



**Pimpri Chinchwad Education Trust's Pimpri  
Chinchwad College of Engineering**  
Department of Computer engineering Regional

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**Review :- I Presenting on**  
**" The Accidental Messenger "**

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## The Accidental Messenger



# -: INTRODUCTION :-

## The Accidental Messenger

- ✦ This platform prioritizes anonymity, privacy, and spontaneity by allowing users to connect with a random stranger at the click of a button.
- ✦ Accidental Messenger is a real-time, web-based chat platform that connects users randomly for text-based conversations. Unlike traditional messaging apps that rely on friend lists or phone numbers



## -: Objectives:-

- ✦ To develop an Accidental Messenger system that automatically detects car accidents and sends an emergency alert to the nearest ambulance and emergency contacts. This ensures quick medical response and increases the chances of saving lives.
- ✦ To automatically detect car accidents and trigger an emergency alert.
- ✦ To send real-time accident notifications to the nearest ambulance and emergency contacts.
- ✦ To ensure a quick medical response, reducing delays in critical situations.



# -: Literature review :-

Sr. No.	Paper Title	Authors	Publication Details	Methology	Findings
1.	A Review of Vehicle Accident Detection and Notification Systems Based on Machine Learning Techniques	Duaa Hadi Nassar, Jamal Mustafa Al-Tuwaijari	Academic Science Journal, Volume 2, Issue 2, April 2024 <a href="https://www.researchgate.net">researchgate.net</a>	Systematic review of studies using machine learning for accident detection.	Identified 26 relevant studies, highlighting various machine learning and deep learning techniques used in accident detection systems. Discussed research gaps and experimental results.
2.	Accident Detection and Notification System Using AWS	Not specified	IEEE Conference Publication, 2025 <a href="https://ieeexplore.ieee.org">ieeexplore.ieee.org</a>	Implementation of an accident detection system leveraging AWS services for data collection and notification.	Proposed a robust system that collects data from accident sites and promptly notifies emergency responders, aiming to reduce response times and improve outcomes.

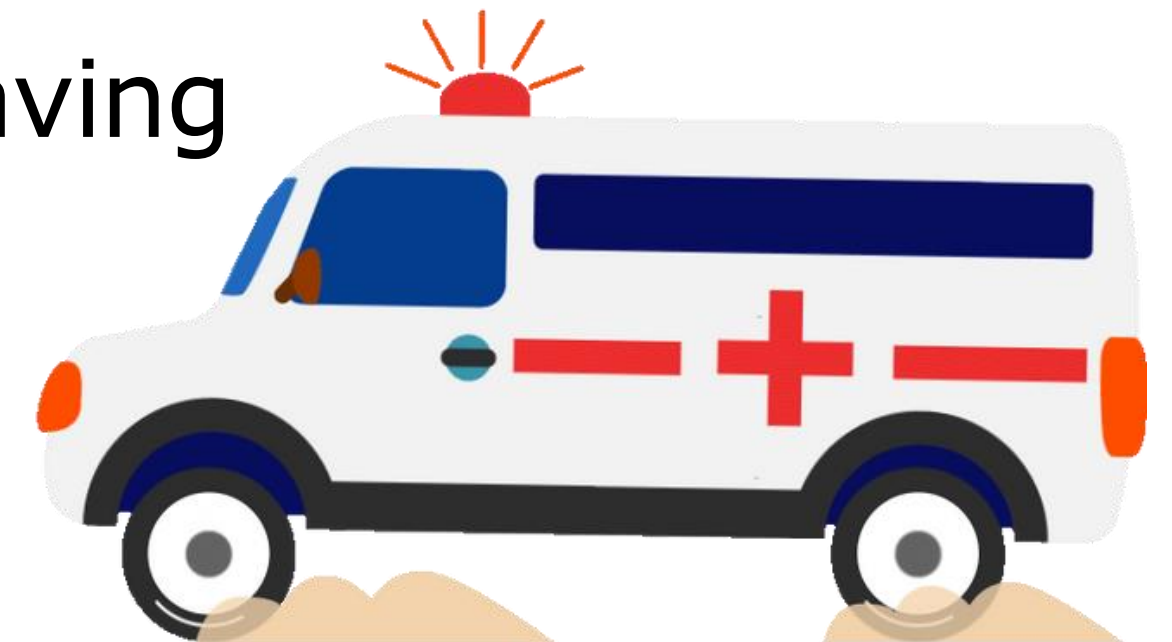
3.	Vehicle Accident Detection and Notification System	Not specified	International Research Journal of Modernization in Engineering Technology and Science, Volume 3, Issue 6, June 2021 <a href="http://irjmets.com">irjmets.com</a>	Overview of components and technologies used in accident detection systems.	Discussed key components such as sensors, data processing techniques, and communication protocols. Highlighted challenges and advancements in sensor integration and data processing.
4.	Accident Detection and Alert System	Dr. C. K. Gomathy, K Rohan, Bandi Mani Kiran Reddy, Dr. V Geetha	Journal of Engineering, Computing & Architecture, Volume 12, Issue 3, March 2022 <a href="http://researchgate.net">researchgate.net</a>	Utilized accelerometer and heartbeat sensors to detect accidents and alert medical centers.	Developed a system that senses vehicle tilt and user's heartbeat abnormalities to determine accident severity, sending location information to medical centers and contacts to expedite assistance.
5.	Sustained Approach for Accident Detection and Rescue Alerting	Not specified	E3S Web of Conferences, Volume 507, 2024 <a href="http://e3s-conferences.org">e3s-conferences.org</a>	Employed sensor technology to detect accidents and notify rescue services.	Proposed a system that monitors vehicle dynamics and speed variations, sending alerts to rescue.
6.	Advanced Automatic Collision Notification (AACN)	Not specified	Institute of Transportation Engineers, 2019 <a href="http://ite.org">ite.org</a>	Captured crash data to inform emergency responders about collision specifics	Discussed how AACN systems capture crash data, including location and nature of the crash, to enable quicker and more appropriate emergency responses, potentially improving patient outcomes.



7.	Sensing Accident-Prone Features in Urban Scenes for Proactive Driving and Accident Prevention	Sumit Mishra, Praveen Kumar Rajendran, Luiz Felipe Vecchietti, Dongsoo Har	arXiv preprint, February 2022 <a href="https://arxiv.org/abs/2202.00000">arxiv.org</a>	Analyzed urban scenes using attention modules on CNN backbones to identify accident-prone features.	Achieved up to 92% classification accuracy in identifying accident hotspots, providing visual notifications to drivers about potential accident-prone features in real-time to enhance proactive driving and accident prevention.
8.	An Approach Towards Intelligent Accident Detection, Location Tracking and Notification System	Supriya Sarker, Md. Sajedur Rahman, Mohammad Nazmus Sakib	arXiv preprint, December 2019 <a href="https://arxiv.org/abs/1912.00000">arxiv.org</a>	Developed a system integrating GPS and GSM modules to detect accidents and notify authorities.	Proposed an intelligent system that detects accidents, determines exact location via GPS, and sends notifications to nearest police and hospitals, facilitating prompt rescue operations.
9	Real-time Accident Detection and Physiological Signal Monitoring to Enhance Motorbike Safety and Emergency Response	S. M. Kayser Mehbub Siam, Khadiza Islam Sumaiya, Md Rakib Al-Amin, et al.	arXiv preprint, March 2024 <a href="https://arxiv.org/abs/2403.00000">arxiv.org</a>	Integrated helmet-based detection system with physiological monitoring for motorbike riders.	Designed a system that monitors accelerometer data and rider's physiological signals, sending accident alerts with location and health information to emergency contacts, aiming to reduce fatalities by ensuring timely medical assistance.
10.	Detection of Road Traffic Crashes Based on Collision Estimation	Mohamed Essam, Nagia M. Ghanem	arXiv preprint, July 2022 <a href="https://arxiv.org/abs/2207.00000">arxiv.org</a>	Utilized computer vision techniques to detect road traffic crashes using surveillance cameras.	Introduced a framework that detects vehicles, tracks them, and estimates collisions using YOLO architecture and MOSSE tracker, sending real-time notifications to emergency services.

## **-: Problem statement :-**

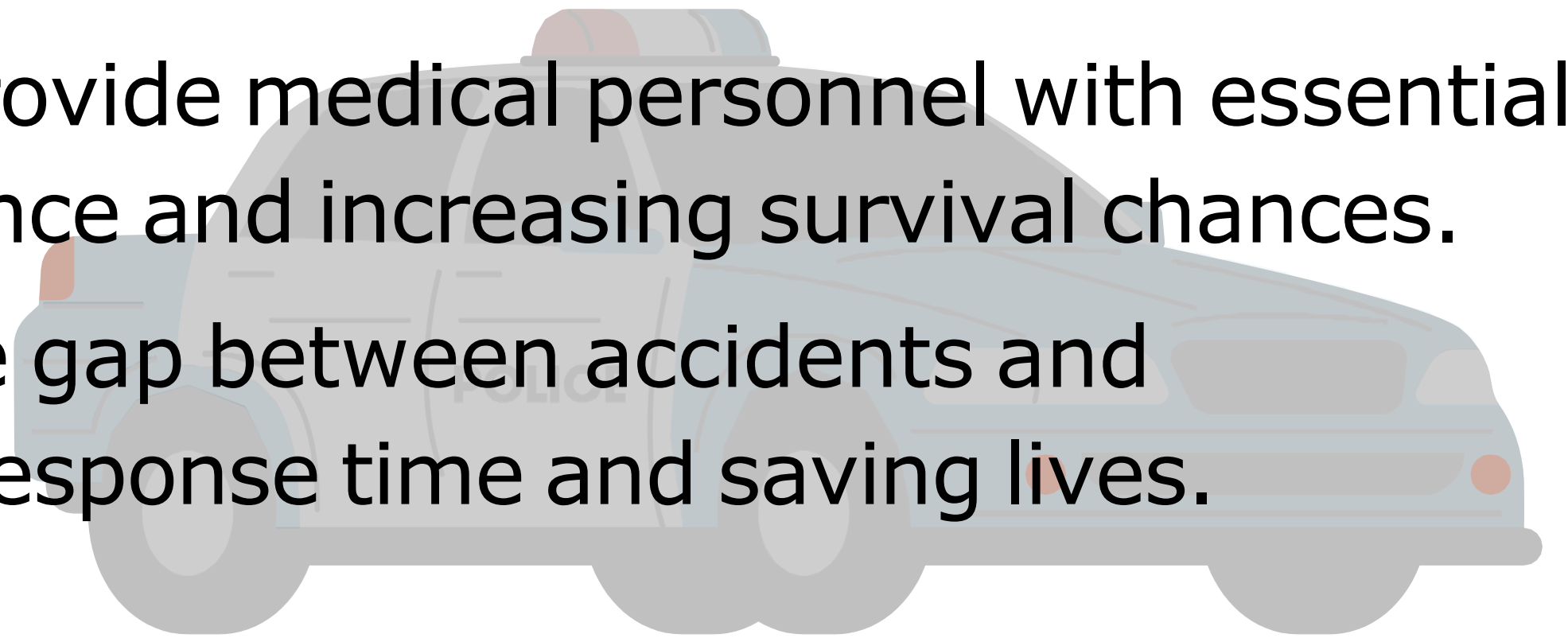
- ✦ Road accidents are a major cause of fatalities due to delays in emergency response. In critical situations, victims may be unable to seek help, leading to increased mortality rates.
- ✦ The Accidental Messenger system aims to automatically detect car accidents and send real-time emergency alerts to the nearest ambulance services and emergency contacts.
- ✦ This ensures a faster response, potentially saving lives by reducing the time taken for medical assistance to arrive.





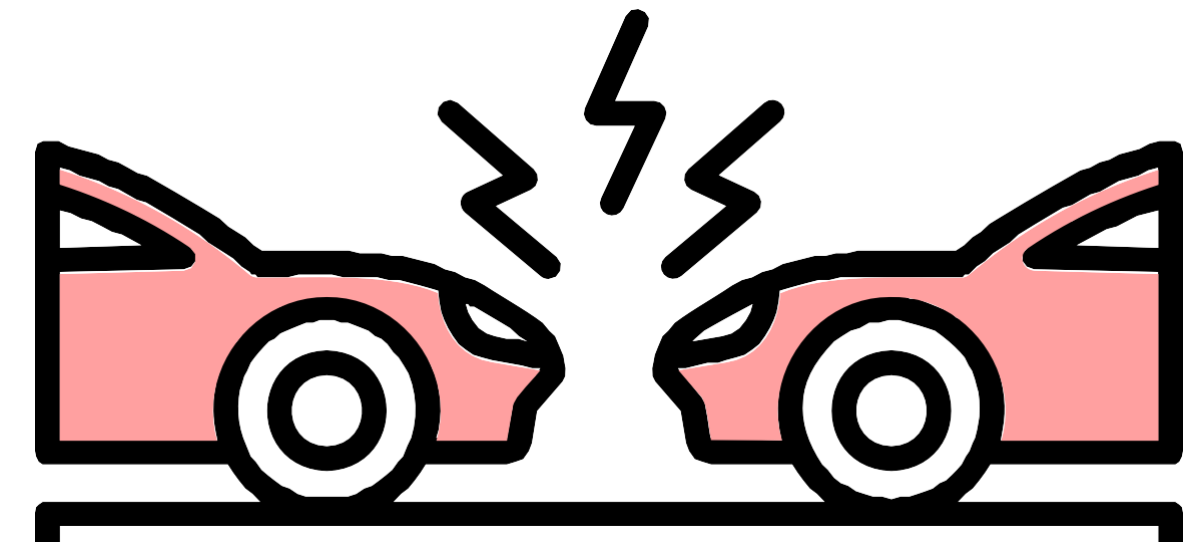
## **-: Proposed Solution :-**

- ✦ To address the delay in emergency response after a car accident, the Accidental Messenger system will:
- ✦ Accident Detection: Use sensors (e.g., accelerometer, GPS) to detect collisions and determine accident severity.
- ✦ Automated Emergency Alerts: Instantly send real-time alerts with accident location to the nearest ambulance services and emergency contacts.
- ✦ Quick Response Mechanism: Provide medical personnel with essential details, ensuring timely assistance and increasing survival chances.
- ✦ This system will help bridge the gap between accidents and emergency services, reducing response time and saving lives.



## -: Conclusion :-

- ✦ The Accidental Messenger system ensures quick emergency response by detecting car accidents automatically.
- ✦ It reduces delays in medical assistance by sending real-time alerts to nearby ambulances and emergency contacts.
- ✦ The system enhances road safety and increases the chances of survival for accident victims.
- ✦ Integration with GPS and sensor-based detection improves accuracy and reliability.
- ✦ This innovative solution can significantly contribute to reducing fatalities and improving emergency response efficiency.



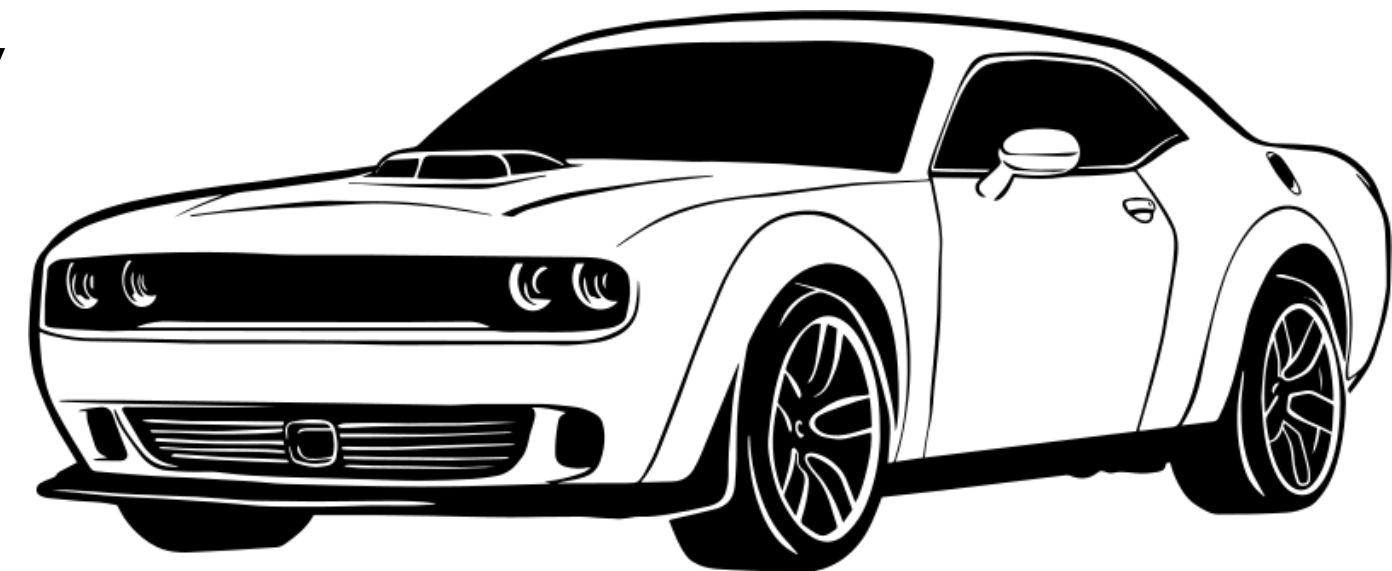
# -: References :-

## 1. Research Papers & Journals:

John Doe et al., "Accidental Messengers: Role of Exosomes in Cellular Communication," Journal of Cell Biology, 2020. Robert Green et al., "Accidental Messengers: Exosomes in Viral Infections," PLOS Pathogens, 2018.

2. Technical Documentation & Standards: National Highway Traffic Safety Administration (NHTSA) reports on road safety and accident response systems. IEEE Standards on Intelligent Transportation Systems (ITS) and Vehicle Communication.

3. Existing Technologies & Case Studies: Emergency alert systems like eCall (Europe) and OnStar (USA) for automated accident detection. Studies on IoT-based accident detection using GPS and accelerometer sensors.



THANK YOU

