

Home (<https://ipindia.gov.in/>) About Us (<https://ipindia.gov.in/Home/AboutUs>) Policy & Programs (<https://ipindia.gov.in/Home/policypages>) Achievements (<https://ipindia.gov.in/Home/achievementspage>) RTI (<https://ipindia.gov.in/Home/righttoinformation>) Sitemap (<https://ipindia.gov.in/Home/Sitemap>) Contact Us (<https://ipindia.gov.in/Home/contactus>)

[Skip to Main Content](#)



(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic>)

## Patent Search

|                         |  |
|-------------------------|--|
| Invention Title         | An Intelligent Neck Wearable Device for women safety using Deep Neural Network |
| Publication Number      | 06/2022  |
| Publication Date        | 11/02/2022   |
| Publication Type        | INA  |
| Application Number      | 202241006370   |
| Application Filing Date | 07/02/2022   |
| Priority Number         |  |
| Priority Country        |  |
| Priority Date           |  |
| Field Of Invention      | COMPUTER SCIENCE   |
| Classification (IPC)    | G06N0003080000, G06N0003040000, A61B0005000000, G08B0021020000, G01D0021020000 |

### Inventor

| Name               | Address   | Country |
|--------------------|---|---------|
| Dr.K.Muthumanickam | Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                             | India   |
| Mr.N.Premkumar     | Associate Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.R.Palani Kumar  | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.G.Karthik       | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.J.Sathishkumar  | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.P.Dineshkumar   | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.S.Simon Thomas  | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mrs.B.Ananthi      | Assistant Professor, Department of Computer Science and Engineering, Vivekanandha College of Engineering for Women (Autonomous), Namakkal | India   |

### Applicant

| Name               | Address   | Country |
|--------------------|---|---------|
| Dr.K.Muthumanickam | Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                             | India   |
| Mr.N.Premkumar     | Associate Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.R.Palani Kumar  | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.G.Karthik       | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.J.Sathishkumar  | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.P.Dineshkumar   | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mr.S.Simon Thomas  | Assistant Professor, Department of Information Technology, Kongunadu College of Engineering and Technology (Autonomous)                   | India   |
| Mrs.B.Ananthi      | Assistant Professor, Department of Computer Science and Engineering, Vivekanandha College of Engineering for Women (Autonomous), Namakkal | India   |

### Abstract:

Women and girls have been subjected to a great deal of violence and harassment in public areas around the country, ranging from stalking to sexual harassment and to the rise in crimes against women in recent years, women's safety has become a major concern. Artificial Intelligence (AI) is a computer software that has been programmed to do a certain task based on the needs of the users. Artificial Intelligence (AI) can recognize, collect, and understand patterns. Users are given ideas by AI, which uses them for their own safety. Women's safety devices that have AI and Machine Learning capabilities will collect data and patterns over time and then send pre-generated responses to users when they travel a specific path to their destination. Deep learning is being widely used to protect women all around the world. This design offers a safety device that can be worn around the neck. This device can respond appropriately in crucial situations both automatically and manually. For self-defense, a neck wearing device includes a microphone sound detection module, GPS sensor, Raspberry Pi, Heartbeat Sensor, Accelerometer Sensor, and a tear gas system. The Deep Neural Network method is used to monitor the sound produced by the environment and classify the words, compare them, and therefore determine the threat level. The proposed invention will be able to clearly identify the victim's situation and surroundings using a microphone sound detection module that has been trained to recognize her voice and respond appropriately as well as assist her in dangerous situations by calling for help and providing on-time protection with tear gas. This device also includes a system that provides dual alarm event that a woman is harassed or believes she is in danger.

**Complete Specification**

Claims:1. The microphone sound detection module, GPS sensor, Raspberry Pi, Heartbeat Sensor, Accelerometer Sensor, and tear gas system are all included in the Wearable.

2. The GPS Sensor is utilized to gather reliable, real-time location-based information about women to safeguard his safety, according to Claim 1.
3. Microphone sound detection module is utilized to detect sound signals near women, according to Claim 1.
4. According to Claim 1, a heartbeat sensor is utilized to measure a woman's heart rate every second, and the data is sent to a Raspberry Pi for analysis.
5. In accordance with Claim 1, an accelerometer sensor is used to detect acceleration and monitor the activities of a woman's body.
6. According to Claim 1, tear gas causes discomfort to the eyes, mouth, throat, lungs, and skin, rendering persons temporarily unable to operate when ladies are experiencing problems outside.

, Description:The current invention is generally concerned with determining a woman's level of safety/threat. More particular, the invention protects women from dangerous situations by allowing the GSM embedded in the device to be worn around the neck.

**BACKGROUND OF THE INVENTION**

Methods and systems for anticipating a potentially hazardous or harmful occurrence and offering varied levels of response to a user are covered by the disclosure. The current invention in one embodiment offers a user with varied levels of support prior to, during, and after a threatening situation happens. The system may be ab

[View Application Status](#)

[Terms & conditions \(https://ipindia.gov.in/Home/Termsconditions\)](https://ipindia.gov.in/Home/Termsconditions) [Privacy Policy \(https://ipindia.gov.in/Home/Privacypolicy\)](https://ipindia.gov.in/Home/Privacypolicy)

[Copyright \(https://ipindia.gov.in/Home/copyright\)](https://ipindia.gov.in/Home/copyright) [Hyperlinking Policy \(https://ipindia.gov.in/Home/hyperlinkingpolicy\)](https://ipindia.gov.in/Home/hyperlinkingpolicy)

[Accessibility \(https://ipindia.gov.in/Home/accessibility\)](https://ipindia.gov.in/Home/accessibility) [Contact Us \(https://ipindia.gov.in/Home/contactus\)](https://ipindia.gov.in/Home/contactus) [Help \(https://ipindia.gov.in/Home/help\)](https://ipindia.gov.in/Home/help)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019