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CAPTURING THE REQUIRED MOVING OBJECT FOR VIDEO SURVEILLANCE APPLICATION

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Abstract - Surveillance cameras are video cameras used for the purpose of observing an area. They are often connected to a recording device or IP network, and may be watched by a security guard or law enforcement officer. In video surveillance application, detection of human behaviour is practical importance. Detecting unusual or suspicious movements in closed circuit TV(CCTV) videos is a primary step.The foreground objects are classified into people (or) some other kind of living thing.CCTV camera recorded video frames unnecessarily.To solve this problem,we focuses on video condensation using content-aware framework.To manage the memory space.

1. INTRODUCTION

Surveillance is the monitoring of the behavior, activities, or other changing information, usually of people for the purpose of influencing, managing, directing, or protecting them. This can include observation from a distance by means of electronic equipment (such as closed-circuit television (CCTV) cameras), or interception of electronically transmitted information (such as Internet traffic or phone calls); and it can include simple, no- or relatively low-technology methods such as human intelligence agents and postal interception. The word surveillance comes from a French phrase and is in contrast to more recent developments such as sousveillance.Surveillance is used by governments for intelligence gathering, the prevention of crime, the protection of a process, person, group or object, or the investigation of crime. It is also used by criminal organizations to plan and commit crimes such as robbery and kidnapping, by businesses to gather intelligence, and by private investigators.Surveillance is often a violation of privacy, and is opposed by various civil liberties groups and activists.Liberal democracies have laws which restrict domestic government and private use of surveillance, usually limiting it to circumstances where public safety is at risk. Authoritarian government seldom has any domestic restrictions, and

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international espionage is common among all types of countries.

Surveillance cameras are video cameras used for the purpose of observing an area. They are often connected to a recording device or IP network, and may be watched by a security guard or law enforcement officer. Cameras and recording equipment used to be relatively expensive and required human personnel to monitor camera footage, but analysis of footage has been made easier by automated software that organizes digital video footage into a searchable database, and by video analysis software . The amount of footage is also drastically reduced by motion sensors which only record when motion is detected. With cheaper production techniques, surveillance cameras are simple and inexpensive enough to be used in home security systems, and for everyday surveillance.

2. .LITERATURE SURVEY

2.1 A Generic Algorithm-Based Moving Object Detection For Real-Time Traffic surveillance.

Moving object detection, a basic step in video analysis,is crucial in application areas such as automated visual surveillance, human-computer interaction, content-based video compression, and automatic traffic monitoring . In other words, every tracking algorithm requires an object detection mechanism to detect objects either in every frame or during the first occurrence in the video , and the tracking performance of visual surveillance systems is dependent on the effectiveness of object detection. Moving object detection extracts moving objects of interest such as vehicles and pedestrians in video sequences with a static or dynamic background. In real-time traffic surveillance systems, moving object detection based on images obtained from fixed CCTV cameras involves many challenging problems including the following: 1) unexpected number of multiple moving objects; 2) size variation and poorly textured objects; 3) rapid change in illumination conditions; and 4) shadows and multiple occlusions

Advantage: The object detection algorithm is generally composed of the following four steps: 1)foreground detection, 2) pixel level post-processing, 3) detecting connected regions, and 4) region level post-processing.

Disadvantage: The background image is assumed to have no moving objects and regularly updated to adapt to the background changes. However, mixture of Gaussians focuses on robust background modeling and updating to adapt the background model to the varying illumination conditions during different times of the day, geometry reconfiguration of the background structure, and repetitive motion from clutter.

2.2 New Object Detection ,Tracking and Recognition Approaches For Video Surveillance Over Camera Network

Visual object detection and tracking are important components of video analytics (VA) in multi-camera surveillance. This

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paper proposes a framework for achieving these tasks in a multi-camera network. The proposed system configuration is different from existing multi-camera surveillance systems in which utilize common image information extracted from similar field of views (FOVs) to improve the object detection and tracking performance.However, in practice, such camera setup may not be easily achieved because of economical concern, topology limitation,etc. Therefore, we focus on the non-overlapping multi-camera scenario in this paper, and our main objective is to develop reliable and robust object detection and tracking algorithms for such environment.

Advantage: 1) the proposed object detection algorithm performs considerably better than the AGMM-based method, 2) the proposed tracking approach outperforms the conventional PF-based and MS-based methods with low computational complexity.

Disadvantage: 1) average localization error : average distance between center of predicted and ground truth bounding box; 2) precision: the percentage of frames for which the estimated object location is within a threshold distance of the ground truth; and 3) lost track: if the tracker loses more than 20% frames in a testing sequence.

2.3 An Adaptive Motion Model For Person Tracking With Instantaneous Head-Pose features

Tracking error in the Kalman Filter (KF) increases when rapid changes in target motion occur. In part, this is caused by lag in adjusting the error covariance matrix. In this letter we reduce pedestrian tracking error by combining target velocity with an intentional prior, defined as a prior that predicts rapid changes in target motion. Specifically, we use the control input of the KF to steer the state estimate more forcefully using pedestrian gazing behaviour.

Advantage: We extend the Kalman Filter to adaptively combine motion information with an instantaneous prior belief about where the person will go based on where they are currently looking. We apply this new method to pedestrian surveillance, using automatically- derived head pose estimates, although the theory is not limited to head-pose priors.We perform a statistical analysis of pedestrian gazing behaviour and demonstrate tracking performance on a set of simulated and real pedestrian observations. We show that by using instantaneous 'intentional' priors our algorithm significantly outperforms a standard Kalman Filter on comprehensive test data.

Disadvantage: For the Caviar and PETS datasets travel bearing was calculated using the bounding boxes for each pedestrian to approximate the location of their feet. These locations were projected to the ground plane using Direct Linear Transformation with point correspondances , from which trajectories could be derived for each person. For each point in a trajectory the velocity

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was calculated and then smoothed by taking the mean of a 24 frame sliding window.

2.4 Suspicious Movement Detection And Tracking Based On Color Histogram.

We obtain the foreground objects by using background subtraction. These foreground objects are then classified into people and inanimate objects (luggage). These objects are tracked using a real-time blob matching technique. Using temporal and spatial properties of these blobs, activities are classified using semantics-based approach.

Advantage: 1) Background Model. 2) Low-level Preprocessing. 3) Object Detection. 4) Tracking. 5) Classification of activities.

Disadvantage: 1) Loitering. 2) Abandoned Objects. 3) Stolen Objects. 4) Unauthorized Access.

Surveillance method is used to capture the motion of an object. Some CCTV cameras are fixed only at indoor environments. The person who enters the environment immediately the sensor senses and capture the picture of the person. There are many cameras are used for capturing video at night times to reduce the crime actives. It consumes more memory space to record all the frames.

DISADVANTAGE The present system is presently is an undeveloped form and the manual process of the overall system is too clumsy and complicated. The clients in the real time consultancy system can be too thick and may need many resources to be used upon the system. If the system is developed, in a distributed over interface with centralized database is the only solution.

4. PROPOSED SYSTEM

To reduce the consumption of memory space unnecessarily. We proposed

3.EXISTING SYSTEM

the high performance video condensation. It records only the required frames. The advantage of this system is very easy to find out the criminal who does the crime activity. It provides high quality picture. It only stores the required frame to reduce the consumption of memory.

MODULES

- Master image capture.
- Camera connectivity.
- Capture frame by frame.
- Comparison image.
- Email configuration.
- Send various images.

PIXEL IDENTIFICATION ALGORITHM

procedure Pixel identification(CX, CY, R : longint); begin

var X, Y : longint;

XChange, YChange : longint;

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```
RadiusError : longint;

X : R; ! Y := 0;

XChange : 1 2*R; ! " YChange : 1;

RadiusError := 0; while ( X Y ) do

if ( 2*RadiusError + XChange > 0 ) then begin dec(X); inc(RadiusError, XChange);

inc(XChange,2) end end end; {procedure PlotCircle}

begin Plot8CirclePoints(X,Y); {subroutine appears below}

inc(Y);

inc(RadiusError, YChange);

inc(YChange,2);
```

CONCLUSION

To reduce the consumption of memory space unnecessarily. We proposed the high performance video condensation. It records only the required frames. The advantage of this system is very easy to find out the criminal who does the crime activity. It Provides high quality picture. It only stores the required frame to reduce the consumption of memory**.** Finally we did the project successfully. Using the web camera. It stores the original image and compare both the original image and the captured image. If the captured image is matched with the original image it does not store in the database. If the captured image is not matched with the original image then it alerts the authorised person through their e-mail id. It sends an e-mail to the authorised person for an alert**.**

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