Design and Implementation of the Suspicious Activity Detection System using Machine Learning

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Abstract: *We intend to develop a real-time programme for detecting suspicious behaviour of persons in public settings. Our tool may be used to monitor areas where there is a risk of robbery or a gun assault, such as malls, airports, and train stations. To train our system, we will use deep learning and neural networks. This model will then be implemented as a mobile and desktop app, taking real-time CCTV footage as input and sending an alarm to the administrator's smartphone if a suspicious stance is detected. Human suspicious behaviour is associated with the identification of human bodily parts and perhaps tracking their travels. Its real-world applications range from gaming to AR/VR, healthcare, and gesture detection. In comparison to the image data domain, there has been very limited research into using CNNs to video categorization. This is due to the fact that videos are more complicated than photos since they have another dimension - temporal. Unsupervised learning, which takes use of temporal connections between frames, has proven effective for video analysis. Some techniques to suspicious behaviour employ CPU rather than GPU, allowing suspicious activity to execute on low-cost hardware such as embedded systems and mobile phones.*

Keywords: *Suspicious behaviour, Machine Learning, CNN, Random Forest (RF) and KNN, CCTV.*

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