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CROWD MONITORING AND ALERT SYSTEM

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ABSTRACT

In today's rapidly evolving technological world, this study introduces an advanced Suspicious Activity and Crowd Monitoring Alert System to improve security in public spaces. The system uses artificial intelligence and machine learning for real-time video surveillance and smart analysis. It can distinguish normal crowd behaviour from suspicious activities using sophisticated algorithms and behavioural analytics. When suspicious activities are detected, instant alerts are generated, allowing swift responses from security personnel. The study also emphasizes compliance with data privacy regulations and responsible data handling. Through a thorough literature review, the research explores the evolution of crowd monitoring systems, addressing challenges, ethical considerations, and emerging trends. Overall, the system contributes to creating safer public spaces by enhancing security measures.

Key Words: Crowd Monitoring, Suspicious Activity, Alert System

1. INTRODUCTION

In recent years, technology has made a big impact on our lives, especially when it comes to keeping people safe in crowded places. As more people gather in public areas, the need for better security has become really important. The usual ways we keep an eye on things aren't always enough for big crowds and spotting potential problems quickly. That's why the Suspicious and Crowd Monitoring and Alert System is so important. It uses super advanced tech like artificial intelligence, machine learning, and computer vision to make public places safer.

This system keeps a constant eye on busy spots, events, and transportation hubs, spotting anything unusual or suspicious. This way, it helps the police and security act fast to keep everyone safe. In short, this system is a big step forward in making public spaces safer by using technology to detect and respond to potential threats quickly.

2. LITERATURE REVIEW

Kshitij Barsagade, Sumeet Tabhane et al. [1] have classified human activities intotwo: Normal and Suspicious. Normal activities include sitting,walking,jogging.waving,etc.Suspicious activities include running, boxing,fighting,etc. We achieve this classification by using convolutionalneural networks. First, the convolutionalneural network is used to extract highlevel features from images. The convolutional network classification is taken into account, the final poolinglayer result is extracted made

Dr.Sachin.S.Gurav, V.V.Khandare et al. [2] focuses on the performance evaluation of suspicious activity detection of video data is shown. The proposed method of combination of GLCM, harries corner detection, speeded up robust features, shows average 96% percent accuracy of suspicious activity detection on self-designed dataset Aqil Shamnath, Meena Belwal et al. [3] have implemented the problem with en-semble learning techniques which will detect suspicious activities. An automated alert system is also set up to detect, record and report suspicious activities to the concerned authorities. Therefore, the anomalous activity detection system will provide a basic surveillance system with an alarm which will help for safety of the public along with lesser Sivasakthi. T, Dr. Brindha. S, Hariharasudhan. S. M, Vishal.V. S, Priyadharsan. M et al. [4] , proposed a new method to improve the surveillance system. It can be used in several public places like banks, railway stations etc. It is done with the ML models which can be created with the help of Teachable Machine. To create and train an ML model, there are several flexible options such as TensorFlow, Google Teachable, Edge Impulse, Lobe etc. In this paper it is done with the help of Teachable Machine. Nizar Masmoudi, Wael Jaafar et al. [5] proposes a complete UAV framework for intelligent monitoring of post COVID-19 outdoor activities. Specifically, the author proposes a three-step approach. In the first, captured images are analyzed using machine learning to detect and locate individuals. The second step consists of a novel coordinates mapping approach to evaluate distances among individuals and cluster them, while the third step provides an energy-efficient and reliable UAV trajectory to further inspect clusters for restrictions violation. Nipunjita Bordoloi, Anjan Kumar Talukdar, Kandarpa Kumar Sarma et al. [6] used YOLOv3 to detect different suspicious activities like bag-snatching, lock breaking etc. Our system has a very good processing.

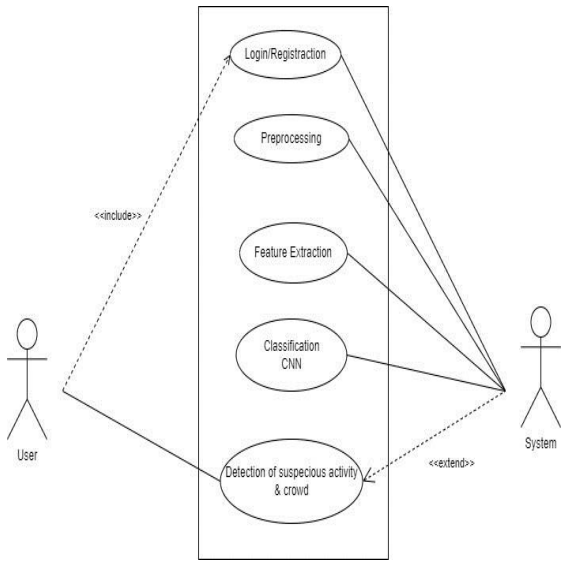
3. METHODOLOGY

In the context of escalating concerns for public safety in densely populated areas, our team has engineered an innovative Crowd Monitoring and Alert System. With a foundation in cutting-edge technologies like artificial intelligence and machine learning, this system revolutionizes security measures in various public spaces.

We've created a smart Crowd Monitoring and Alert System to make public places safer. This system uses fancy technology like artificial intelligence to watch over crowded areas. It can tellif people are acting normal or if something suspicious is going on. If it spots something unusual, it sends an alert so security can check it out quickly

3.1 Use Case Diagram

A use case diagram is a type of behavioral UML diagram that depicts the interactions between actors and the system being developed



3.2. SYSTEM ARCHITECTURE

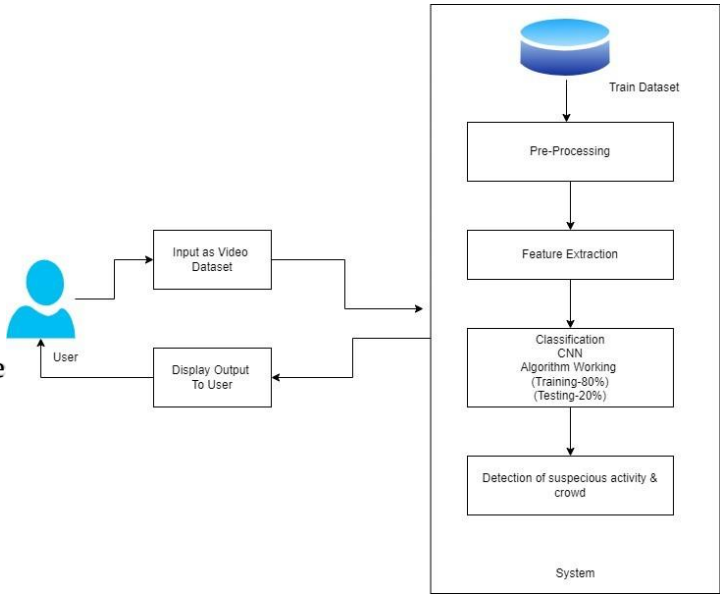


Fig.1 Use Case

Fig.1 System Architecture Diagram

4. CONCLUSION

In conclusion, the development and implementation of the Crowd Monitoring and Alert System represent a significant leap forward in the realm of public safety. The escalating concerns for security in densely populated areas prompted our team to create an innovative solution that harnesses the power of artificial intelligence and machine learning. The system's ability to differentiate between normal crowd behavior and suspicious activities, coupled with real-time video surveillance, provides a comprehensive and proactive approach to security.

The user-friendly interface and emphasis on data privacy compliance underscore our commitment to ensuring the system's accessibility and ethical use. The instant alert generation feature adds a crucial layer of responsiveness, enabling security personnel and law enforcement agencies to swiftly address potential threats.

6.REFERENCE

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