Object Detection Based On Various Environment and Background

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***Abstract*—Vision is one of the precious gift for human beings. But now a day it is commonly seen loss of vision unfortunate. It is a great helping hand that our visual world replaces with an audio world for the people who are visually unfit. It transformed the visual world as an audio world to the blind peoples and give the information about the objects around them as well as the location of those objects. Can detect any object from any video scenery or from an image with a background containing various color providing by their names. This is an important technic in the field of object detection to detect any moving object by video images processing and divide into segment by using background subtraction. Segmentation is very important for detecting any feature from any object that condition is moving.**

***Keywords*—*Object tracking*, *Background modeling, Background subtraction, Depth Image, Deep CNN*.**

I. INTRODUCTION

In our present beautiful world there are millions of people is not capable to understand the environment where they are staying as well as what kinds of objects are surrounding them. To maintain their daily routine they can develop any other alternative way, so that they can lead their life without any clash just because of blindness. Finding any particular things (room, sofa, chair, table, bed, door, any object in any environment etc.) for any area or environment that is not familiar to blind people. When blind peoples go outside it is very tough sometimes they can't understand if someone are in a conversation or any person is talking to them. In the way of their moving the have to touch every thinks to make sense as well as to guide them self. The mobile applications for the blind people help them in many ways.

There are a lot of work done using all various technic of computer vision for the eminent cogitation of helping the blind peoples. In the recent years this work is instantaneously developed minutely for Deep CNN. For extraction any information of any object from image or video it is essential to detection and segmentation from videos.

Background modeling is another process for framing any object. It works to create a new background model that is an important technic to understand the existence of any object. The overall accuracy rate for this documentation is 86% and for moving object the rate is 88% which is a good result for this purpose.

II. LITERATURE REVIEW

Moving Object Detection against Sudden Illumination Change Using Improved Background Modeling [1] is an especial methodology for doing some thinks different for the blind peoples. Real time object detection [2] is one of the best technology with especial methodology for blind peoples. For detection any moving object and segmentation using background subtraction from video image processing [3] is also an another great thought for making easy way to finish blind people's daily routine. All of those documents are very useful for impaired peoples.

III. EXISTING PROPOSED METHODS

(1) Moving object detection method.

Three technical parts of this method, a) Background modeling. b) Illumination change detection. c) Integration of Background Modeling and Illumination Change Detection Technique.

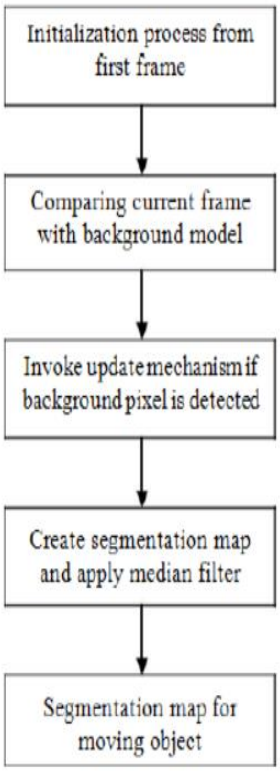


Fig (1) Diagram for background modeling

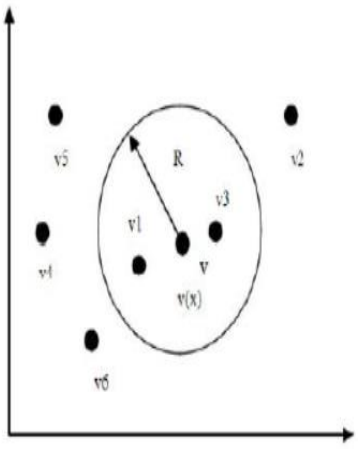


Fig (2) Set of background sample

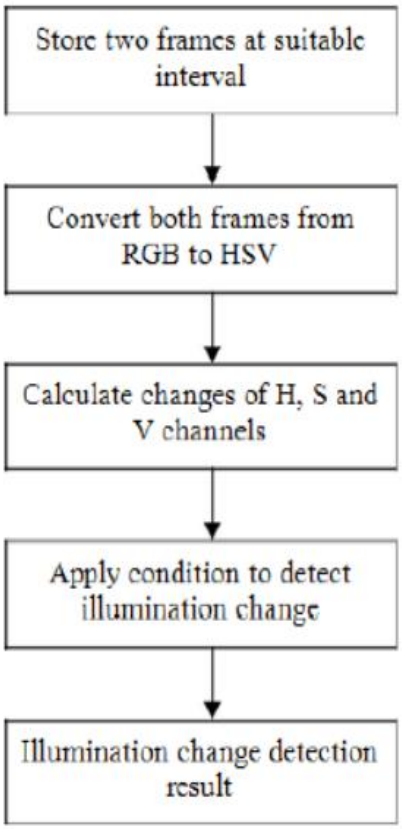


Fig (3) Diagram of illumination change detection

(2) Morphological Process is one of the best process to reduce all noise from any video scenery. This is a traditional way that It prepares the scenery as without audio makes the scenery ready for the next step.

(3) KRLNSP that drastically reduces false detections and the computational loads that is PCP-based detection method.

(4) High dynamic range imaging(HDRI) this method is for work with high distance images. This method has three part to complete its job.

a) Firstly it detects the moving area.
b) Then it works for extension the moving area.
c) Finally Exposure Fusion is happened.

The area in which objects are existing detected firstly. Then extends the area and marked objects. Then the process is started to detect object.

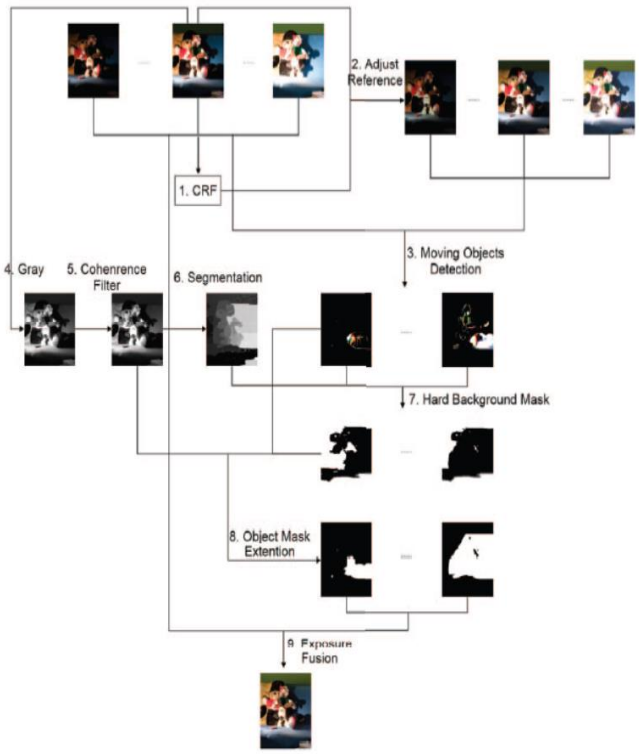


Fig (4) Working process flow chart

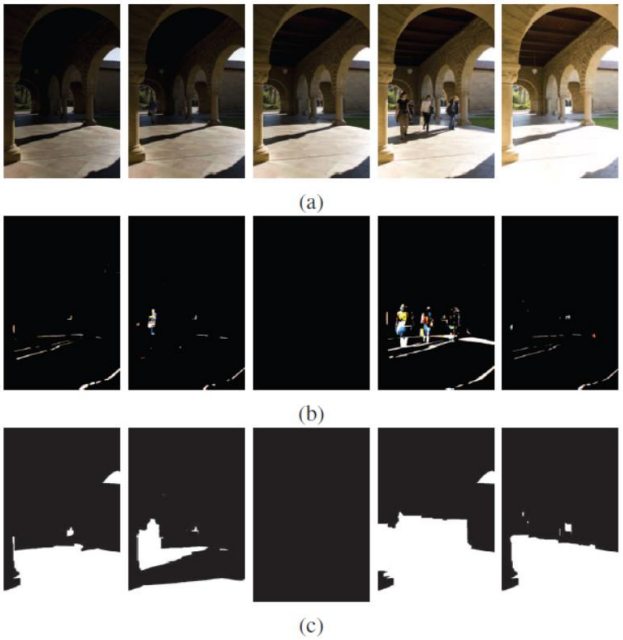


Fig (5) Background Subtraction

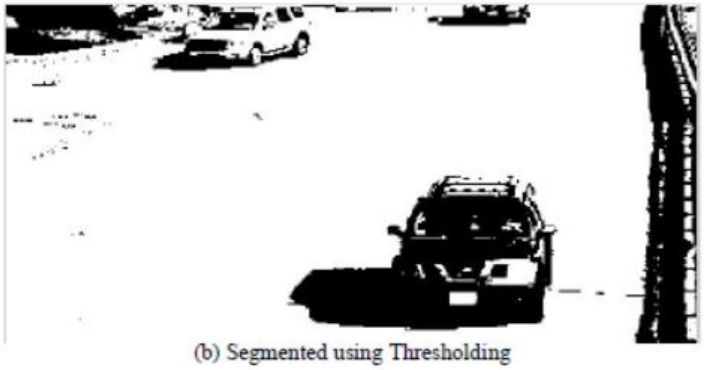
IV. Results and Discussions

From all experiments the rate of average Precision is 63%, recall is 76%, F-measure is 69%. Detection only for a moving person the rate of average is changed as 75% for (1) proposed method. If compare with all other methods, it provides better accuracy than the others.

True positive rate of KRLNSP is 98% and its false positive rate is 0.4%. The execution time for KRLNSP is 0.3 seconds/frame only.

The moving areas detection and extension and finally exposure fusion. The ghost artifacts efficiently can remove by the proposed algorithm (3).

(a) Video Frame



(b) Segmented using Thresholding

(c) Edge Detected

All the results and accuracy rate is good. But in this field the accuracy rate has to be a little bit more. Because This is an important filed, in which depend the responsibility of some types of people who are impaired. So it is a big responsibility of any society. So those work should be more update with more accuracy.

V. CONCLUSION

In all existing object detection methods are very useful and asset for computer science technology. They have simulated the method with different videos in various illuminating conditions. Most of the contribution of their work is detection process with the conventional background modeling method. We observed that the proposed method gives excellent results. We hope in future more update and more useful methodology will be generated for the human being, so that the blind people don't think that they are not capable to go out of house. So that they can do all their works as a normal human.

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