

Rob-Alert: Preventing Robberies with Real-Time Monitoring and Response

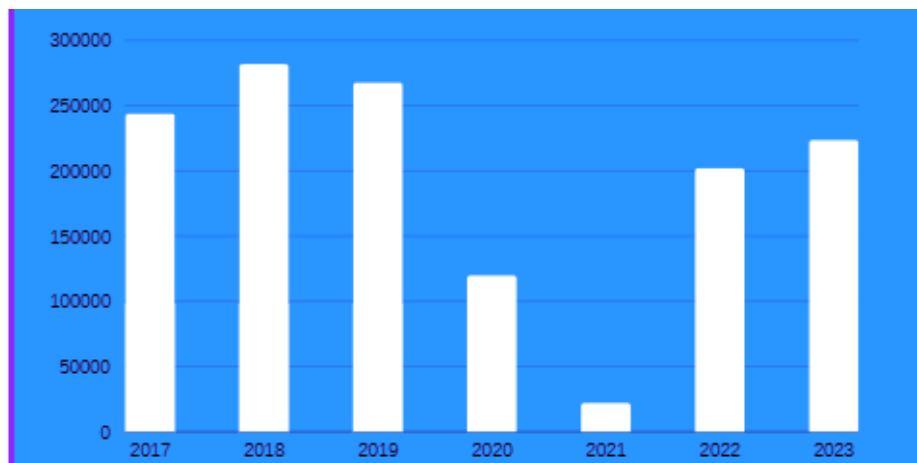
Understanding the Problem

In areas like Hyderabad's Akbar-Bagh, incidents of robbery have become a growing concern. In a recent case, a jewellery shop was robbed in broad daylight, with the shopkeeper being attacked and injured. The lack of timely police intervention was a key factor that allowed the robbers to escape. This highlights two critical challenges in robbery prevention:

1. **Limited Resources:** Police often lack the manpower or resources to constantly patrol high-risk areas.
2. **Response Time:** Robberies occur swiftly, making it difficult for authorities to intervene in time when they are not informed promptly.

The Robbery Problem

Data shows a significant rise in robbery incidents over the years, raising serious concerns about public safety. Traditional methods of crime prevention are proving insufficient, creating an urgent need for innovative solutions.



Proposed Solution: Rob-Alert

Rob-Alert is a hardware solution designed to prevent robberies by combining real-time monitoring and an integrated safety mechanism. The device can be installed in shops and will utilize advanced technologies to:

1. **Monitor:** The device will constantly monitor the shop, using computer vision to detect any individual wielding a weapon (such as a gun or knife) and aiming at the shopkeeper or another person.
2. **Alert Authorities:** Upon detection, the system will immediately sound an alarm, and notify local police via an automated call or message. This alert will include live images from the scene and the shop's location details.
3. **Defensive Action:** If the robber persists and poses an immediate danger to the shopkeeper, the system is equipped with a defensive mechanism (like a taser), which will be triggered with proper and prior approvals. This mechanism will only activate if the robber continues to threaten the shopkeeper's life.

Technology Integration

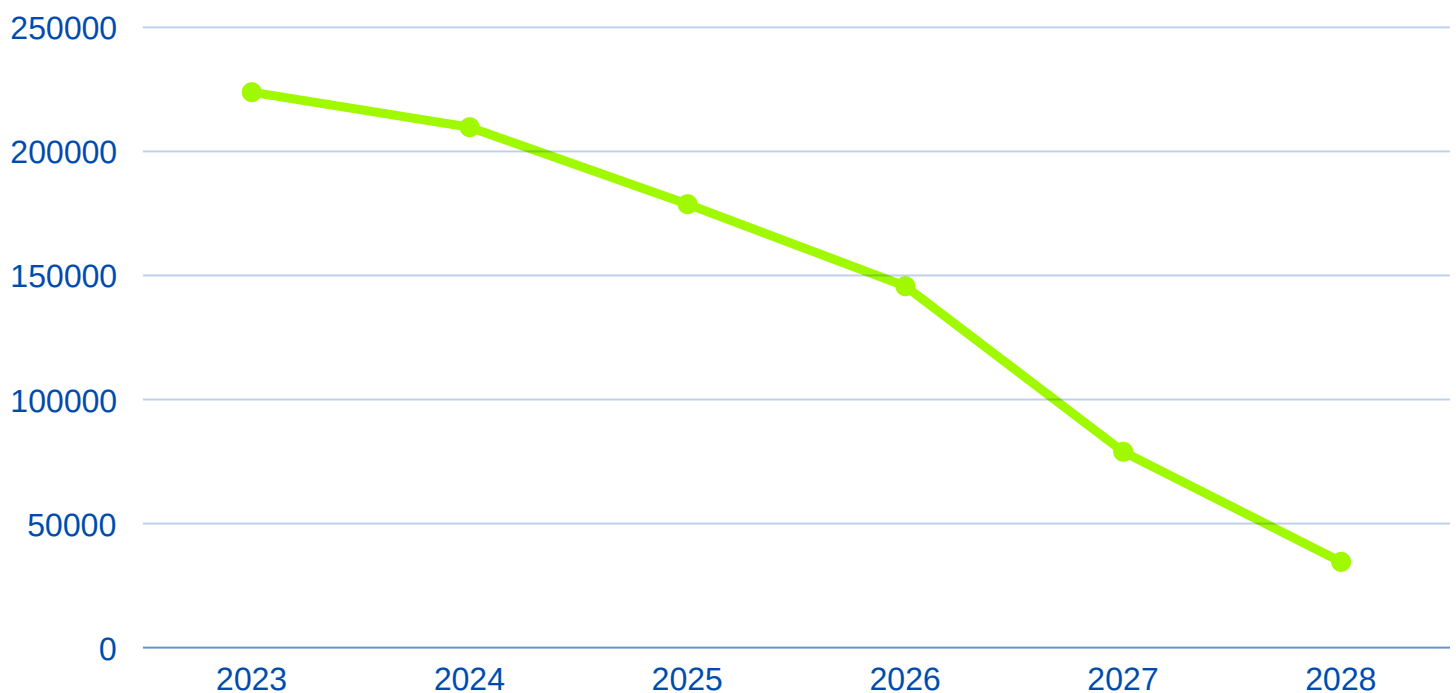
The system is trained on a large dataset consisting of lakhs of data points, ensuring accurate weapon detection. The final product will be implemented on a Raspberry Pi, making it an affordable and scalable hardware model.

Key Features

1. **Real-time Weapon Detection:** Utilizes deep neural networks to detect weapons in real-time.
2. **Immediate Alert System:** Automatically calls and messages authorities upon weapon detection and sends live images and location data via Twilio api.
3. **Integrated Defensive System:** With the right permissions, deploys a non-lethal electric taser to protect the shopkeeper.
4. **Safety Mechanism:** Provides time for the shopkeeper to escape while authorities are arriving to crime scene.
5. **Seamless Integration:** Can be installed using existing CCTV setups, minimizing additional costs.

Expected Outcomes

The Rob-Alert system aims to significantly reduce robbery incidents in urban areas by employing cutting-edge technology. The real-time communication with police, combined with advanced surveillance, will enhance public safety and deter criminal activities. Together, this project will contribute to creating a safer, more secure environment for all.



Video →  Rob-Alert <https://youtu.be/yhwH6lb6OYw>

PPT →  Rob - Alert.pptx https://www.canva.com/design/DAGACgBMpDM/7PoyYy9zqPTmwxZK-d4Vxg/edit?utm_content=DAGACgBMpDM&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

