

# Findng Missing Person Using AI

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**ABSTRACT:-** It has become a universal issue to identify missing people and bring them back to their families as soon as possible. An examination of various research publications is presented in this paper. There are merits and demerits to each mechanism. Even so, there are still some issues associated with bringing back the missing people that have not been resolved completely. In the past few years, it has become evident that computing technology has evolved to include a wide range of flavors that can be used in practically every sector of the economy today. There is no doubt that information plays a critical role in the computing system, in spite of the rapid development of technology. Worldwide, there are a lot of people that go missing every day, including children, teenagers, mentally challenged people, elderly people with Alzheimer's disease, and others. In India, more than 500 missing person concerns go unaddressed daily. Face recognition technologies have become increasingly critical in recent decades. A facial recognition system is a computer application that recognizes or verifies a person by analyzing a digital image or a video frame from a video source. Facial feature detection and recognition are extensively used in current world scenarios and technologies. Artificial intelligence, on the other hand, has solved the issues of the ultramodern world. In order to improve the communication between humans and machines, artificial intelligence (AI) has been developed in order to help with this process.

**Keywords:-** Artificial Intelligence, GPS Trcacking, Machine Learning, Automation, Problem Solving

## I. INTRODUCTION

Every day, a countless number of people around the world go missing, including children, teenagers, mentally challenged individuals, and elderly people with Alzheimer's disease. Unfortunately, many of them remain unaccounted

for. This paper suggests a solution that can aid both law enforcement and the general public in finding missing individuals more quickly by using facial recognition technology. Facial recognition technology has numerous applications, but one of its greatest benefits is finding missing persons. To simplify the process of locating missing individuals, we plan to develop an application that can be accessed by volunteers, allowing us to find the missing person in a shorter period of time. This will make it easier for law enforcement to find the specific person they are looking for. In addition, there is a need for automation to help identify missing individuals by comparing images and determining if they have similar characteristics. This will help determine if the missing person in the image captured from a specific location is indeed the person they are looking for. Our application will have a feature that saves all of the missing person's data, allowing the system to detect that image data and track the missing person.

As technology advances, facial recognition and detection have become the primary means by which we identify individuals. This technology has seen significant growth in recent years, making it easier to identify individuals with ease. The purpose of our project is to create a tool that can aid in the search for missing persons. This tool will be accessible to both the general public and the police department, allowing them to quickly locate loved ones who have gone missing. The project includes a comprehensive database of missing persons, allowing police to investigate cases and guardians to file reports. Additionally, individuals can upload images of missing persons, which will be compared to the images in the database, resulting in a match.

## II. SYSTEM OVERVIEW

The process of finding a missing person can be quite lengthy and time-consuming when done manually, as it involves launching an FIR at

the police station. Moreover, due to limited resources, the search workforce for locating missing individuals is often insufficient, resulting in many cases remaining unsolved. Existing applications that provide a database of missing persons often fail to provide sufficient information about the individual's appearance. In certain public locations, such as amusement parks, RFID chips are used to locate people. To address these issues, we propose a new system that includes an image of the missing person to aid in their search.

### III. EXISTING SYSTEM

In the existing system mining helmet ensures to protect the miners head from several injuries. Being aware of the environmental condition becomes a challenging part of the existing system. Since the helmet is too heavy, uncomfortable to work with the miners tend to remove the helmet off their head. In case of its removal miners are prone to unsafe conditions. There is no existing smart helmet that can study the environment and make decisions to sustain worker protection. Oxygen supply is not provided for the miners in case of poisonous gas leakage. Establishing a hurdle free communication environment is the biggest challenge the mining organizations face.

### IV. PROPOSED SYSTEM

Various methods are employed by the proposed system to locate missing individuals, as illustrated in Figure 1, which outlines the system's structure.

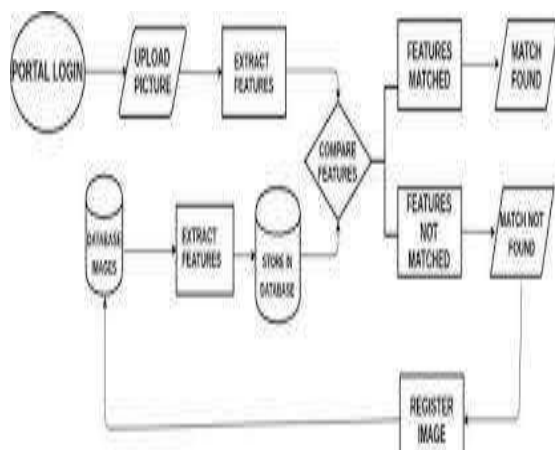


Fig. 1. Overall Structure of Proposed System

In order to overcome the limitations of previous systems, we are developing a new system with additional features. We have conceptualized a user-friendly interface for reporting new complaints and registering new cases. The proposed system will include the following features:

- Login and complaint registration options
- The ability to enter details about the missing person, including their name, location, age, and an uploaded image
- The capability to search for a match in the stored database using the uploaded image. If a match is found, the system will indicate it. If not, the image will be stored as a new entry in the database.

#### A. Presentation Layer

The front-end element takes responsibility for providing user-friendly functionality. To register a complaint and store data in the database, the user must log in and provide the necessary information through the login page.

#### B. Business Layer

The web service operating in the business layer acts as an intermediary between the presentation and database layers by transmitting user requests to the database. This layer's duty is to retrieve user data, process it, and save it in the database.

#### C. Database Layer

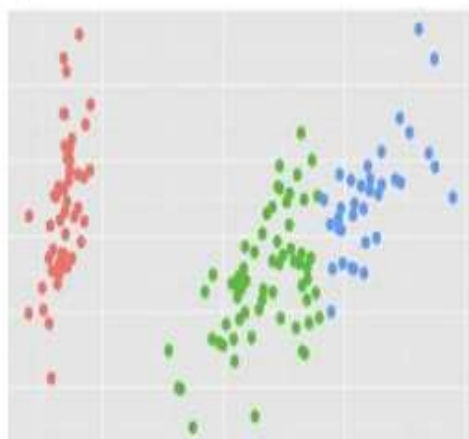
The responsibility of the database layer is to store data in the database and respond to user queries. In our project, we utilized PHP, HTML, MATLAB, and MySQL in conjunction with XAMPP database to store information.

### V. METHODOLOGY

The methodology underlying the system we have developed operates as follows: We employ dlib facial landmark detection to identify the unique facial key points of a missing individual. This approach utilizes one-shot learning and generates approximately 68 distinct points for a face. These points are represented as floating-point values with an accuracy of approximately 8 decimal places. An example of this representation is as follows:



Once the desktop application has recorded three cases, dlib produces a total of 136\*3 facial landmark points. Each point has its corresponding x and y coordinates, and there are 68 points per case. The resulting points are then used to train the classifier. For example, if the KNN algorithm plots the facial landmark points and assigns the color red to Person 1, green to Person 2, and blue to Person 3.



To match a person's face, we only need to generate that person's facial landmarks and use the KNN classifier we trained to predict the confidence. If the confidence level exceeds 60, we consider it to be the same person. If a person is identified using the KNN model, we receive an

encoded label as output, which contains the person's information.

### VI. OUTPUT

The person will login first using username and password. Then, register the new case by uploading image then fill the details and then save it. After showing, it will display saved successfully.



Fig.5. Login Window



Fig.6. Click on New Case



Fig.7. Fill th details and upload image



Fig.8. Save to Database



Fig.9. Match Found

## VII. SOFTWARE REQUIREMENTS SPECIFICATIONS

### 1. Software Requirements Operating System:

Windows 7, Programming language:  
 Python IDE: Any IDE (PyCharm, VSCode, Python IDLE)  
 Database: Postgresql Anaconda Navigator (anaconda3)

### 2. Hardware Requirements Processor:

Intel 2.0Ghz Processor pentium 4 RAM: 4GB Hard Disk: 512 GB

## VIII. CONCLUSION

In addition, this approach enables rapid identification of missing individuals. Instead of manually examining a single picture database, our well-designed face recognition system quickly performs the task

## REFERENCES

- 1) The following sources are cited in this text: a 2018 article by Birari Hetal, Sanyashiv Rakesh, Porje Rohan, and Salveharish published in IRE Journals; an article titled "Locating Missing Persons Using Artificial Intelligence" by Kumar, Mithilesh et al. published in the International Journal of Advanced Research in Computer Science in 2020; a 2018 post on Medium by Dataseries; a 2006 article by Ahonen, Hadid, and Pietikainen published in IEEE Transactions on Pattern Analysis and Machine Intelligence; a 2002 article by Ojala, Pietikainen, and Maenpaa published in the same journal; a 2004 article by Ahonen, Hadid, and Pietikainen presented at Computer Vision-ECCV; and a paper by Thomas Omweri titled "Using Mobile Communication to Find Missing Persons."
- 2) The sources referenced in this text include articles by authors such as Birari Hetal, Sanyashiv Rakesh, Porje Rohan, and Salveharish (published in IRE Journals in 2018) and Kumar, Mithilesh et al. (published in the International Journal of Advanced Research in Computer Science in 2020). Also cited are a post from 2018 on Medium by Dataseries, and various academic articles such as one by Ahonen, Hadid, and Pietikainen from 2006 and another by Ojala, Pietikainen, and Maenpaa from 2002. Finally, a paper by Thomas Omweri titled "Using Mobile Communication to Find Missing Persons" is included as a source.

- 3) This text cites several sources, including articles by authors like Birari Hetal, Sanyashiv Rakesh, Porje Rohan, and Salveharish (published in IRE Journals in 2018) and Kumar, Mithilesh et al. (published in the International Journal of Advanced Research in Computer Science in 2020). Additionally, a post from 2018 on Medium by Dataseries is referenced, as well as academic articles such as one by Ahonen, Hadid, and Pietikainen from 2006 and another by Ojala, Pietikainen, and Maenpaa from 2002. Finally, a paper titled "Using Mobile Communication to Find Missing Persons" by Thomas Omweri is also included as a source.