Problem Statement:

In India, women's safety remains a critical issue, with reports of violence, harassment, and assault continuing to rise. According to the National Crime Records Bureau (NCRB), crimes against women increased by over 7% in 2022, with more than 4.3 lakh cases reported across the country. Despite government initiatives like panic buttons in public transport and mobile apps, these solutions are largely reactive and require manual activation. Often, they fail to provide the real-time protection necessary during critical situations, especially in remote areas where immediate help is not always available.

Objectives:

- ❑To analyze crowd data and identify high-risk areas based on crime statistics.
- ❑To identify potential threats or individuals of interest through facial recognition technology.
- ❑To provide a quick and discreet way for users to send distress signals to designated contacts or authorities.
- ❑To detect signs of violence or aggression in public spaces through surveillance cameras.

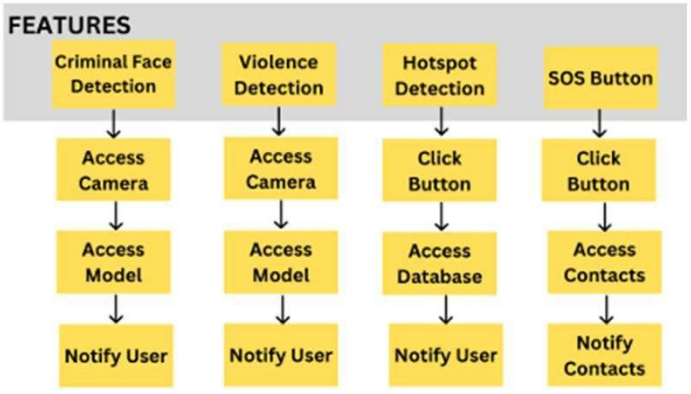
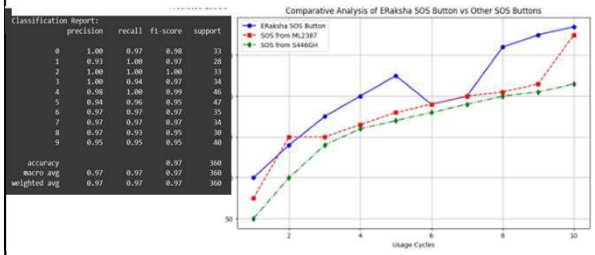


Fig. 1. System Architecture



Results And Analysis:

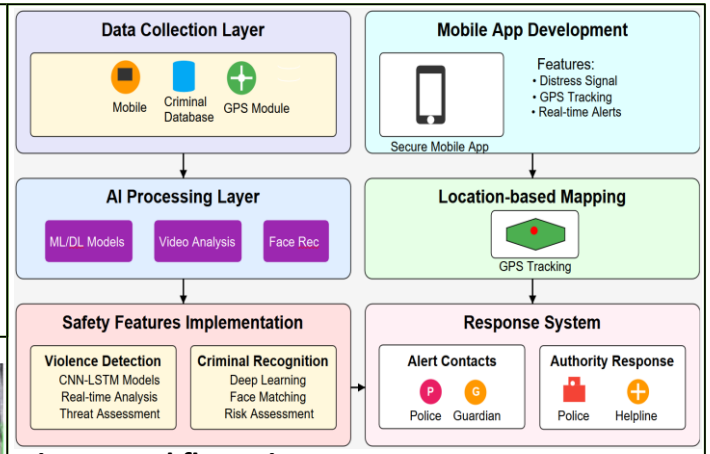


Fig.1. Workflow Diagram

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[1] Muhammad Rizwan, Muhammad Waqas, Ali Hassan, Real-Time Violence Detection Using CNN-LSTM, arXiv.org, Vol. 15, Pages 123-135, 2021.

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[3] Zeshan W. Gillani, Ayesha Naz, Efficient Video-Based Violence Detection, MDPI Sensors, Vol. 22(6), Pages 2216-2230, 2022.

CONCLUSION:

E-Raksha: Your Personal Safety Companion is an innovative Android-based solution enhancing women's safety through advanced technology. It addresses rising crime rates in India by integrating software and hardware, including video violence detection, criminal face recognition, and GPS-based real-time tracking via smartwatches and SOS buttons. Key features include mobile and button cameras for video analysis, GPS modules for location sharing, and AI-powered tools like CNNs for violence detection and deep learning for facial recognition. E-Raksha overcomes existing safety tool limitations such as privacy concerns, real-time processing challenges, and infrastructural barriers. The user-friendly app empowers women to handle threats discreetly and supports both urban and rural users. With ongoing user feedback, E-Raksha evolves to meet changing needs, aiming to foster a safer society while promoting women's safety and empowerment.