

# Survey: Women safety and security with Artificial Intelligence

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## Abstract

Artificial intelligence (AI) is one of the oldest and best known research field in computer science which is aimed at giving intelligence in machines. Artificial intelligence is a multidisciplinary field whose goal is to automate Activities that presently require human intelligence. In AI include computerized medical diagnostics and systems that automatically customize hardware to particular user requirements. The major problem areas addressed in AI can be summarized as perception, manipulation, reasoning, communication, and learning. Many important technical concepts have arisen from AI that unify these diverse problem areas and that form the foundation of the scientific discipline. The acquisition and encoding of real world knowledge into AI architecture.

**Keywords:** AI, Machine Learning, security, computer science

## INTRODUCTION

Since last few decades the status of women in India has been going through lot of changes. To remain part of fast life women also works a lot to survive and supports their family. They work at different places like BPO's, call centers, IT firms, and so many places like it. But even today's women are still facing many social challenges in India and are often victims to violent crimes Thomson Reuters had said that," according to global poll, India is the 4th most worst country in the world and the dangerous country for women among growing 20 countries."

There are lot many techniques and devices for women safety Basically women safety devices are used for security of women such devices include Voice recognition, electric shock, sensors and cameras. With the help of artificial intelligence we can save women from getting harassed in public Transports and remote areas. Artificial intelligence is a machine intelligence demonstrated by machines and natural Intelligence is displayed by humans and animals. Which helps computer to think like human and behave like human.

This Project presents a women safety detection system using GPS and GSM modems. The system can be inter- connected with the alarm system and alert the neighbors. This detection and messaging system is composed of a GPS receiver, Microcontroller and a GSM Modem. GPS Receiver gets the location information from satellites in the form of latitude and longitude. The Microcontroller processes this information and this processed information is sent to the user using GSM modem A GSM modem is interfaced to the MCU. The GSM modem sends an SMS to the predefined mobile number. When a woman is in danger and in need of Self defense then she can press the switch which is allotted to her. By pressing the switch, the entire system will be activated then immediately a sms will be sent to concern person with location using GSM and GPS.

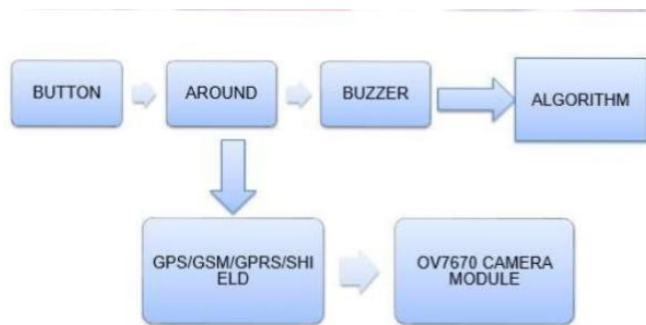
## METHODOLOGY

In this project, we are designing a device which will help women for safety purposes during emergency situations. We are designing a micro camera which can be embeded in jewellery and clothes. By button click image of enemy will be clicked and sent to area police and relative directly. This device will be really helpful find suspect immediately. The idea to develop smart device for women is that its completely easy to use in an emergency situations.

## PROPOSED SYSTEM

1. It will work by clicking button when women will me danger and in hard situation.
2. After button click SMS will be sent to her near and dear once including police with location.
3. And we can find her though GPS

But this all of the things are okay but I would like implement an algorithm in this proposed system for faster and accurate result. I have thought about implementing support vector machines. Shown in fig.1.1



### 1. SUPPORT VECTOR MACHINES

SVM is an algorithm that classifies data using a hyperplane, making sure that distance between the hyperplane and support vector is maximum. The goal of the SVM algorithm is to create the best line or decision boundary that can segregate n-dimensional space into classes so that we can easily put the new data point in the correct category in the future. This best decision boundary is called a hyperplane.

Example: SVM can be understood with the example that we have used in the KNN classifier. Suppose we see a strange cat that also has some features of dogs, so if we want a model that can accurately identify whether it is a cat or dog, so such a model can be created by using the SVM algorithm. We will first train our model with lots of images of cats and dogs so that it can learn about different features of cats and dogs, and then we test it with this strange creature. So as support vector creates a decision boundary between these two data (cat and dog) and choose extreme cases (support vectors), it will see the extremecase of cat and dog. On the basis of the support vectors, it will classify it as act.

## TECHNIQUES

- ALGORITHM
  1. On supplying power to the circuit, GPS, GSM,LCD, MEMSSensor are initialized.
  2. GPS values get update and it will be waiting for sensor values.
  3. If the sensor is abnormal then it will send a SMS to the family member and turn on shock protection.
  4. If sensor is in normal condition then Shock protection is off and GSM will wait for sensor abnormality.
  5. A message is displayed on the LCD screen when shock is in ON condition for visual view of project.
  6. Finally the operation stops.

- TOOLS TO BE USED
1. The algorithm can either be implemented on machine Learning Techniques.
  2. Usage of tracking women.
  3. SENSOR to be used for detecting women
  4. Micro cameras which will record the situation.

## LITERATURE REVIEW

AI based women security system[2019]Author: Sruthi CK1\*, Mridul K2, Zayan K3, Ashin V4, Sreehari K51\*, 2, 3, 4, 5 Department of ElectricalElectronics, College of Engineering Thalassery Eranholi .P.O, Thalassery, Kannur-Dt., Kerala, 670673Publication: IJSRR. Summary: In this they have showed different security technique for women security. system would be able to provide help and care toward the women and they will safer and allows them to work even at late nights. This system also helps to plan better security by classifying various threat regions from the data obtained from database and hopefully reduce the crime against women to a great extent.[1]

Artificial intelligence based self protection device for women Author: ms.anchal c desh mukh,ms annushree c desh mukh, deepthi g fadness,mharshita s p Publication:38S0037 East point college of engineering and technology, bengluru. Summary: In this, they have designing a device which can be carried by women anywhere and they can use it in emergency situations.[2]

IoT based artificial intelligence women protection deviceAuthor: ambika b r,poornima g s,thanushree k m,swetha kPublication: IJERTISSN:27780181Summary: Describes about smart intelligent security system for women. Electric shock and live streaming video using webcam is incorporated in spectacles that act as weapon of smart technology. system include mechanisms like tear shock release, screaming alarms, live streaming video and also alerting and sending the messages with the location. This system can overcome the fear that scares every woman in the country about her safety and security. With further research and innovation, this project can be implemented in different areas of security and surveillance. The system can perform the real time monitoring of desired area and detect the violence with a good accuracy.[3]

Location tracking based women safety system with electric shock Author: sheikh mahommad rassol, sayeda bisma Fatima Publication: Science and technology development ISSN:09500707 Summary: This Project presents a women safety detection system using GPS and GSM modems. This detection and messaging system is composed of a GPS receiver, Microcontroller and a GSM Modem. The project "Location Tracking Based Women Safety System With Electric Shock" been successfully designed and tested. It has been developed by integrating features of all the hardware components used. Presence of every module has been reasoned out and placed carefully thus contributing to the best working of the unit. Secondly using highly advanced IC's and with the help of growing technology the project has been successfully implemented.[4]

Empirical study on women safety concerns at public places: case study of Lahore city Author: Muhammad Usman Bajwa, Aisha Khan, Muhammad Nadeem Summary: This study delivers significant finding that give answers to key questions posed concerning the issues of females' safety in public places of Lahore.[5]

Touch me not-A women safety device Author: E-ISSN- 2395-0056 Jismi Thomas, Maneesha L J, Nambissan Shruthi Vijayan, prof Divya R Summary: This Project presents a women safety detection system using GPS and GSM modems. This detection and messaging system is composed of a GPS receiver, Microcontroller and a GSM Modem.[6]

Women security safety system using artificial intelligence Author: Journal: IJRASET ISSN: 23219653 Rajesh Nasare, Aishwarya Shende, Radhika Aparajit, Sayali Kadukar, Pratiksha Khachane And Mrunal

Gaurkar Summary: SVM algorithm helps our application to detect crime related places.[7]

Women safety application- MWithU Author: Journal: IJRESM ISSN: 25815782 Abhijeet Singh, Vishnu Boradiya Summary: Made application and device for women to easy use.[8]

## CONCLUSION

This type of an idea plays a crucial role towards Women Safety in the fastest Possible way. The proposed design will deal with critical issues faced by women. And will help solve them through technologically sound devices and applications on artificial intelligence-based techniques. With further research and innovation, this project can be implemented in different areas of security and surveillance.

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[5]. Author: Muhammad Usman Bajwa, Aisha Khan, Muhammad Nadeem Summary: This study delivers significant finding that give answers to key questions posed concerning the issues of females' safety in public places of Lahore.

[6]. Women security safety system using artificial intelligence Author: Journal: IJRASET ISSN: 23219653 Rajesh Nasare, Aishwarya Shende, Radhika Aparajit, Sayali Kadukar, Pratiksha Khachane And Mrunal Gaurkar Summary: SVM algorithm helps our application to detect crime related places.

[7]. Women safety application- MWithU Author: Journal: IJRESM ISSN: 25815782 Abhijeet Singh, Vishnu Boradiya Summary: Made application and device for women to easy use.

[8]. Women safety application- MWithU Author: Journal: IJRESM ISSN: 25815782 Abhijeet Singh, Vishnu Boradiya Summary: Made application and device for women to easy use.

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