

Finding Missing Person

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ABSTRACT

This application will be designed in order to track the missing people especially for mentally unstable people and children. Hundreds of people (especially children and mentally unstabled people go missing every day) in India. There are many NGO's and Govt Initiatives available to help with it. This project tries to implement existing/new way to help.

We all know that our Face is a unique and important part of the human body structure which helps to identify a person. Therefore, we can use it to trace the identity of a missing person. Face recognition is a biometric-based technology that mathematically maps a particular someone's facial features and stores all that data as a face print. By using this technique, the information of the face of a person is saved in the form of graphs in the database, which is used for detecting that particular face. Face recognition model in our system will help us to find the match of that person in the database. If a match is found, it will give notification to the police and the guardian of that person.

The increasing number of missing persons cases worldwide has become a significant concern for law enforcement agencies and society as a whole. In recent years, technology has played a vital role in helping to locate missing persons. In this paper, we present a project on a missing person application built using Python. The application uses facial recognition technology to identify missing persons in real-time, which is particularly helpful for identifying individuals in crowded places.

Keywords: Missing Person, Face Recognition, Machine Learning, Python, research, guidance

I. INTRODUCTION

In this world, a countless number kids, mentally unstable people etc are missing everyday. This paper proposes a method that would help the administration for searching the missing people.

Missing person cases are a growing concern, worldwide, with thousands of people going missing every year. The traditional methods of finding missing persons have been limited to missing person posters, physical search parties, and relying on tips from the public. These methods are time-consuming, costly, and not always successful in locating missing person. The use of technology has the potential to provide more efficient and effective means of finding missing persons. In this project, we propose an application built using Python that utilizes facial recognition technology and machine learning algorithms to help locate missing persons. This research paper explores the use of technology and data-driven methods in locating missing persons. The paper examines the current state of missing person investigations, the limitations of traditional methods, and the potential of technology in providing more effective means of locating missing persons. In this application, we there will be the feature of saving all the data of the missing person so that system can detect that image data and trace the missing person.

Therefore, with the help of this application a missing person who can be mentally unstable, old-aged people, children will be able to find their families.

II. FUNCTIONALITIES

Our application uses facial recognition technology to identify missing persons in real-time, which is particularly helpful for identifying individuals in crowded places. The use of technology and data-driven methods has the potential to provide more efficient and effective means to find missing persons. One of the key functionalities of finding missing person is mapping, which is able to visualize data to help users to identify locations and help to find the missing person which includes searching the data, recognizing and mapping it. Our application stores the data in the database and then matches from there. These functionalities can help to streamline the search for missing persons and provide a platform for collaboration and communication between different entities involved in search.

A. Search:

The application should provide a comprehensive search feature that allows users to search for missing persons based on various criteria, such as name, age, gender, physical appearance, last known location, and date of disappearance. This allows users to search for missing persons using filters from their personal information such as location, personal belongings etc.

B. Alerts and Notifications:

Finding missing person application generate alerts to notify users when a new person case is reported or when a missing person is found. If the missing person is found, application will notify it otherwise it will show no results found

C. Collaboration and communication:

This application should facilitate collaboration and communication between government and individuals involved in the search for missing persons. It enables the users to work together towards the common goal. Some ways of collaboration and communication are user profiles, messaging etc which includes information that can be used to match users with specific missing person cases and to facilitate the communication between users.

D. Data analysis:

Finding missing person use data analysis techniques such as machine learning algorithms to analyse data related to missing persons and identify patterns that can aid in locating missing persons. It includes predictive modelling which uses machine learning algorithms to analyse data related to missing persons and identify patterns that can be used to predict the likelihood of a missing person.

E. Privacy and Security:

Application ensuring the privacy and security of user data, especially personal information related to missing persons. The application should implement access control measures to ensure that only authorized users have access to sensitive information

III. TECHNOLOGIES

- A. Facial Landmark Embedding Model – Resnet Model :** It generates 68 unique landmarks on a face, this landmark pictures can be found on google images. Facial landmarks are used to localize and represent important regions of the face, such as: mouth , eyes , eyebrows , nose etc If we have facial landmark feature points estimated on two different faces, we can align one face to the other, and then flawlessly we can clone one face onto the other.
- B. Facial Matching Algorithm:** computer program or software that uses computer vision techniques to compare two or more images of faces to determine if they match. The algorithm typically works by analyzing key facial features such as the distance between the eyes, shape of the nose, the contour of the jawline, and the position of the ears.
- C. Python 3.10:** Python 3.10 is the latest version of the Python programming language. It includes improved error messages that provide more detailed information about errors and make it easier to debug code. The syntax for generator expressions has been updated to allow for paranthesis instead if square brackets.
- D. PostgreSQL:** PostgreSQL, also known a Postgres, is a powerful open-source relational database management system (RDBMS) that uses and extends the SQL language. PostgreSQL supports a wide range of features, including transactions, concurrency control, replication, and multi- version concurrency control (MVCC), which allows for consistent

data reads even in the presence of concurrent write operations.
Some basic commands in PostgreSQL SQL:

CREATE DATABASE: This is used to create a new database.

CREATE TABLE: This command is used to create new table in the database.

CREATE TABLE table_name (column1 datatype, column2 datatype, ...) command is used to insert data into a table.

Syntax: INSERT INTO table_name (column1, column2, ...) VALUES (value1, value2, ...)

- E. Streamlit:** Streamlit is a Python library used to create web applications with interactive user interfaces. It allows data scientists and machine learning engineers to easily build and share interactive data applications and dashboards without having to write HTML, CSS, or JavaScript code. With Streamlit, users can quickly create web applications using Python scripts and deploy them to the web using cloud platforms such as Heroku, Google Cloud, or AWS.
- F. Open CV:** Open Source Computer Vision is a popular open-source computer vision and machine learning library that is written in C++ and has a Python API. It is designed to help developers create applications that can interpret and understand visual data from the world around us, such as images and videos. OpenCV offers a wide range of image and video processing capabilities, including image filtering, edge detection, object recognition, and more. It provides a wide range of tools and functions for processing and manipulating images and videos.

OpenCV includes built-in algorithms for object detection and tracking in both images and videos.

IV FUTURE DIRECTIONS

In future we want to collaborate among law enforcement agencies, non-profit organizations, and the public can help create a more comprehensive approach to locating missing persons. By raising public awareness about missing persons, you may be able to encourage more people to report suspicious activity or provide information that could help in criminal investigations. It will also help the police authorities to locate the suspects.

V. LITERATURE REVIEW

[1] Finding And Matching the Lost Victim Using AI and ML (2022) Abhinay Chaukade The model is based on the facial matching of the persons, by training the model with numerous types of faces to recognize the matching ones. The Missing Person Portal achieved great results in feeding information.

[2] Finding missing person using face recognition system (2022) Vijay Deep, Govind Kaushik Its objective is to reduce the time to trace the whereabouts of the missing person, there is a need to come up with a better solution, using technology as an advantage. It is fast. Also, there is no need to provide multiple images for model training which serves as an asset for our system

[3] Find missing person using AI (2021) Sanskar Pawar, Lalit Bhadane, Amanullah Shaikh, Atharv Kumhejkar, Swati Jakkan, It will detect faces with the maximum accuracies to find the missing person. Process of identifying the missing people is fastened.

[4] Criminals and missing children identification using face recognition and web scrapping (2020) S. Ayyappan and S. Matilda It will identify criminals who are on the run from their previous records. This system decreases the crimes and ensures security in our society.

[5] Find missing person using AI Shefali patil, Pratiksha Gaikar, Divya Kare, sanjay Pawar (2021) There will be the feature of saving all the data of the missing person so that system can detect that image data and trace the missing person. It made an android application that consists of the features like Face recognition that will be used for finding the missing person.

[6] Cross Age Face recognition using Deep Residual Networks (2019) Sarthak Babbar, Navroz Dewan, Kartik Shangle, Sudhanshu Kulshreshtra, Sanjeev Patel Objective is to study the accuracy of Residual Network for the purpose of cross-age face recognition. It improves the accuracy in facial direction.

[7] Missing Child Identification System using Deep Learning with VGGFACE Recognition Technique (2022) D.J. Samatha Naidu, R. Lokesh An application for Intelligent System for Missing Child Adoption using Machine Learning. Thus, to evaluate the performance of the proposed system, several experiments are conducted on dataset.

The usage of Deep Learning algorithms has reduced the need for human labour, such as manual feature extraction and data reconstruction for classification purposes.

[8] Missing Person Identification using Machine Learning with Python (2022) G.Srikanth, Adurti Swarnalatha, Thalari Abhishek, Ravula Sai Akhil Patel, Thalari Swamy This system uses the machine learning

technology that can recognize a subject only by looking at. OpenCV is used for image and video analysis which helps in identifying the missing person. The main purpose of the project is to detect the face by using face recognition package of the project is using python detect face recognition in real time.

VI CONCLUSION

This technology when put into good use, can be beneficial. Process of identifying the missing people is fastened. Our system replaces the manual scanning process through the databases for each picture to check the match, by an efficient face recognition method which finishes the work in no time. The application was tested using a dataset of missing person cases. The dataset contained information on missing persons, including their age, gender, and location. The facial recognition algorithm was tested using a subset of the data set, and, it was found to accurately identify missing person in real-time.

The proposed missing person application built using Python has the potential to provide a more efficient and effective means of locating missing persons. The use of facial recognition technology and machine learning algorithms can help identify missing persons in real-time.

VII REFERENCES

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