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Missing Person Identification using Machine Learning with Python

G. Srikanth[1], Adurti Swarnalatha[2], Thalari Abhishek [3], Ravula Sai Akhil Patel[4], Thalari Swamy[5]
[1, 2, 3, 4, 5]*Dept.of ECE, CMR Technical Campus*

Abstract: ***With advances in computing and telecommunications technologies, digital images and video are playing key roles in the present information era. This system uses powerful python algorithm through which the detection and recognition of face is very easy and efficient. Human face is an important biometric object in image and video databases of surveillance systems. Detecting and locating human faces and facial features in an image or image sequence are important tasks in dynamic environments, such as videos, where noise conditions, illuminations, locations of subjects and pose can vary significantly from frame to frame. we want to identify the person based on face data base which we have already created in own data. After that we want to start identification of face using face recognition package. Finally, we will do comparison with data base and we will say weather that person is missing person or unknown person.***
Keywords: OpenCV, Machine Learning.

I. INTRODUCTION

Countless number of persons are reported missing every year. The Machine Learning methodology can be used for identifying the reported missing person. A missing individual is regularly portrayed on the grounds that the person who frequently a little child, a grown-up who is lost intentionally or automatically, and it can also be a criminal. At the point when an individual disappears, individuals identified with that individual or the police can transfer the image of the individual which will get put away in the data set. The face acknowledgment model in our framework will attempt to discover a match in the data set with the assistance of face encodings.

Face recognition is the technique in which the identity of a human being can be identified using one's individual face. Such kind of systems can be used in photos, videos, or in real time machines. The objective of this project is to provide a simpler and easy method in machine technology. With the help of such a technology one can easily detect the face by the help of dataset in similar matching appearance of a person. The method in which with the help of python, Open CV and machine learning methodology is the most efficient way to detect the face of the person to find out missing person. This method is useful in many fields such as the military, for security, schools, colleges and universities, airlines, banking, web applications.

II. LITERATURE SURVEY

Various experiments have been performed over the years by different researchers. Below are the few groups:

1) Manal Abdullah, Majda Wazzan, Sahar Bo-saeed has proposed Finding missing person using ML. International Journal of Artificial Intelligence & Application in April 2022. These proposed countless number of people are missing and missing cases are getting impossible to find them in most of the cases. The Histogram of Oriented Gradients (HOG) algorithm in this system will encode the frame and find the faces present in every individual frame and Support Vector Machine (SVM) will compare it with the previously existing images in our database. If there was a match it will send the alert. If a match is not found, then the person will be provided with the option of registering that face as a new entry to our database with the location they found.

2) Sandeep Mishra and Anupam Dubey has proposed Locating missing person AL. International Journal of Computing and Business Research in January 2021. These proposed that when a suspicious person is discovered, the photograph taken at that moment and if it matches to given dataset, by using facial recognition model then the missing person is identified.

3) S. B. Arniker proposed RFID based missing person identification system. International Conference on Informatics, Electronics & Vision in March 2020. He proposed Deep Learning based Facial Feature Extraction and coordinating with SVM (Support Vector Machine) the photos of missing children are stored in the database. Faces are detected from those images and features are learned by a CNN. These learned features were used to train a multi-class SVM classifier. They used this method to correctly identify and label the missing person.

III. PROPOSED SYSTEM

The method of finding a missing person is done by training the model using Face Recognition package which have dlib library and Haar Cascade algorithm. Dlib library landmarks the face, Haar Cascade algorithm extracts the features of the face. This system uses the machine learning technology that can recognize a subject only by looking at it. OpenCV is used for image and video analysis which helps in identifying the missing person.

The input data should be given to our proposed model then it preprocess it by extracting the facial features of the data and it finally compares with the database and identify the missing person if it doesn't matches with given data it detects as unknown person.

In this we are training the model to identify the missing person.

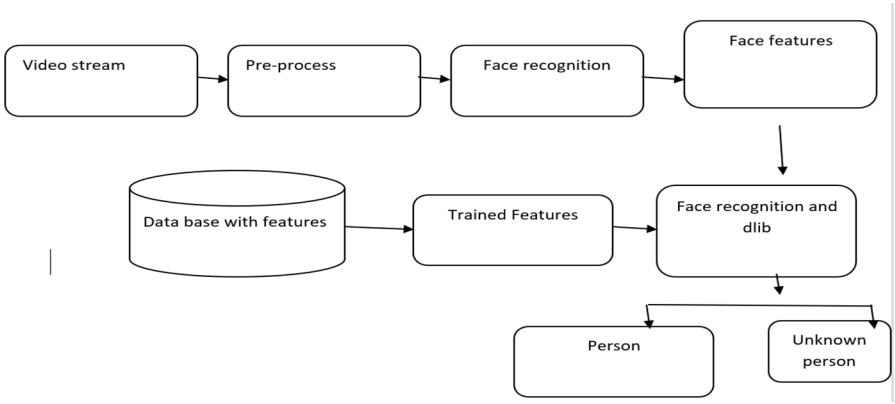

Figure 3.1: Face Feature Comparison and Recognition System.

IV. RESULT

The results of the missing person identification is shown below-

Figure.4.1 Input of the missing person.

The input data is given to the model to detect the Missing person.

Figure.4.2 Identification of missing person.

The model detected the Missing person b comparing the given input.

Figure.4.3 Unknown person detected.

The model detected unknown person because it is not matching with given input.
Feeding real-world images into the proposed model is important to test the effectiveness of the model. Correct predictions indicate that the model is reliably integrated with designing a real-world application for classifying facial recognition and face detection.

V. CONCLUSION

The main purpose of the project is to detect the face by using face recognition packages. Then use own data base from your system. Based on that we can assign whether that recognition is face recognition or original recognition by comparing the data. based on that we can assign weather that recognition is face recognition or not. The main conclusion of the project is using python detect face recognitions in real time.

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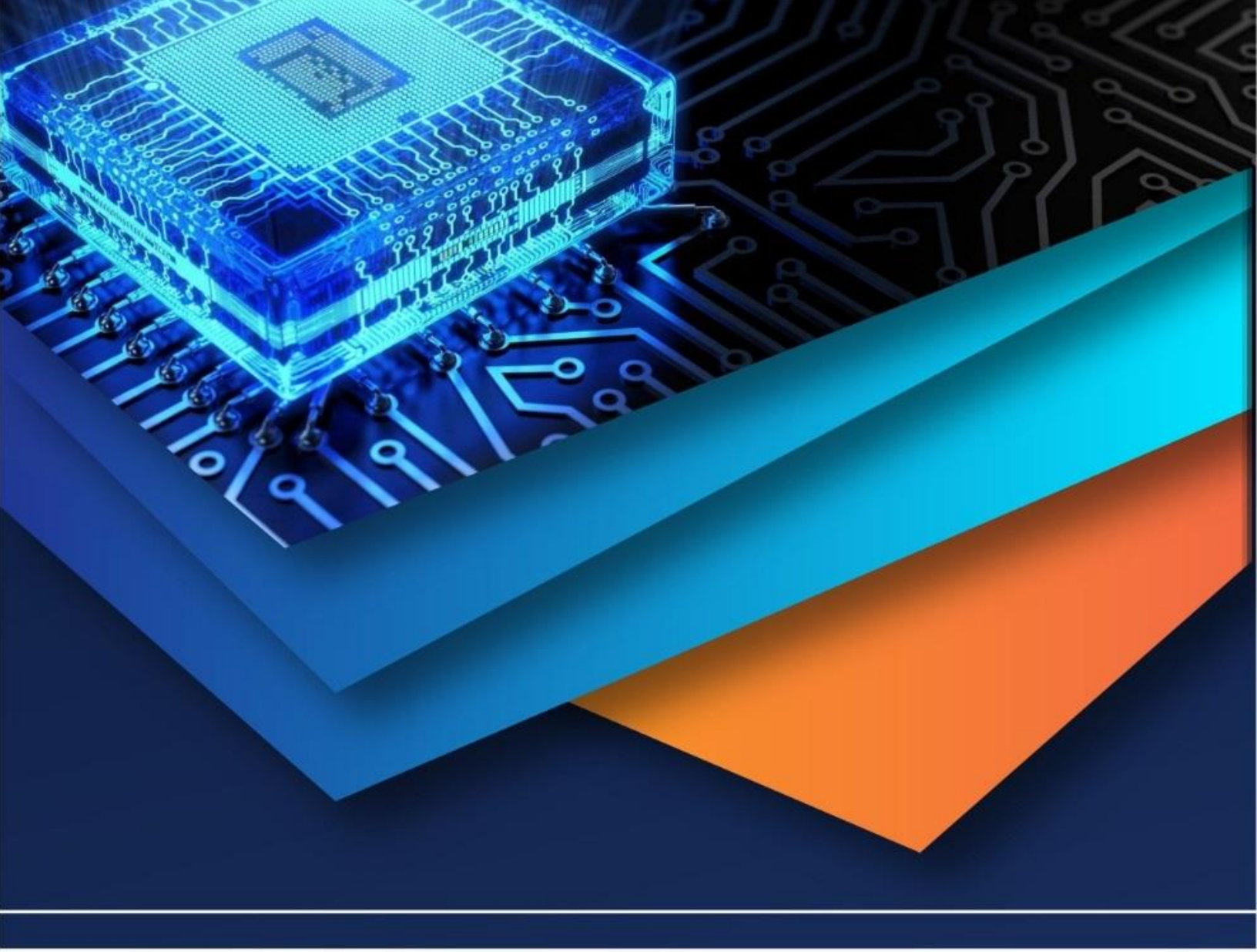

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