine-Tuning", IEEE 2021
14. Jiayan Ma and Jaideep Chakladar , "Using machine learning of clinical data to diagnose COVID-19: a systematic review and meta-analysis ",Research Article 2020



INNO  SPACE
SJIF Scientific Journal Impact Factor

Impact Factor: 8.165

 **doi**[®]
cross  **ref**

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

 9940 572 462  6381 907 438  ijircce@gmail.com



www.ijircce.com

Scan to save the contact details