

ABSTRACT

The development of a smart surveillance system has become an increasingly important topic in recent years, with the aim of providing more accurate and efficient monitoring of people and objects in real-time. This project focuses on developing a smart surveillance system that can be appended to existing surveillance systems, providing them with advanced features such as motion detection using contours and real-time people tracking using YOLOv3.

The proposed system uses computer vision algorithms to analyze the video feed from existing surveillance cameras, identifying areas of motion and tracking the movement of objects within those areas. To detect and track people specifically, the system uses object detection algorithms like YOLOv3, which is a deep learning-based model that can accurately detect and track objects in real-time.

To build this system, expertise in computer vision, machine learning, and software development is required. Additionally, access to large datasets of labeled video footage is necessary for training and testing the deep learning models, and powerful hardware is required to process the video feed in real-time.

The system has the potential to significantly improve surveillance systems by providing more accurate and efficient monitoring of people and objects in real-time. The motion detection feature using contours can reduce false alarms and improve the accuracy of the system, while the real-time people tracking feature using YOLOv3 can enable security personnel to monitor and track people of interest more effectively.

Overall, the proposed smart surveillance system has the potential to provide a significant improvement to existing surveillance systems, providing more accurate and efficient monitoring of people and objects in real-time, ultimately enhancing the security and safety of the monitored areas.