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AN EFFICIENT SURVEY ON PERSON RECOGNITION IN SURVEILLANCE VIDEO

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Abstract:

An effective human identification advances for human authentication tool based on face and human body recognition. it can be proposed for effective biometric authentication. Face recognition features are extracted utilizing different extraction techniques, Eigen-face and Principle Component Analysis (PCA) Human body and face authentication modality are performed using various methods such as Artificial Neural Network (ANN) and genetic optimization technique. The combination of biometrics systems, human body and face, into a single biometric system is performed using features fusion and scores fusion. The Kinect sensor SDK used to recognize the human body with high accuracy and more efficiency.

Keywords — **Kinect sensor, Human body and face authentication insert**

I. INTRODUCTION

Biometric Authentication has always been a proven measure to authenticate the identity of a person. The current spate of development of the world, with the Digital and Technological advancements made have exacerbated the use of such Biometrics to ensure that the transactions are done by the genuine intended person, as the scope of spoofing and imposter transactions can always be a concern. The disruptions that are being done by the technology, which is domain agnostic has had an all-pervading effect on the ways the government, companies and individuals are engaged among them and within them.

To change the way people play games and the way of experience of the environment was built using Kinect sensor. To make the experience in a natural way by making the body of the human connect with the game, Kinect was mainly used. The main technology is human body gestures. Before giving response to the user, the system must first understand the action performed. The depth of the player and the environment is first sensed by the kinect sensor. This SDK would be efficient to transform human-computer interaction in various domains such as education, healthcare, transport and much more.

In entertainment or mainly in surveillance authentication performing identifying individuals using biometric data is a much more important work. It becomes more tough when it is to be done at a distant and without any physical contact. The systems are of two types. They can be classified into active and passive. The only difference between these two systems are that the former requires subject to interact with the interface for data extraction where as the other does not for biometric identification. The best example of passive system is face and voice identification. Which has been emerged into full body measurement in the recent trends. The most major contribution of the kinect sensor is to give the analytic results on gait and anthropometric recognition over a set of composed data of features.

II. RELATED WORKS:

An In[1] Cheng-Ming Huang et.al paper presents a 2d upper body tracking algorithm using a single monocular camera the technology used here is

particle filter. this particle filter methodology is used for movement the face detection and arms of the human upper body in irregular environments with a monocular camera easy way to comply with the conference paper formatting requirements is to use this document as a template and simply type your text into it.

In [2] Randal Nelson .et al Have implemented a real-time system that can recognize and classify repetitive motion activities in normal gray scale image sequences. the method used here are spatiotemporal motion template. The computation time for every frame as a total takes upto 60-80 milliseconds. This time can be reduced by using more processors. The given algorithm was used to classify seven motion running, swinging, skiing, exercises on machine, walking performed on a toy frog

Yin Mingfeng et.al [3] studies Proposal Of Adaptive Block Fusion Multiple Feature Tracking Algorithm In A Particle Filter Framework. This Algorithm Uses Color And Gradient Histogram For Multiple Target Matching the technology used here are Particle Filter , Block Fusion The Algorithm Works On The Feature Of Detecting The Colour Of The Person Result In Mismatch Of The Person With The Same Colour.

In [4] C.H. Li et.al This thesis beats in the way of Highly Reliable Real Time Tracking System Capable Of monitoring A Moving object in a Cluttering Environment with the help of Snake Model ,Template Matching ,Contour Matching and the problem here is The Boundary Line Must Be Placed Manually And The Speed Of The Moving Target Must Be Slower it has been concluded that This monitoring System Can Track Any Single Moving object With 320x240 Image Sequences In Real (with in 34ms).

In 2013 [5]. Suman Sedai et,al used A Gaussian Process and Particle Filter For identifying 3D

Human Pose In the Video. The Output Pose From The Gaussian Process Regression Are Combined With The Annealed Particle Filter To Track The 3d Pose In Each Frame in the Video Series but The defect rate of this algorithm is 73.0 This thesis Show That their method Can efficiently Track the 3d Human Pose Over large Video Series And Give exact Pose Tracking Results compared to the Annealed Particle Filter.

In [6] Luis Vicente Calderita et.al Proposed a System that Enforces Kinematics Constraints, Eliminates Odd Poses And Filters Sensor Noise, While Learning The Real feature Of The Performer's Body. These contributions do not analyse if the 3D centric provided by the tracker correspond to a valid human pose and the perception of the hand centric is noisy.

In 2000 [7] Jonathan Deutscher et.al proposed a new algorithm termed annealed particle filtering, is shown to be capable of recovering full segmented body motion efficiently. The main challenge in articulated body motion identifying is the large number of degrees of freedom (around 30) to be recaptured.

Jonathan Deutscher, Andrew Davison, Ian Reid [8] they improved the above method as extended APF(Annealed Particle Filtering) in two ways first develop a hierarchical search strategy which automatically partitions the image .then introduce a crossover operator which improves the ability of the tracker to search different partitions in parallel the new algorithm's implementation and then apply it to the considerably more composite problem of Human Motion represent with 34 degrees of freedom.

In[9] J. Deutscher, B. North The non-Gaussian nature of the distributions is Demonstrated experimentally by means of Monte-Carlo duplication. Random duplicate particle filtering or Condensation— proves to provide a robust another algorithm for tracking that can also deal with these difficult conditions

In 1991 David G. Lowe [10] extends the present way of parameter figure out about handling objects with arbitrary curved surfaces and with various internal parameters depicted expression, variable dimensions, or surface malformations but there is still research has to be done regarding Low-level curve subdivision and grouping successfully presented general methods for fitting models with arbitrary curved surfaces and various internal parameters to matched image information.

James W. Davis, Aaron E Bobick [11] proposed a system that automatically performs temporal segmentation in the video sequence and is

invariable to linear changes in speed, and runs in real-time on a standard platform binary motion-energy is method here but this submission will fail When two people was acted in the same field of view

III. CONCLUSIONS

As we know as a fact that biometric has become the most reliable form of authentication methodology in the emerging trend. This paper makes a detailed survey of the various applications, its limitations and advantages of the various technology used for the full body recognition system.

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