

Creation Of Third Vision For Women Safety Using Deep Learning

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Abstract - In this paper we find some unique design requirements for women's safety. In today's world women safety is the most important issue in very country. Women are harassed and troubled and sometimes when the urgent help is needed, there is no required location of the women so that people can help. Its necessity that we are all aware of importance of women safety, but we must analyse that they should be properly protected. The earlier existing system are helpful in detecting the women's location after the crime has been committed. In this project we will be using the women's handbag in which we will be fixing camera lenses, and which will be carried anywhere they go. Whenever she comes in contact with any person outside, an image of that person is taken, and the activities of the person can be monitored continuously. If the person behaves normally the image can be of no use and can be deleted. But if the activities of the person vary resulting in any harmful action then our system will detect it and process the captured image and it will send to the police and family members with GPS location tracked from IP address. Thus, our project helps in saving the life of a women and safeguarding her in the present situation.

keywords - Human Action Recognition, Deep Learning, GPS, Camera Lenses, IP address, SMS.

I. INTRODUCTION

Women safety is a very big concern where women are playing an outstanding role in each and every field. In the past few years the safety of women in India has been down because of some continuous and terrible crimes against women. There has been decline in the women status from ancient to medieval period which is continued in such an advanced era. Women of India have equal rights as like as men of this country as they occupy almost half population of the country and involved in half proportion in the growth and development of the country. Indian women are continuously facing numerous problems such as sexual harassment, violent victimization through rape, acid attack, dowry deaths, forced prostitution, and many more. To make women safety safer many attempts have been made but, still a safer and secure system is needed that can ensure safety during public transport in general. This paper presents a system that is capable of providing more security and safety.

II. LITERATURE SURVEY

In this paper [1] the author uses the EMOTIC database to train the different convolutional neural network models for emotion recognition, combining the information of the person bounding box with the information present in the scene context. The paper describes how scene context contributes important information to automatically recognize emotional states. The emotic database combines two different types of emotion representation. The automatic recognition of emotions has a lot of applications in environments where machines need to interact or monitor humans. For instance, automatic tutors in an online learning platform would provide better feedback to a student according to her level of motivation or frustration. Also, a car with the capacity of assisting a driver can intervene or give an alarm if it detects the driver is tired or nervous.

Rameshkumar.P in [2] uses a GPS mapper device. In this paper he described a scheme to identify the location of the individuals by using image metadata. GPS mapper is used to identify the location of a person using image and video by utilizing background metadata. With the help of GPS mapper, it can identify the altitude, longitude and position of a person who has uploaded their images to social media. But this scheme cannot generate the image of a person who has not uploaded the image in the social media.

In this paper [3] a mobile based women safety application has been developed by the author. The application is "I safe apps". This application is developed with the android support to know whether women are safe. It gives the location of the women by fake phone calls, forwarding the video, location and first aid information.

The paper proposes [4] a safety device and application called FEMME using ARM controller. The application can be installed in smart phones and can be accessed in emergencies. The emergency button is clicked once and the GPS location is tracked and the location is shared to all preset contacts. In paper [4] the device/application FEMME can be made better and the usage can be increased by making the product small so that it can be used as a watch or even a pendent and also there can be a voice keyword recognition which can trigger the device to send an emergency message to the preset contacts.

The paper [5] proposes women empowerment. This application is installed in the smart phones. This application supports three modules Violence against Women (VAW), Women's Health (WH), Emergency Call System (ECS). When users are in danger, they just need to press a button then this system will make three successive calls and sends a text message which was previously saved to the preset number. The location of the user using global positioning system (GPS) is sent in text message.

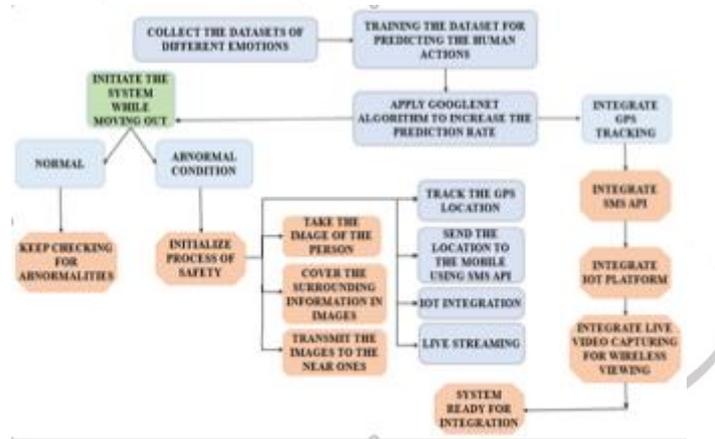
III. EXISTING SYSTEM

Existing devices used are ARM controller, tactical pen, necklace, key chain, watches and ring. when a button is pressed these devices send the Global positioning system (GPS) location to the emergency contacts which are preset. Existing system has focused only on differentiating the types of emotions. The processing of the context for automatic emotion recognition has not been explored in depth, due to lack of data. Just three types of emotions are classified as valence, arousal and dominance. There are no steps taken based on the data received. The algorithm is quite slow and focuses only on recognizing three types of emotions. No accuracy is been predicted in this project. Annotating images is extremely difficult and time-consuming task with this algorithm. No accuracy is been predicted in this project. Existing devices send the GPS location of the user only if a prior action taken by the user. There are no actions taken based on the data received.

IV. PROPOSED SYSTEM

Emotions play a vital role in human life and are one of the crucial features of humans. The everyday activities like communication, decision-making, etc., get highly affected by emotional behavior. An human emotion recognition system which can automatically recognize the human emotions using the currently prevailing deep learning approach. The proposed system discusses the development of an effective information based on emotions of different people. Uses Alex Net, Logistic Regression algorithms to achieve the purpose. Optimizing technique like SGD – stochastic gradient descent and regularization methods like ELU to increase the accuracy. Along with the emotion detection, IoT is also integrated and message sending is also implemented for taking action against the person. Emotion recognition using EEG signals is a challenging study and it requires advanced signal processing techniques to extract the hidden information of emotions from EEG signals.

V. ARCHITECTURE DIAGRAM



A **data set** is a collection of **data**. In other words, a **data set** corresponds to the contents of a single database table, or a single statistical **data** matrix, where every column of the table represents a particular variable, and each row corresponds to a given member of the **data set** in question. In Deep Learning projects, we need a training **data set**. It is the actual **data set** used to train the model for performing various actions. From training, tuning, model selection to testing, we use different data sets: the training set, and the testing set. The **training data set** is the one used to train an algorithm to understand how to apply concepts such as neural networks, to learn and produce results. It includes both input data and the expected output. The **test data set** is used to evaluate how well your algorithm was trained with the training data set. The process of training an Deep Learning model involves providing a Deep Learning algorithm (that is, the learning algorithm) with training data to learn from. The term Deep Learning model refers to the model artefact that is created by the training process. The training data must contain the correct answer, which is known as a target or target attribute. The learning algorithm finds patterns in the training data that map the input data attributes to the target (the answer that you want to predict), and it outputs an Deep Learning model that captures these patterns. We can use the Deep Learning model to get predictions on new data for which you do not know the target. In this we will be using Alex net algorithm to implement the model and getting the prediction of the model. The GPS is integrated to know the live location of the person to help save them.

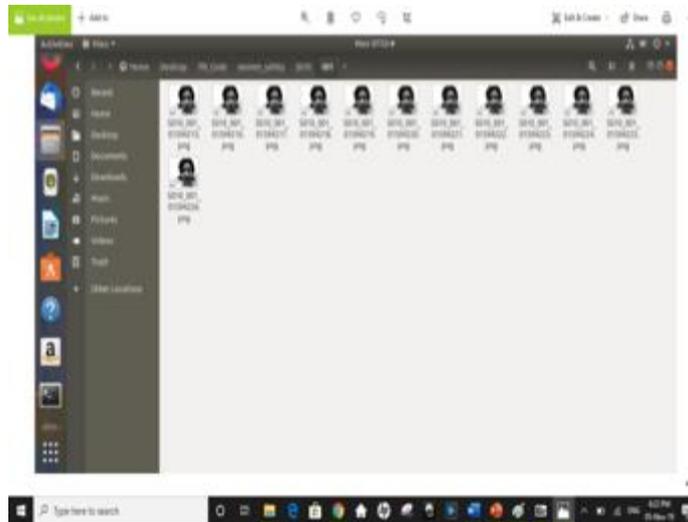
VI. PROBLEM STATEMENT

Emotion plays an important role in our perception, attention, memory and decision-making process. Emotion is not only crucial in human-to-human communication, but also vital in human-computer interaction. This demonstrates a growing need for agents with proper affective behavior and affective understanding in a research such as interactive robots, story-telling agents, computational medical assistants and computer games. One challenge that arises in these real use cases is the variations that occur naturally in the wild, including speaker characteristics, languages, lexical content, noise level and recording conditions. This has motivated researchers to investigate cross-corpus analyses to simulate the challenges. Researchers have demonstrated the efficacy of using multiple training corpora for enhancing cross-corpora robustness. However, it is not yet known how to best take advantage of the variability brought by these training corpora. There are additional sources of variation that emotion recognition systems need to handle, such as “domain” (e.g. spoken or sung), and gender. Emotion recognition from song and speech are often considered separately. However, our previous work found that one can achieve higher performance when training classifier that allow for information sharing between song and speech. On the other hand, while most works in emotion

recognition use gender-independent systems, previous studies have shown that gender-dependent emotion classifier outperform those that are gender-independent. This suggests that there exist similarities in emotion expression across domain and gender, and that performance of systems increase when controlling for the pervasive differences across the two factors. In this project we hypothesize that we will obtain a more accurate emotion recognition system, compared to the existing system by seeking common ground across different factors, while preserving the differences in the learned emotion patterns associated with a specific corpus, domain, gender, or their combination.

VII. RESULTS

DATASET COLLECTION



DATASET SEEPARATION

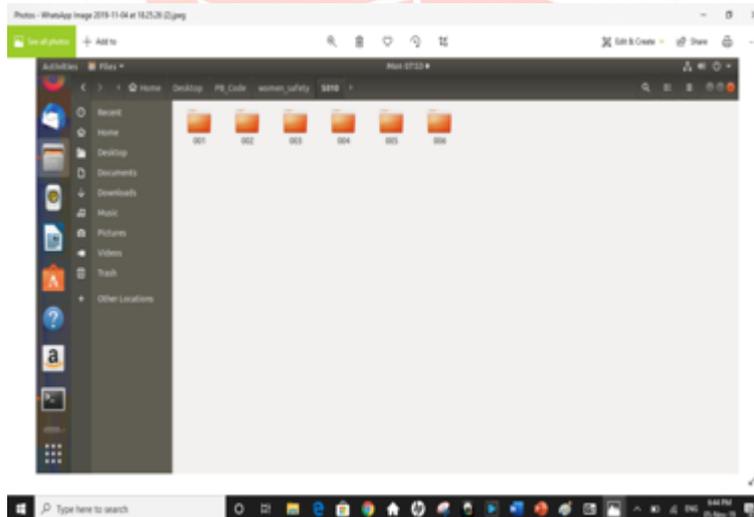


IMAGE BEFORE AUGMENTATION

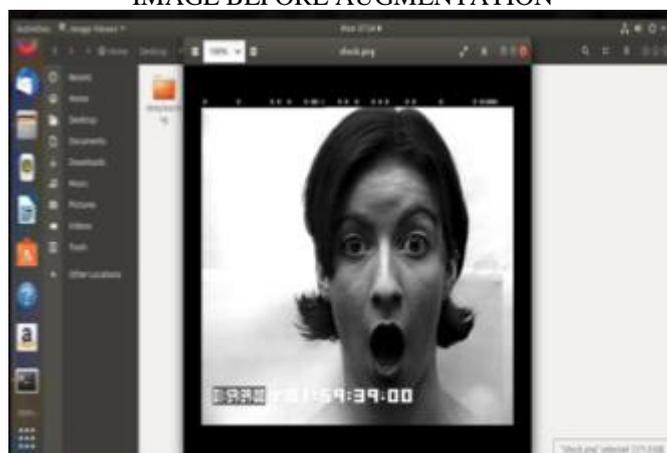


IMAGE AFTER AUGMENTATION



VIII. CONCLUSION

Despite of formation of various effective rules and regulations by the Indian government to handle and control the crimes against women, the number and frequency of crimes against women are increasing day by day. Women status in the country has been more offensive and dreadful in the last few years. It has decreased the confidence level of women for safety in their own country. Women are in doubtful condition for their safety and are afraid while going anywhere else outside their home (office, market, etc). We should not blame the government because women safety is not only the responsibility of it, it is the responsibility of each and every Indian citizen especially men who need to change their mind set for women. Thus, in our project we have designed a model which can be used to safeguard women in all aspects before the women becomes a victim of any crime. We have implemented Alex net algorithm which is a part of the vast deep learning technology which is trending nowadays and will become the future of human in the coming world. Thus, we have integrated solution for women by not only saving them but also working on the upcoming deep learning technology. The accuracy of prediction from the existing system is been increased as well as GPS, SMS API are integrated in this project. Live streaming of the current situation is also integrated in this project proving an efficient solution for saving the victim.

IX. FUTURE WORK

In the future this system can be improvised by making it as a real time hardware kit which can be made available as a product for the safety of women in this current world. Moreover this can be enhanced by increasing the accuracy by future evolving deep learning algorithms as well as adding more actions to be recognized by the system.

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