IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 6, May 2023

Automated Safety Surveillance System

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Abstract: *The study introduces an automated safety surveillance and alert system with three modules: trespassing detection, vehicle crash detection, and fall detection. The system sends alert messages through messaging services like Telegram to the concerned authorities when any of these anomalies are detected. These detections are made using a powerful alternative to CNN, RCNN or Fast RCNN called YOLO, in this paper we are exploring state of the art yolo versions like yolov7 and yolov8 for pose estimation and object detection respectively, experimental results show that the system accurately detects anomalies and is a promising alternative to manual surveillance. The system's efficacy makes it useful in various scenarios where manual surveillance is challenging, and automation is required to ensure safety.*

Keywords: YOLO, Real-time object detection, Fall detection, Car crash detection

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