SMART MISBEHAVIOUR DETECTOR

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ABSTRACT

In today world everyone installed CCTV camera for security purpose.The CCTV cameras continuously record the situations. Hence there is an unnecessary memory wastage if there is nothing happening in front of the camera.User put a person for monitor cameras 24*7.The proposed system main concepts is how to use CCTV more efficiently. Which will record each and every action if there is happens any unusual activity in front camera it will automatically alert authorized person. We can use camera for Human Motion Detection(yolov3) .Thecamera is used to catch the live images of the area in which it is being implemented, if any object is moving. If thereisany misbehavior activities happens the capture live images automatically detect the behavior of the victim by using yolo version 3, by the detection if its misbehavior emergency mail alert automatically sent to the authorized person and nearby police station with photo image. The mail sending working based on simple mail transfer protocol.

Key words: Object detection **(**yolov3),Object tracking (deep sort),pascalvoc, Simple Mail Transfer Protocol,CCTV.

I. INTRODUCTION:

Capturing the live video nourish into the webcam is the first step in video surveillance. It is not feasible to process the video directly. Analyzing images, our proposed system comparethe current frame captured with previous frame to detect the human motion. Activity Behavior of the human is analyzed by using of trained image. CCTV is the monitoring of the behavior, activities, or other changingInformation. Video analysis involves object tracking. Object tracking is based on deep sort. way tolook at object tracking is the creation of temporal correspondence among detectedobject from frame to frame. Object tracking is an importantcomponentof many vision systems. It is used not only for visual surveillance, but also foraugmented reality, traffic control, medical imaging, gesture recognition, etc.

Primary need of the system is huge amount of dataset for perfect accuracy. In first our system trained for humans and their motions, after that we trained our model for misbehavior.Our system also applicable for real time and video recording. Our system model can use many field like directing (cini field), traffic, Bank safe , factory and other public places.

Object detection detect each frame by frame so we can identify person action. If its wrong behavior our system automatically send the mail to the authorized person or police station.The main advantage of the mail sending is, in that alert mail with captured image or video so we can identify the accurate problem.Mail sending act by using of SMTP protocol.

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II. LITERATURE SURVEY:

1.Human Motion Detection and Tracking for Real-Time Security System

In this system , background subtraction is the process of separating out the foreground objects from the background in a sequence of video frames. The main aim of the surveillance system here is, to detect and track an object in motion by using single camera. Camera is fixed at the required place background subtraction algorithm is used for segmenting moving object in video. If human entity is detected the tracking lines are formed around human and the object is tracked. The system when realizes the human entry, it is processed in a second and the alert is produced for the security purpose. The main aim is to develop a realtime security system.

2.SOS application

It will enable users to alert the police immediately during emergency situation such as sexual assault, kidnap or “eveteasing” and natural disasters such as earthquake or floods. It can also be used when the user is trapped unexpectedly,such as in an elevator or a toilet and is unable to contact anyone. Providecontact details of any TWO relatives or close friends as Emergency Contacts preferably living in the same city. Details such as mobile number, name and relationship is mandatory. Additionally, you can add a third contact person as an Emergency contact

3.Human Action Recognition using STIP Techniques

The most well-built image processing system which consists of human eye together with the brain is the Human Visual system. With this resource we try to develop a computer vision system. The video is fed to the system which divides it into each different frames, preprocesses it, to reinforce the image frames by removing the unwanted pixels from the frames. By this technique we can reduce the noise and store those derived pictures for later usage. Options were extracted using the SIFT descriptors of various sort from the preprocessed video frames

III. PROPOSAL METHOD:

System is help to improve the already existed CCTV camera. The main concept is improve the efficiency of already exited camera. In other existed system only detect the human motion and tracking their activities by using of human power or some other system is automatically monitor and record real time system. As well as previous techniques only give alert but do not send the sms to the authorized person. In this system we send the mail by using SMTP protocol to near police station. It continuously monitor human motion if its wrong send mail automatically without any external support.

This system can used for both real time and video recorder. In existing system only used in video recorder.Our idea is to develop a System to detect the human motion and give mail alert at the same time. We are developing this idea because earlier methodologies are not so accurate and expensive also. As well as previous techniques only give alert but do not send the mail to the authorized person. The prime motivation for developing this project is that, earlier methodologies only give alert with image send the mail to the authorized person. It will be a proof of future use.

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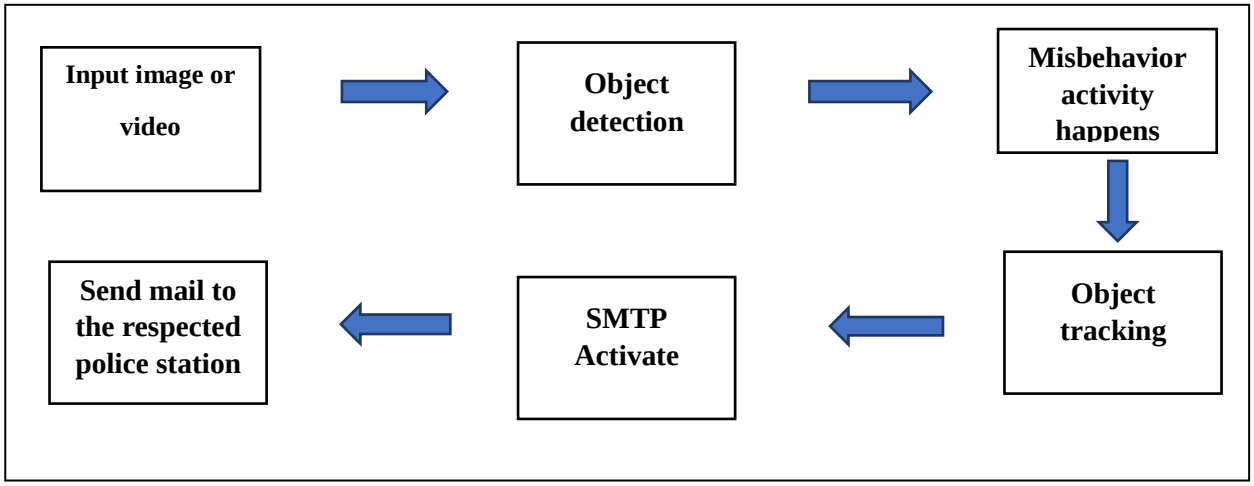
BLOCK DIAGRAM:



V.PROJECT STEP BY STEP INSTALLATION:

- **Create and activate a virtual environment**

virtualenv -p python3 env

sourceenv/bin/activate

- **yolov3 github:**

gitclone: https://github.com/theAIGuysCode/yolov4-deepsort.git

cd yolov4-deepsort

pip install opencv-python==4.1.1.26

pip install $(python3 util/taskcluster.py –decoder)

pip install -requirements.txt

- **Dataset annotation**

Pascalvoc or labelling tool

Goto:https://github.com/tzutalin/labelImg

- **xml to txt conversion**

Goto

:https://codeload.github.com/Isabek/XmlToTxt/zip/refs/heads/master

- **pre trained model:**

Colablink :

Goto:https://colab.research.google.com/github/ultralytics/yolov3/blob/master/tutorial.ipynb#scrollTo=4qbaa3iEcrcE

- **Mail sending:**

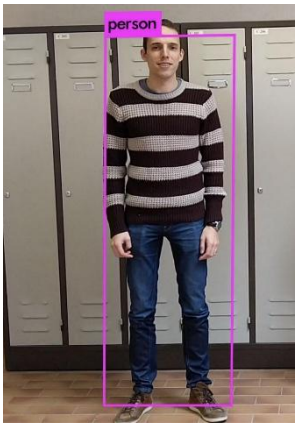
Protocol:Simple Mail Transfer Protocol.

- **Master file**

Go to :https://drive.google.com/folderview?id=1VCuKUyPb2n2i0IWLU6G6Zihy6WqYWR0l

- **Demo output**

Goto:https://drive.google.com/file/d/182ywFXew_YWl62Cr4o4fsCvmFm5yIvmI/view?usp=drivesdk



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VI. MACHINE LEARNING ALGORITHM:

In the proposed system supervised algorithm is used. Supervised algorithm refers to the technique of labelling the all related contents of single data. Here the moment of the human by denoted person 1 and there is wrong that shows misbehavior label

frame work: It is an open source artificial intelligence library, using data flow graphs to build models. It allows developers to create large-scale neural networks with many layers. In the proposed system six layers are used.

Programming language: Python

YOLO v3 architecture:object detection

Deep sort architectur: object tracking

VII.FUTURE SCOPE

- Implementing the system in real time and testing the system on large number of long sequences.
- Determining the identity of a person who has entered in room. The system is capable of recognizing a number of interesting human actions.
- The system can be applied for multiple cameras or a single camera also.
- Alert send by mail to manager and police.
- In future our system can identified the victim face

VIII. CONCLUSION

A variety of motion detection algorithms for video surveillance systems are developed. But most of the systems do not absolutely detect the moving object because it causes some darkness and it requires large memory to store the video .proposed system can detect the person moment and track their action frame by frame after that help for detect their behavior . Our proposed system can implement in many place like Bank safe, traffic , Hospital and public place . Moreover it will save time and reduce man power.

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