

A Review Paper on Vanished Individual Detector

Shaikh Neha G¹, Ranmale Amruta R², Kadam Sneha S³, Dusane Gayatri U⁴, Prof. Prasad A.Lahare⁵

¹ Student, Information Technology, Pune Vidyarthi Griha's College of Engineering & S.S.D Institute of Management, Nashik, Maharashtra, India

² Student, Information Technology, Pune Vidyarthi Griha's College of Engineering & S.S.D Institute of Management, Nashik, Maharashtra, India

³ Student, Information Technology, Pune Vidyarthi Griha's College of Engineering & S.S.D Institute of Management, Nashik, Maharashtra, India

⁴ Student, Information Technology, Pune Vidyarthi Griha's College of Engineering & S.S.D Institute of Management, Nashik, Maharashtra, India

⁵ Assistant Professor, Information Technology, Pune Vidyarthi Griha's College of Engineering & S.S.D Institute of Management, Nashik, Maharashtra, India

ABSTRACT

This modern world is transforming old methods to new techniques changes are taking place each and every day to make the complicated work processes easy and efficient. This paper introduces a system that would help Cops and people as well for finding the criminals, kidnappers, lost people and has a wide area for applications. Face recognition system that would be made will be able to detect person from images as well as videos. Objective of this system is to make the searching method easy by switching it from manual work to machine work. When a person goes missing, family members or the police can upload a photo of the missing individual, which will be saved in the database. When members of the public come across a questionable individual, they can take a photo of them and post it to our portal. With the aid of face encodings, our system's face recognition model will try to identify a match in the database. It's done by comparing the uploaded image's face encodings to the face encodings of the photos in the database. If a match is made, the police and persons connected to that person will be alerted, as well as the place where the person was found. Dlib will be used in our system for face detection and recognition.

Keyword: System, face recognition, face detection, face encodings, uploaded, dlib.

I. INTRODUCTION

A missing person endures numerous challenges, but only a handful are murdered, raped, or abused. Parents, friends, relatives, and guardians of the missing person experience stress and worry as a result of not knowing if the missing person is alive or dead. The image of the individual supplied by the guardian at the time of disappearance is saved in our system's database. The public is granted permission to post photos of anyone in a dangerous circumstance. For this, an automatic match detection system is used. Our system will be used to find a picture among the already existing images in the database. This helps the police department to spot the missing person in any place. When a suspicious individual is discovered, the photograph taken at the moment is matched to the photos submitted by the guardian/police department at the time of the missing person's disappearance using a facial recognition model. If a match is identified, an alert message will be sent to the police and the guardian, along with the location of where the individual was found. If the image is not discovered, a new record with the uploaded image will be generated in the database. As a result, the time it takes to find a person's details when he is located is reduced. Our system will also be able to detect individuals from video this would be taken from CCTV cameras and will be very useful.

II. LITERATURE REVIEW

In the year 2018 Nataliya Boyko, Oleg Basystiuk and Nataliya Shakhovska these authors published a paper comparing the performances of OpenCv and dlib. The problems faced while developing face recognition system were also narrated. HOG is a simple and powerful feature inscription. The face landmark

estimation algorithm (face orientation estimation) was used to solve the problem of positioning the huge number of images. OpenCV distinguish all the faces while Dlib detects only those faces which are bigger in size. Hence they concluded that OpenCV library is more suitable, has high-yielding for face detection.

In 2019 a system was proposed by Muhammad Awais , Muhammad Javed Iqbal, Iftikhar Ahmad, Madini O Alassafi, Rayed Alghamdi, Mohammad Basher, and Muhammad Waqas. Real time surveillance aim was to switch machine instead of manual surveillance. Instantaneous identification and encounter of prohibited pursuit in the monitored locality was a crucial challenge. The concept of real time surveillance using face recognition was put forward, whole working was described. The model used high quality CCTV video data. Then the image was tested with the reserved images in the database, the withdrawn image is then tested with the image existing in the database, if the image is not matched then security wave is generated for additional measures. Facial recognition was done using histogram of oriented gradients (HOG) for appealing facial features done by using feedforward backpropagation neural network classifier.

In the year 2020 face Recognition Attendance System Based on Real-Time Video Processing this system was proposed by Xiaofeng Han and Hao Yang. We all know we used to use fingerprint technique for marking the attendance but the accuracy of this technique was low. With contrast to this both techniques face recognition attendance system helped to remove all the difficulties that were faced it had high accuracy and was efficient and had reliability. A brief explanation has been given related to real time video processing face recognition this technology has been divided into parts. Feature withdrawal was done by using LDA method. SVM algorithm was also used for classification and identification. Range of popular languages were used to build this system, OpenCV was also used for inspecting captured images.

In 2021 basepaper was published by Shashank Reddy Boyapally the main intention was to check out the algorithms that could be used for biometric attendance systems. The algorithm which are mainly used histogram-oriented gradients for extract features from image, support vector machine to acknowledge the faces and Deep convolutional networks to make out the differences from images. The main purpose of this system is to identify the face from the frame of video. If any of the faces is not detected properly or any other object is detected as face if this would have happen then results would have been unsatisfactory so to overcome this problem HOG(Histogram oriented gradient) could be used this algorithm is more efficient when there are less number of faces so it is best suited for biometric and Attendance systems, the steps were also explained in detail. While concluding they mentioned that HOG method is more efficient

III.METHODOLOGY

The proposed system makes use of Face Recognition for finding vanished people. The architecture of our framework is presented in figure 1.

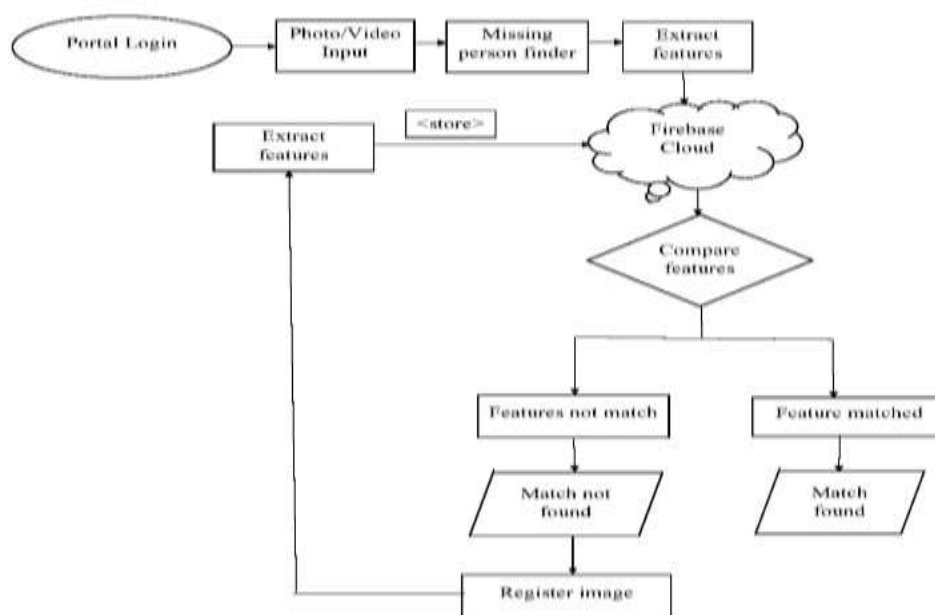


Fig-1:Architecture for Vanished Individual Detector

When a police officer encounters a suspicious individual on the road, he or she uploads a photo of that person to the site. Our system extracts the image's facial encodings and compares them to the encodings of previously stored photos in the database. If a match is detected, the registered police officer will get an alert message. If no match is discovered, the individual will be given the option of adding that face to our database as a new record with the location they gave. Our system will also be able to detect faces from CCTV videos and which will make the searching process very easy. We are going to use Dlib for our project. When police officers upload an image, the image's face encodings are retrieved and compared to the face encodings of photos saved in the Firebase cloud. If the gap between the uploaded image's encoding and the database image's encoding is less than or equal to the threshold, the face in both photos belongs to the same individual. If this is the case, the user will be told that a match has been identified, along with the image from the database that corresponds to the submitted image. If the gap between the encodings is more than the threshold, the photos' faces are not those of the same person. Our suggested approach will aid in the identification of missing individuals in this way. Fig.2 shows the login portal for admin and police.



Fig-2: Login page

The system is built using C# and we are going to use Firebase cloud for real time database it is a cloud hosted database. Fig.3 shows the page for adding the details of police. The admin will be able to add the police the police name will be required, contact information, email id and have to set a password. While logging into the system the registered person will have to enter the required fields and will be able to login successfully.



Fig-3: Page for adding Police details

Fig.4 shows the details of the users who have done login. There is an option Display data which is used to display login details.



Fig-4:Display Login details

VI.CONCLUSION AND FUTURE SCOPE

Our system substitutes the inefficient human approach of searching through databases for each photo to confirm the match with an efficient facial recognition method that completes the job quickly. Face detection improves surveillance efforts and helps track down criminals and terrorists. Personal security is also enhanced since there is nothing for hackers to steal or change, such as passwords. The technology is not limited to tracking down criminals. For instance, it could also make it easier to find missing children and seniors. Face recognition could make security checkpoints at airports less intrusive to passengers. Applications are not limited to physical security but encompass cybersecurity as well. Companies can use face recognition technology as a substitute for passwords to access computers. In future we are planning to add more features.

V.ACKNOWLEDGMENT

It is our proud privilege to express deep sense of gratitude to Dr A.R.Rasane Principal of, Pune Vidyarthi Griha's College of Engineering and S.S.D. Institute of Management, Nashik, for his comments and kind permission to complete this project. We remain indebted to Prof S.N Badhane, H.O.D. of Information Technology Department for his timely suggestion and valuable guidance. The special gratitude goes to Prof. P.A.Lahare for excellent and precious guidance in completion of this work. We thanks to all the colleagues for their appreciable help for our working project. With various industry owners or lab technicians to help, it has been our endeavor to throughout our work to cover the entire project work.

VI.REFERENCES

- [1]. Performance Evaluation and Comparison of Software for Face Recognition, based on Dlib and Opencv Library 2018 (Nataliya Boyko, Oleg Basystiuk and Nataliya Shakhovska)
- [2]. The Excellent Properties of a Dense Grid-Based HOG Feature on Face Recognition Compared to Gabor and LBP 2018(Zheng Xiang, Hengliang Tan, And Wenling Ye)
- [3]. Birari Hetal, "Android Based Application - Missing Person Finder", in Iconic Research and Engineering Journals,2018.
- [4]. Efficient Face Recognition System for Identifying Lost People 2019(Bharath Darshan Balar, D S Kavya, Chandana M, Anush E, Vishwanath R Hulipalled)
- [5]. Real-Time Surveillance Through Face Recognition Using HOG and Feedforward Neural Networks 2019.(Muhammad Awais , Muhammad Javed Iqbal, Iftikhar Ahmad, Madini O Alassafi, Rayed Alghamdi, Mohammad Basher, and Muhammad Waqas)
- [6]. Face Recognition Attendance System Based on Real-Time Video Processing 2020(Xiaofeng Han and Hao Yang)
- [7]. Facial Recognition and Attendance System using dlib and face_recognition libraries 2021.(Shashank Reddy Boyapally)