**Intelligent Video Surveillance Using Deep Learning**

**Abstract**

Abnormal activity detection plays a very important role in surveillance applications. To capture the abnormal activity of humans without the intervention of the system i.e. automatically captures the video can be implemented. Human fall detection, suddenly jumping down which has an important application in the field of safety and security. Proposed system use for detecting roadside human activities or behavior by using the Probabilistic Neural Network (PNN) method for classifying activities or behavior between training dataset and testing videos. The partitions between classes of normal activities have also been learned using multi-PNNs. recognizing human activity has become a trend in smart surveillance that contains several challenges, such as performing effective detection of huge video data streams, while maintaining low computational complexity. Current activity recognition techniques are using convolutional neural network (CNN) model with computationally complex classifiers, creating hurdles in obtaining quick responses for abnormal activity, so this paper proposes a framework for activity detection. First, we detect abnormal activity with humans in the surveillance stream using an effective CNN model. The detected individual is tracked throughout the video stream via an ultra –fast object tracker called ‘minimum output sum of squared error’ {MOSSE), Next, for each Tracked individual, pyramidal convolutional features are extracted from two consecutive frames using the efficient LiteFlowNet CNN. Finally, a novel deep skip connection gated recurrent unit is trained to learn different temporal changes in the sequence of frames for activity recognition and detection. We finish by the result indicate the efficiency of the proposed technique.

**EXISTING SYSTEM:**

In the existing system, the video surveillance system is designed for human operators to observe protected Space or to record video data for further detection.♣ But watching surveillance video is a laborintensive need to be controlled.♣ It is also a very tedious and time-consuming job♣ and human observers can easily lose attention.

**DISADVANTAGES:**

* Less accuracy
* Cost – Probably the biggest downside of a video surveillance camera system is how expensive it is. ...
* Difficult to use – If you are not a techie person, you may have a hard time learning how to use your video surveillance camera system as some systems can be very complex.

**PROPOSED SYSTEM:**

In the proposed work, Motion detection is performed by using OpenCV and Pandas library. Captured videos are treated as a stack of pictures called frames. Different frames are compared to the static frame which has no movements. We compared two images by comparing the intensity value of each pixel. Firstly, we convert a color image into a grayscale image, then a gray-scale image is converted to GuassianBlur so that change can be easily found. After that difference between the static background and the current frame is found out. If we found to change between them is greater than 30 it will show white color. Then contour of the moving object.

**ADVANTAGES:**

* High accuracy
* Reduce Costs & Scale More Easily.
* Upgrade Your Management Software
* Improve Productivity.
* Save Time with Distributed Intelligence.

**HARDWARE REQUIREMENTS:**

# Processor - Intel i3(min)

* Speed - 1.1 Ghz
* RAM - 4GB(min)
* Hard Disk - 500 GB
* Key Board - Standard Windows Keyboard
* Mouse - Two or Three Button Mouse
* Monitor - SVGA

**SOFTWARE REQUIREMENTS:**

* Operating System - Windows10(min)
* Programming Language - Python