TO TRACK DOWN THE MISSING INDIVIDUALS USING MACHINE LEARNING

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ABSTRACT

Face recognition is a sophisticated biometric method that creates a distinctive face print for each person using mathematical formulae. This technique allows for precise identification of people by comparing facial features with a database of previously collected facial data. To improve the effectiveness of this strategy, we developed a unique facial recognition model and connected it to the machine learning framework Tensor Flow. Our modern technology is essential for finding the missing because it expedites the search. Traditional methods for finding missing people usually include laborious paperwork, take a long time, and yield disappointing results. Our innovative method modifies this process by making use of the power of facial recognition technology. When a missing person's facial information is entered into our database, our system immediately scans social media platforms, surveillance footage, and open spaces for potential matches. When a match is discovered, the guardians of the concerned missing person as well as the local authorities are informed immediately. The fast communication makes it possible to focus search efforts on immediately finding the person, considerably increasing the likelihood of success. We developed cutting-edge facial recognition technology in response to the challenges in finding the missing. By applying cutting-edge algorithms and machine learning, we offer a unique and efficient solution that increases the possibility of reuniting missing persons with their families while respecting privacy and the greatest standards of security.

Keyword: - *Biometric,Facial Recognition*

1. TO TRACK DOWN THE MISSING INDIVIDUALS USING MACHINE LEARNING

Today, a large number of people go missing every day, including children, teenagers, those with mental illnesses, and elderly individuals suffering from conditions like Alzheimer's. Regrettably, many of these cases are still unresolved. In order to speed up searches, a novel method for using face. Recognition technology is presented in this research. Both the general public and law enforcement will gain from this strategy. There are many possible applications for face recognition technology, but one of the most important ones is aiding in the search for the missing. We are developing an easy-to-use programme that committed volunteers can utilize to solve this urgent issue. We hope to significantly reduce the amount of time it takes to locate missing people by using this system. This will make it simpler for the police to immediately locate a certain person. Additionally, automation is essential in the hunt for the missing. Using sophisticated image recognition algorithms, this involves comparing a certain image with other images to see whether they share any characteristics. Using this technique, we can check to verify if a photo taken at a specific area is accurate and if the missing individual is seen in it. Agents from law enforcement may continue looking there if a match is made. Our proposed method aims to exploit the potential of face recognition technology to accelerate the search for missing persons. Additionally, it enables relatives of missing people a speedier and more reliable way to

search for them. It also gives the public and police additional authority. A very strong facial recognition algorithm is already built into our Android app. When a match is made, the volunteer is automatically transferred to the missing person's profile. Thanks to the seamless integration of Google Maps, users can find the exact position of the missing person within the profile

2. RELATED WORKS

We immediately saw a big problem after reviewing a few websites. Anyone who would have wanted to report questionable behaviours ran a major risk because it was difficult and not anonymous to upload pictures of questionable kids in your neighbourhood. Furthermore, despite its potential to significantly automate the process, machine learning was not utilized in the project. The 'Photographs of Missing Persons' and 'Photographs of Recovered Children' tabs, which demand manual searching for pertinent information or other risky actions, serve as an example of this flaw. A number of research articles address issue statements and aims that are comparable to ours, according to our evaluation of the literature. A method for identifying and classifying missing people using stacked convolutional auto-encoders (SCAE) and facial feature extraction and matching based on deep learning was proposed by S. AYYAPPAN and his colleagues from the IFET College of Engineering in a journal. Our technique 1 differs from theirs in a number of significant ways, despite the fact that their work concentrates on the technical elements of facial feature extraction and matching [1]. In their study publication, Shefali Patil and colleagues from SNDT Women's University in Juhu, Mumbai, used the K-Nearest Neighbours (KNN) algorithm for the first

Sarthak Babbar and his colleagues from the Jaypee Institute of Information Technology in Noida, India, examined CDAC-VS, CNN, and Amazon Web Services (AWS) Recognition in a comparison study. Their study was essential in helping us choose the best algorithm for our project. time to recognize faces. To identify faces, their method used 136 * 3 data points. In light of their observations, Amazon Web Services (AWS) Recognition will now serve as our primary algorithm. According to Babbar et al.'s study, AWS Recognition has a remarkable accuracy rate of 99.45% when tested on the CACD-VS dataset. This high degree of accuracy gave us even more confidence in the efficiency of AWS Recognition for the objectives of our research [3].entire network to look for vulnerabilities. 5. To acquire unauthorised access and steal information, injection attacks use scripts that insert queries. Swarna Bai Arniker and K Sita Rama Rao presented a presentation in which they proposed an RFID-based system for identifying and locating missing people, with a particular emphasis on elderly people, people with physical disabilities, and lost children in order to ensure their safe return to their guardians. The wearing element of the RFID tag, which is necessary for effective tracking, is one of this system's limitations. Our system uses face recognition technology as opposed to this RFID-based method, thus users are not need to wear any physical tags or devices. Our technique can locate people who are missing without the help of outside tracking devices or tags by evaluating face traits and cross-referencing them against a database [6-8].

3. METHODOLOGY
There are mainly two modules in this project:
1.The Authorities Module
2.The User Module

3.1 Module 1: The Authorities Module NGOs are expected to add the missing complaint data to the database. A database is used to store the information from the input the authorities given. Extract Features of input by authorities We use feature extraction methods from the face detection algorithm at this crucial stage of our system. This technique involves taking pictures of the subjects to identify their distinctive facial traits. These attributes are then recorded as a matrix of arrays for further analysis and comparison. The dlib facial landmark detection method, which can distinguish roughly 68 different important elements on a face, is used in our approach. These fundamental ideas relate to certain features of the face, such as the lips, brows, nose, and eyes. Each of these sites is precisely represented as a float value with a high level of accuracy, frequently up to 8 decimal places.

3.2 Module 2: The User Module
a) Input Data The user will be given the option to enter information after reporting the missing person to the police station. He can also choose to begin a new case and submit a report on the missing person. There are contact details, a name, and a picture of the missing person. The user must include a name and a no when registering a new case.

b) Extract Features: The procedure extracts the features, which are subsequently saved as an array matrix in the database. The algorithm will process these in order to match the face. For both modules, these are the only information on data entry and feature extraction.

c) Common Features In this step, it is necessary to get the opinions of both the authority and the user regarding the image's features. This stage evaluates these shared elements to find facial traits that are comparable. The algorithm employed for facial detection completes this task.

4.PROPOSED SYSTEM

Data Flow Diagram

Data flow diagram (DFD) is a visual representation of the flow of data through a system. It provides a visual breakdown of the many phases of data structure. Typically, designers begin a DFD by demonstrating the system's interactions with external components at the context level. Data flow diagrams (DFDs) display data entry from external sources, processing, and logical storage. As data enters or exits the system, it is routed through squares that represent external entities.
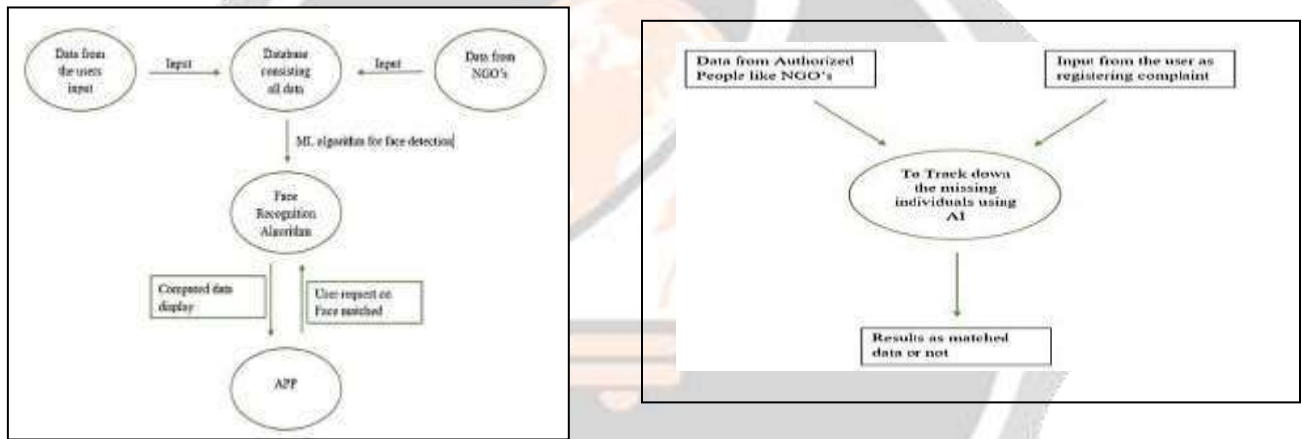
5. CONCLUSIONS

In photo recognition, one-shot learning has proven to be a very effective technique. It can provide a lot of advantages when used properly, including the early detection of criminals in places like hotels and hospitals. It also vastly accelerates the search for missing people. Our solution uses a powerful facial recognition algorithm to swiftly accomplish the operation rather than laboriously manually searching through databases for each photograph. By connecting our system with public cameras, we want to improve its capabilities and enable real time face detection. These enduring frames recorded our system will be equipped with cameras so that we can closely watch the data as it arrives. The necessary authorities will be notified right away if a lost person is discovered inside one of the frames. Law enforcement officers may locate missing people more rapidly thanks to this quick identification technique. Users of our app can also get vital details about persons who are missing. By employing this technique, we greatly speed up the hunt for the missing. Our solution uses a rapid and efficient form of facial recognition to do away with the need for human assessment of individual images within databases.

6. REFERENCES

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