International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 10 Issue: 01 | Jan 2023 www.irjet.net p-ISSN: 2395-0072

Shodh - A platform for finding missing people

Aakansha Mhetar[1], Amaan Shaikh[1], Apurva Kapse[1], Mihir Singh[1]

[1]*Student at Department of Information Technology in Atharva College of Engineering, Malad West, Mumbai*

Abstract - *Numerous people, including children, teenagers, and elderly people, experience constant loss around the world; yet, the vast majority of these people go unrecognized. By using face recognition to expedite the process of looking through, this system will benefit users. People connected to a missing person or the police can transfer the person's photograph, which will be stored in the data set, at the time of their disappearance. When members of the public see a questionable person, they may recall and project that person's image onto our front door. With the use of face encodings, the face acknowledgment model in our framework will try to find a match in the data set. By comparing the facial encodings of the transferred image to those of the images in the data collection, it is carried out. In the event that a match is found, anyone connected to that person will be informed. Additionally, for a more accurate result, a member of the public who located the missing person will make an effort to gather details by requesting additional information and transferring it to our entries. The client will then review the information sent that can support the assertion and denial of that missing person.*

Key Words*: *Missing people, finding, Face recognition, dead body detection, Convolutional neural network (CNN), Image detection, ResNet

INTRODUCTION

In the world, an uncountable number of people are missing day to day life which includes kids, teens, adults, old-aged people with mental disorders who cannot recognize people and they trust them etc. Most of the cases remain trackless because there is not proper information about the missing person such as location, date of missing day etc. our project proposes a system that would help the police to search a missing person using face recognition. Our project involves using various algorithms and techniques to analyze data and information related to the missing person, such as their photos for face recognition, in order to predict their location and help them to rescue. Face recognition techniques can be used for many things such as extracting face features to find the missing person is the main goal of any face recognition technique. To help the authorized person to find the missing person we are designing the platform which will be examined by some authorized volunteers so we can find the missing person in a short period of time. Our project provides a platform for authorized persons like Police, to report and find people who are missing or dead bodies. The system will consist of a user interface present at the office/station of the authorities. Our project will make the work easier for authorized people to find the particular missing person. We are using ML models built using CNN algorithm and ResNet Network to recognize a particular image. This means we are extracting features from a particular image like the eye, nose etc and compare that with another image to check whether both images have the same feature or not. The authorities will be able to report a photo of the person they found and they can also put a find request to find a person by submitting a photo of him/her. If the report photo consists of the face of people in the find request, the authorized person who putted the request will be notified. By performing this we will be able to know the correct location of the missing person in the image which will make it easier to find the missing person. If the location of the missing person is correct then authorized people can start the investigation and search the particular location/area to find the person. Our project provides a platform that gives information and resources to help authorities to locate missing persons. These websites can be created and maintained by us. This gives information about missing people, including their photos and contact information for reporting any detection. Some missing person websites also provide services to the missing person families and dearest ones of the missing person. Such as counseling services, financial assistance, and legal advice. In our project we provide a feature to save all the data about the missing person so that the system can detect features from the image data and search for the missing person.

MOTIVATION

There are various Systems present in a wide range for finding missing persons but there is no perfect system available with better accuracy. Statistics show that around 88 women, kids and men go missing by the hour, 2,130 people go missing every day, and 64,851 people every month. In India there are various cases we hear about missing children, elderly people, mentally disabled people on a daily basis. So, there should be some system which will be helpful for bringing closure to families and friends. With this it will also be helpful for their safety and especially if they are in any dangerous situation. Finding a missing person is also useful to bring justice in cases where the person can be a victim of any injustice. With the help of the system it makes it easier to find a person, as there are many pending cases or older unsolved cases which need attention. It will also help to raise awareness between people, so it will be easier and helpful to find a

person and also to increase effort to find a missing person. Finding missing person systems are worth using as they provide various resources, support, communication, and faster feedback by identifying the person rather than paper working by offline reporting. Physical searching is a longer process as it takes lots of time to report a person, starting investigation and searching, also as it gets older the case will get less attention. System will also help. Not only finding a person but various unwanted bodies are found in various parts of the world which needs to be identified as regularly new data is getting added.

PROBLEM STATEMENT

By incorporating cutting-edge technologies, streamlining the procedure, and providing real-time updates, create a software platform to improve on the current manual and fragmented systems for locating missing people and identifying dead bodies. This will increase the effectiveness and speed of searches and aid families and law enforcement in their efforts to find closure.

METHODOLOGY

In order to define the problem in detail and create a solution to it, we have divided the entire development of this system into phases. Here are the high-level steps of the method we followed.

Understand the requirements:

We have collected information about agencies that may use our system to help those affected. We also obtain information about the process used by authorities to find missing persons and to understand the specific needs and requirements of the platform.

Conduct research:

We studied the existing solutions and their limitations to provide a better system and thus a better approach to the whole process. Research on technologies and resources that can be leveraged for this platform has also been done.

Solution design:

After gathering all the information about the requirements and available technologies and resources, we begin the process of designing the overall architecture of the platform, including the database, the interface users and search algorithms, as well as correspondence from missing persons and unidentified bodies.

Build the Platform:

One of the most important components of this platform are machine learning models, which are responsible for comparing faces and finding matches. The machine learning models include face detection models and face landmarks, built using the CNN algorithm, and a ResNet network-based face recognition model, further formed by images from face deletion datasets, VGG datasets, and internet scrapes. We built the implementation library, server program, and platform UI with solutions that were tweaked and tested iteratively as they were built.

Test and Validate:

The platform has been tested with real-world data to verify that it is accurate, efficient, and meets the defined requirements.

Deployment:

We planned to deploy the platform on top of a secure and scalable infrastructure provided by cloud service providers such as Google Cloud Platform, Amazon Web Services, and Microsoft Azure.

Evaluate and improve:

Continuous evaluation of the platform's performance and taking user feedback to make improvements as necessary will be done to ensure that it is meeting the needs of its users.

SYSTEM ANALYSIS

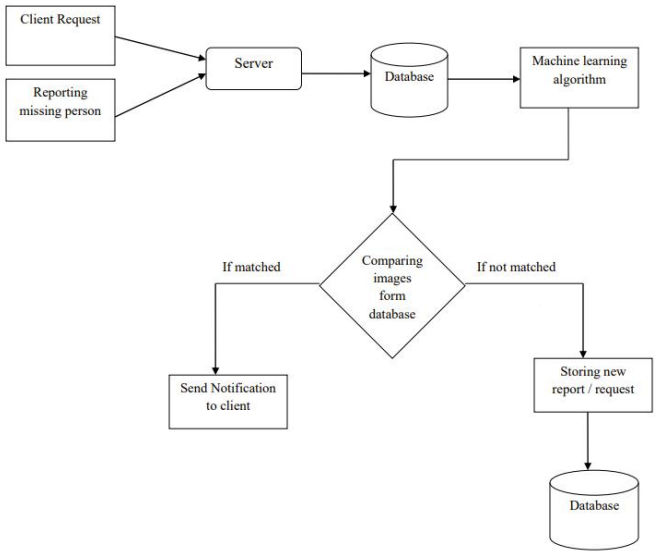

Fig -1: System Architecture

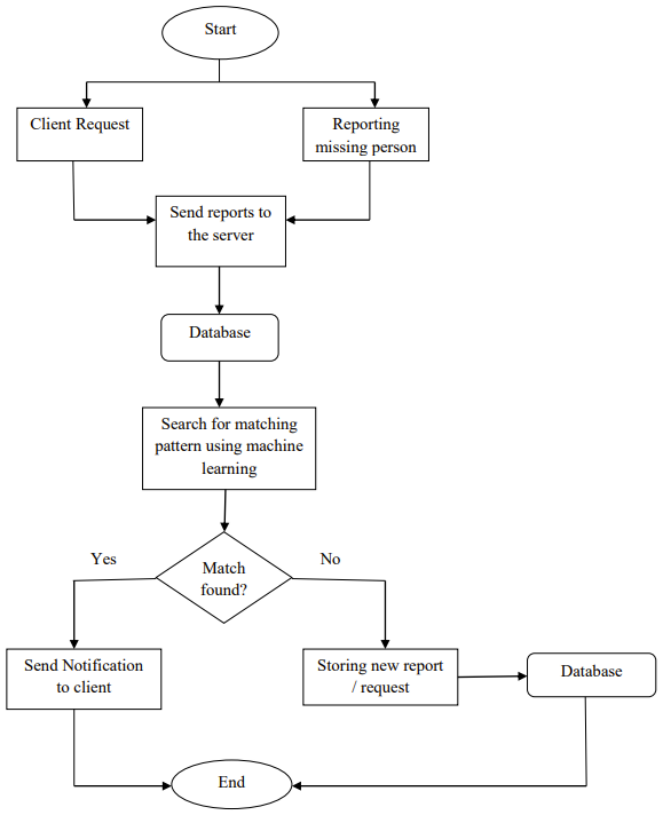

Fig -2: Flow Chart

RESULT

We carried out tests against the ML model that we prepared, following are the outputs of them

Test 1:

Image 1

Image 2

```
thisi@debian:~/Desktop/college/final_year_project$ python3 test.py
Distance: 0.575743774187861
The face in ./testing_data/olwen.jpg matches with the face in ./testing_data/olwen_d.jpg
```

Image 1

Image 2

```
thisi@debian:~/Desktop/college/final_year_project$ python3 test.py
Distance: 0.754806763374206
The face in ./testing_data/kohli.jpeg does not matches with the face in ./testing_data/su
```

CONCLUSIONS

This System aims to identify the areas where cases of missing persons are growing widely,so it can be beneficial. With the help of this system the offline work will be reduced and face recognition will be helpful to solve this problem. This system is convenient for police, Government and public by speeding up the process of searching the person

REFERENCES

[1] Shefali Patil,Pratiksha Gaikar,Divya Kare,Sanjay Pawar - "Finding Missing Person Using AI" - INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN SCIENCE AND ENGINEERING, VOL.2, NO.6, JUNE 2021

[2] Sanskar Pawar1 , Lalit Bhadane2 , Amanullah Shaikh3 , Atharv Kumbhejkar4 , Swati Jakkan - "FIND MISSING PERSON USING ARTIFICIAL INTELLIGENCE" - IRJET - Volume: 08 Issue: 12 | Dec 2021

[3] Yassin Kortli 1,2,*, Maher Jridi 1, Ayman Al Falou 1 and Mohamed Atri - "Face Recognition Systems: A Survey" Accepted: 15 December 2019; Published: 7 January 2020

[4] Ashu Kumar, Munish Kumar and Amandeep Kaur, "Face Detection Techniques: A Review", Crossmark, 2018

[5] Prof. Prachi Sasankar and Prof. Usha Kosarkar, "A study for Face Recognition using techniques PCA and KNN.", EasyChair, 2021.

[6] Manal Abdullah, Majda Wazzan, Sahar Bo-saeed," FINDING MISSING PERSON USING ML,AL" International Journal of Artificial Intelligence & Applications (IJAIA), Vol.3, No.2, April 2021.

[7] Sarthak Babbar, Navroz Dewan, Kartik Shangle, Sudhanshu Kulshreshtra, Sanjeev Patel, "Cross

Age Face recognition using Deep Residual Networks ". IEEE 2019 Fifth International Conference on Image Information Processing (ICIIP).

[8] Neha Gholape *1, Ashish Gour*2, Shivam Mourya*3 - "FINDING MISSING PERSON USING ML, AI" - Volume:03/Issue:04/April-2021

[9] S. Ayyappan and S. Matilda, "Criminals and missing children identification using face recognition and web scraping" IEEE ICSCAN 2020

[10] Shivam Singh, Prof. S. Graceline Jasmine - " Face Recognition System " - International Journal of Engineering Research & Technology (IJERT) - Vol. 8 Issue 05, May-2019

[11] Narayan T. Deshpande, Dr. S. Ravishankar - " Face Detection and Recognition using Viola-Jones algorithm and Fusion of PCA and ANN " - Volume 10, Number 5 (2017) pp. 1173-1189

[12] Girish G N, Shrinivasa Naika C L and Pradip K Das, "Face Recognition Using MB-LBP and PCA: A Comparative Study", IEEE International Conference On Computer Communication and Informatics, pp 1-6, Jan 2014

[13] HayetBoughrara, Mohamed Chtourou,Chokri Ben Ama and Liming Chen "MLP Neural Network Using Modified Constructive Training Algorithm: Application to Face Recognition" IEEE Ipas'14: International Image Processing Applications And Systems Conference, 2014.

[14] "Convolutional_neural_network," 2017. [Online]. Available:https://en.wikipedia.org/wiki/Convolutional_neural_network.

[15] S. S. Liew, "Research Gate," 1 3 2016. [Online]. Available: https://www.researchgate.net/figure/Architecture-of-the-classical-LeNet-5- CNN_fig2_299593011. [Accessed 10 10 2018].