



Group Picture Lens

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ABSTRACT

The growing interest in the field of computer science is fueled by the steady doubling rate of computing power. Face detection, face recognition has transcended from an esoteric to a popular area of research in computer vision and have become the most successful applications for image analysis and algorithm-based understanding. Because of the intrinsic nature of the problem, it is not only computer vision but also has become the general opinion that advances in computer image processing and understanding research will provide insights into how the human brain works and vice versa.

To implement face recognition, we use OpenCV and Python in which we would use libraries naming OpenCV, dlib, Face_recognition. OpenCV library is an image and video processing library and it is used for image and video analysis which uses CXCORE, CVAUX, etc. The dlib library had the implementations of "deep metric learning" which is used to construct face embeddings used for the recognition process. The face recognition library wraps around the dlib's functionalities which makes it easy to work.

We also use the concepts of CNN i.e., Convolutional Neural Network which is the sub-topic of ANN. CNN uses image recognition and classification in order to detect objects, recognize faces, etc. They are comprised of neurons with learnable loads and predispositions CNNs are basically used to arrange pictures, bunch them by similitudes, and afterward perform object acknowledgment.

KEYWORDS: OpenCV, dlib, CXCORE, CVAUX, CNN.

1. INTRODUCTION

Present days technology will rise rapidly so companies institute and industries will have more people in their organizations and it will be difficult to retrieve the data immediately, so by the help of our development the data can be retrieved by looking and recognizing the face from any picture. Group picture lens aims at improving the speed of data retrieval from pictures. It also helps us to keep the data in our database intact and improve our frequency of data retrieval. The group picture lens makes the advanced technology which is emerging these days i.e., FACE RECOGNITION easier and even more helpful to the people by looking at our development. Our

proposed system will reduce the disadvantages of the existing system and help to reduce the organization's time in retrieving the data. Our developed system can be very useful in huge MNCs and universities for easy identification of the data. Face detection, face recognition has transcended from an esoteric to a popular area of research in computer vision and have become the most successful applications for image analysis and algorithm-based understanding.

2. LITERATURE SURVEY

Tao et al [1]: Trust assumes an indispensable part in clever social orders and virtual co-operations. In this paper, clients' confidence in face acknowledgment

applications remembers trust for the innovation application stages and confidence in the face acknowledgment innovation itself. Privacy regarding personal information is most important to the users, however, they exchange personal information for facilities.

Diaa et al [2]: Facial Recognition and detection are one of the most popular and growing technologies in the market. The process of detecting faces might be challenging considering various factors like the brightness of the picture, or if the person is wearing shades or hats. The proposed DCNN calculation depends on a bunch of steps to deal with the face pictures to acquire the particular highlights of the face.

Lu and Yan et al [3]: The ceaseless development of organization innovation, different sorts of advantageous organization advances have developed, and human reliance on network innovation has step by step expanded, which has brought about the significance of organization data security issues. Seetaface, YouTu, and OpenCV in the event of precise offset, it very well may be obviously observed that the Seetaface technique can be compelling when the rakish offset is little.

Patrick et al [4]: Tracking down strategies to further develop face acknowledgment in inferior quality pictures is a significant contemporary examination theme. Among these strategies, Deep learning is extremely strong against certain difficulties.

Ming He et al [5]: Feature recognition in photos is not only important but is difficult. If the features are not properly recognized, detection of faces in the picture might be a failure. This paper proposes a face picture that includes extraction and acknowledgment strategy in view of information dimensionality decrease calculation.

Lixiang Li et al [6]: The advancement of science and innovation, the face acknowledgment innovation has made incredible accomplishments, yet there is still space for its improvement in its functionality. In the future, there might be a special device or camera to detect and recognize the faces.

3. PROPOSED METHOD

Our proposed system is an upgraded version of the existing system. By our developed system, the face recognition of the desired person will be done and the complete data of that person will be retrieved from the database. The input for this system will be only the group picture and the placement of the desired person in the

group picture whose data you want to access. With the current software, we will be able to recognize only the faces of the person in the group picture, but with our upgraded system, one can fetch the data of an individual person from the picture. The output for this system can be any information about the person which is already stored in the database.

There are many advantages of this system which are listed below:

- Speed way for retrieving the data.
- The data of the specific person can be updated when the change is needed.
- The data is protected.
- Useful in retrieving single-person data from large data stored.
- High accuracy.

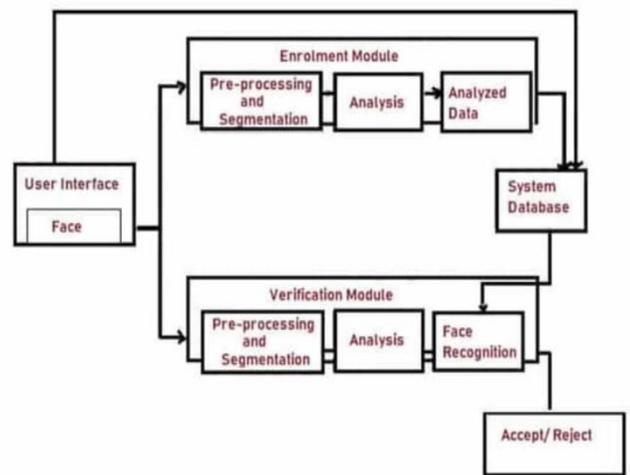


Fig: Architecture Diagram

4. RESULTS

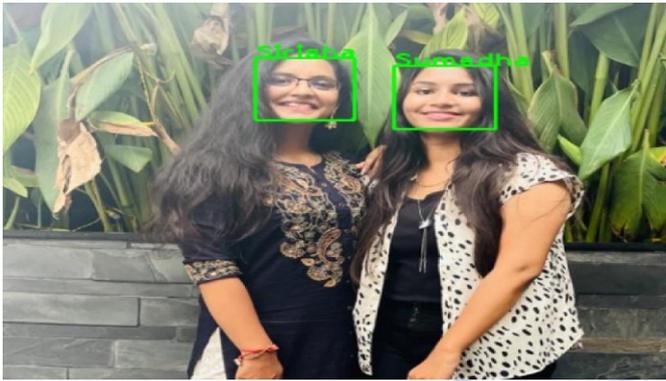
INPUT 1:

PICTURE PATH:

/content/drive/MyDrive/Final/data/test/IMG-20210805-WA0259(2).jpg



Screenshot. 1 Input picture



Screenshot.2 Output Picture

OUTPUT:

There are 2 faces i.e.,

NAME: Sirisha

AGE: 22

GENDER: Female

NAME: Sumedha

AGE: 21

GENDER: Female

STATUS: PASSED

INPUT 2:

Picture path:

/content/drive/MyDrive/Final/data/test/Photo from Sirisha S.jpg



Screenshot.3 Input Picture

OUTPUT:

There are 3 faces

NAME: Srujana

AGE:21

GENDER: Female

NAME: Srujana

AGE:21

GENDER: Female

NAME: Srujana

AGE:21

GENDER: Female



Screenshot.4 output Picture

STATUS: FAILED

5.CONCLUSION

The project “Group Picture Lens” has been developed as per the requirement specification.

The design procedure and output reports are presented in this project. This design is easy to detect and recognize the face of a person in the group picture and can retrieve the data of that person from the database.

- Here the existing system is nothing but a simple face recognition system in which the detection of the face for security purposes, but here in the proposed system we will be the state to retrieve the data and update data in the database for better understanding and better performance.
- Calculating the average rating of the employees is a tedious process.
- This System is to replace the existing manual system with a software solution that will ease the process in terms of paperwork, time and also maintains security.

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

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