SYSTEM FOR WOMENS SAFETY SURVEILLANCE

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Computer Science & Engineering

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APPROVAL SHEET

This seminar report entitled " SYSTEM FOR WOMENS SAFETY SURVEILLANCE" by KATRA DRUVA KUMAR (20UECS0472), JAMPANI SRI HARSHA PRIYA (20UECS0387), VEERAMALLU NAGA ROHIT SAI (20UECS1006) is approved for the degree of B.Tech in Computer Science & Engineering.

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ABSTRACT

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. The earlier existing system are helpful in detecting the women's location after the crime has been committed. In this Seminar we will be using the women's handbag in which we will be fixing camera lenses, along with a small mic which can 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,2 Deep Learning, Global Positioning System, Camera Lenses, Internet Protocol address, Short Message Service.

LIST OF FIGURES

LIST OF ACRONYMS AND ABBREVIATIONS

ARM   Advanced RISC Network

CNN   Cable News Network

ECS   Emergency Call System

GPS   Global Positioning System

IoT   Internet of Things

IP   Internet Protocol

RISC   Reduced Instruction Set Computer

SGD   Stochastic Gradient Descent

SGD   Short Message Service

VAM   Violence Against Women

WH   Women's Health

TABLE OF CONTENTS

Chapter 1

INTRODUCTION

1.1   Introduction

Women's safety is a major concern, as women play a pivotal role in the almost every industry. Women's safety in India has degraded in recent years as a result of a series of horrible acts against them. Women's position has degraded from history to the Middle Ages, and this trend has continued into the modern era. Women in India enjoy the same rights as males because they make up nearly half of the population and contribute half of the country's growth and development. Sexual harassment, violent persecution through rape, acid attack, dowry deaths, forced prostitution, and other issues continue to plague Indian women.Many efforts were made to make women's safety safer, but a safe and secure system is still required to assure women's safety while using public transportation. This study describes a technology that can boost security and safety.

1.2   Aim of the Seminar

The seminar's main goal is to give a detailed study of a human emotion identification system that can detect face emotions automatically using current deep learning techniques.

1.3   Scope of the Seminar

The scope of the seminar is to do a detailed study about the system for women's safety Surveillance.The approach was useful in determining the location of the women after the crime had been committed.Thus our seminar assists in saving a woman's life and ensuring her safety in the current situation.

1.4   Methodology

A simple overview of the transportation and mobility issues that young women in society experience on a daily basis.The primary goal is to be provide a new technology to the problems.A report on a women's safety, there is an electronic system.

Chapter 2

LITERATURE REVIEW

This method for utilizing image information to determine the location of individuals. The GPS tracer uses background metadata to determine a person's location via image and video. It can determine the altitude, longitude, and position of a person who has submitted their photographs to social media with the use of GPS mapper. However, this approach will not be able to generate an image for someone who has not yet submitted it to social media.[1]

The smart phones have this application installed. Three modules are supported by this application: Violence Against Women (VAW), Womens Health (WH), and Emergency Call System (ECS). When users are in danger, they simply need to click a button, and the system will make three consecutive calls and send a text message to the number that was previously saved. The user's location is communicated by text message using the GPS.[2]

The transmitter and receiver are used by which the system provides alert and sends messages automatically when the RF signal between the receiver and transmitter goes low. This safety device also contains a button that is pressed by women whenever they feel they are in danger. The android application will be useful when one forgets to carry the device. Through which one can make a call and send the location

along with the current address to the emergency contacts and police station on a single click as well as the system plays a siren sound to divert the attacker and to alert the nearby people. In case of accidents and fire alerts, one can also inform the hospitals and fire stations. The signal can also be shared on social media. The system provides a realizable, cost-effective solution to problems related to women.[3]

In today's world, women's safety has become a serious concern since they are afraid of physical and sexual abuse and violence if they leave their homes at any moment. This document contains the many thoughts and approaches ofmany writers who have reviewed numerous programmes and tools employing the most up-to- date technology and processors and enhanced them to meet particular requirements to minimise violence against women. This project introduces women's safety through GPS monitoring and alerts via the ARDUINO system, which can be connected to an alarm system and notify a neighbour. The GPS, ARDIUNO receiver, and GSM modem are all used in this messaging system. The suggested idea attempts to create an IoT-based security gadget that relieson women's fingerprints for safety.[4]

This mobile application used in smart phone in which, when power button is pressed two times helping message regarding the location of women(user) will be sent to already stored contacts. Sent information (location) is updated after every two minutes Three engineers designed a clothing which has electric circuit. 3800kV of current is generated by circuit. It will generate 82 electric shocks which will help women to get rescue from the situation in case of multiple attacks. It will not harm the women(user) because the clothing is made up of two layers We got idea of including buzzer in system to grab attention of nearby people so that she will get help from them [5]

This describes an equipment which consists of a GPS module by which one can get the geographical location via SMS. In case of any emergency conditions, she can press a button once, and then the location will be tracked and sent to police and relation so that they will know the exact location of the individual, so that the incident could be prevented and the culprit is apprehended These applications allow the users to register themselves on the app by creating their account. After making an account, users would be qualified to use all the services intended to protect and empower them When activating the camera or video option automatically on button click, sometimes an offensive photograph can also be taken, which may rarely lead to suicidal issues.[6]

The Image metadata was used to determine the location of the individuals. The GPS mapper uses background metadata to determine a person's location via image and video. It can determine the altitude, longitude, and position of a person who has submitted their photographs to social media with the use of GPS mapper. However, this approach will not be able to generate an image for someone who has not yet submitted it to social media.[7]

The Two methods of emotion representation are combined in the emotic database. Automatic emotion identification offers a wide range of uses in situations where machines must interact with or monitor humans. For example, on an online learning platform, automatic tutors might provide better feedback to a student based on her degree of motivation or annoyance. Also, if a car capable of supporting a driver thinks the driver is weary or stressed, it can intervene or sound an alarm.[8]

Chapter 3

SEMINAR DESCRIPTION

3.1 Existing System

The Advanced RISC Machines(ARM) controller, tactical pen, necklace, key chain are examples of existing gadgets. When a button is hit, these gadgets broadcast the GPS location to the emergency contacts that have been pre-programmed. The existing approach has solely concentrated on discriminating between different sorts of emotions. Due to a paucity of data, the processing of the context for automatic emotion recognition has not been thoroughly investigated. Valence, arousal, and dominance are the only three forms of emotions recognised. There are no actions done as a result of the information supplied. The system is sluggish and only recognises three different sorts of emotions. In this seminar, no accuracy is expected.With this method, identifying photos is a difficult and time-consuming operation. Existing gadgets only broadcast the user's GPS location if the user has performed some kind of action. No actions have been made as a result of the information received.

3.1.1 Advantages

•This device can function even if you don't have access to the internet.

•It's an all-in-one solution.As a result,there is no need to carry several gadgets.

•When the battery runs out, the prestored contacts are automatically sent to destination.

•It takes audio recordings that can be usedin future investigations.

3.1.2 Disadvantages

•It was exhausting to keep an eye on everything.

•Error in the arrival rate.

•There is no small secret camera detector to protect our privacy.

•If the GPRS service is work properly then it cannot be used in emergency if there is no internet connectivity.

3.2 Feasibility Study

The suggested technique includes the creation of useful information based on the emotions of various people. To achieve the goal, Alex Net and Logistic Regression methods are used. To improve accuracy, optimization techniques such as stochastic gradient descent(SGD) and regularisation methods are used. IoT is also incorporated, and message transmission is implemented for taking action against the person, in addition to mood recognition.

Chapter 4

METHODOLOGIES

4.1 Face detection and authentication

When the robot is first turned on, the camera recognises the face in front of it and compares it to a database of known faces(fig 4.1) The collected face is passed through the training sequence, where it is converted to matrix format and compared to the current reference database. If the face is verified, the robot will begin to move forward and do continual checks. If the face cannot be verified, the buzzer will sound, alerting the owner.
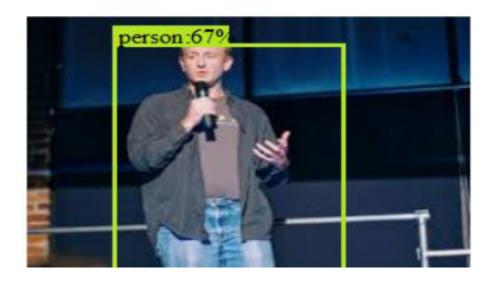

Figure 4.1: No Crime

4.2 Detection system using CNN

Images are captured with the help of the Pi Camera. The Haar cascade classifier is used to detect objects and people in a photograph. If the CNN model identifies a weapon or suspicious activities(fig 4.2), the authorised user is notified.
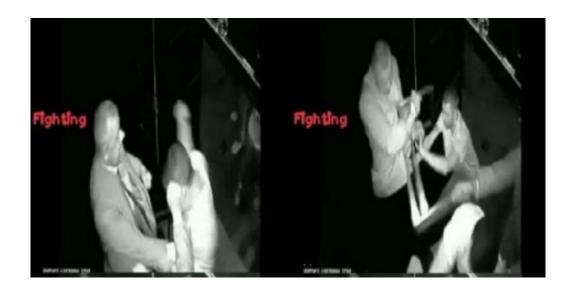

Figure 4.2: Crime Detected

Chapter 5

RESULTS AND DISCUSSIONS

According to the results, the GPS, GSM and sensors can only be used to track users' close positions and can only send alert SMS to a restricted number of people. There is a buzzer in the present system that informs people when they are in danger, and the mobile app assures the safety of women by using a buzzer system to send alert SMS, and the user will share their location with their family members. As a result, a new system must be built that can transmit alarm signals without the need for human participation. By sensing more physical human body factors, the accuracy of identifying female violence can be improved.

Chapter 6

CONCLUSION AND FUTURE ENHANCEMENTS

6.1   Conclusion

Despite the Indian administration's introduction of several efficient rules and regulations to address and control crimes against women, the number and frequency of crimes against women continues to rise. In recent years, the country's treatment of women has become increasingly disrespectful and deplorable. It has lowered women's self-assurance about their safety in their own country. Women are concerned about their safety and are hesitant to leave their homes (office, market, etc). We should not blame the government for women's safety; every Indian citizen, particularly men, must improve their attitudes toward women.

6.2   Future Enhancements

This system can be improved in the future by turning it into a real-time hardware kit that can be sold as a product for women's safety in today's environment. Furthermore, the accuracy of future expanding deep learning algorithms, as well as the addition of more activities to be identified by the system, can improve this.In this field they are more chance to develop or convert this project in many ways. Thus this project has an efficient scope in coming future where this idea can be converted to computerized production in a cheap way.

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