

Automated Human Activity Recognition in Surveillance System

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ABSTRACT

Analysis of human activity in the automated video surveillance community is one of the most captivating and significant open problem. Most of human activity / behavior assessment has been conducted in latest years using computer vision & pattern recognition methods and has paved the way for the amalgamation of different such areas. The technical quality of the classical modules that make up a monitoring system nowadays makes it possible to face very complicated situations owing to the high diversity of the appearance of individuals. The aim of this project is to support the argument that a social view is essential for dealing in a principled and fruitful manner with the greatest level module, i.e. human activity assessment. A system is intended in this project, leaning towards a finer inquiry of overt and covert human behavioral elements as well as subtle ones. We also highlight major difficulties involving the use of latest methods that can be used in apps for real-time video surveillance.

KEYWORDS: Surveillance, Recognition, Human Activity

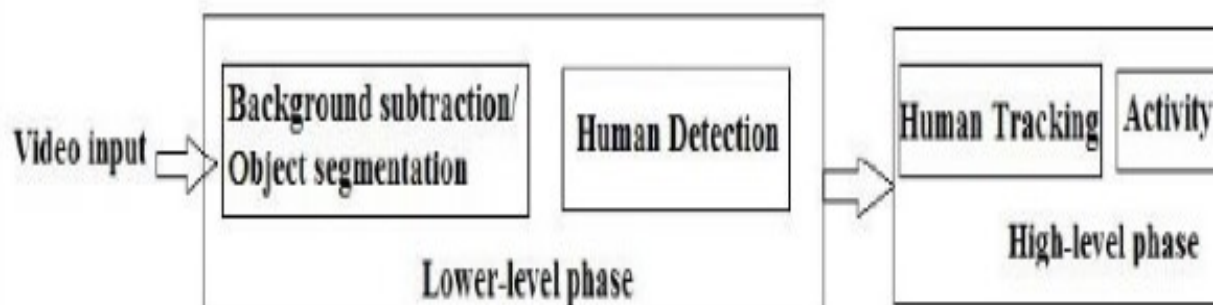
INTRODUCTION

In the field of computer vision, surveillance video systems are receiving growing attention owing to their user requirements for safety[1]. Observing the human movement and predicting such a feeling of motion is promising. The need occurs to create a monitoring scheme capable of overcoming the shortcomings of staying monitoring depending on the human resource[2], watching the ordinary and suspicious incident all the time without any absent mind and facilitating the control of the enormous network of

surveillance scheme. A smart recognition of human activity system is created in this article[3]. In each phase of the suggested system, series of digital image processing methods were used such as; binarization, morphological operation and binary subtraction[4]. A robust neural network was constructed based on the characteristics of the human activity database obtained from the frame sequences. Multi-layer perceptron feed forward network used in the dataset to classify the activity model[5]. The findings of the classification indicate elevated efficiency throughout the training, testing and validation phases. Lastly, these findings contribute to a successful performance in the recognition rate of activity[6].

Methodology

The system is divided in two phases; low level phase and high level phase.



The proposed method experimented using two phases; Training and Testing[7]. The steps followed in training phase; read the video, obtain the frames, resize the frame, obtain the mixture, estimation of parameter using EM algorithm, feature extraction using PCA[8].The steps followed in testing phase; read query code and convert it to frame, resize the obtained frame, obtain the feature matrix by applying PCA, Apply similarity measures for successive classification.

CONCLUSION

Observing the human movement and predicting such a feeling of motion is promising. The need occurs to create a monitoring scheme capable of overcoming the shortcomings of staying monitoring depending on the human resource, watching the ordinary and

suspicious incident all the time without any absent mind and facilitating the control of the enormous network of surveillance scheme. A smart recognition of human activity system is created in this article. In each phase of the proposed system, series of digital image processing techniques such as background subtraction, binarization and morphological operation were used.

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