

PERSON RE-IDENTIFICATION BASED ON VIDEO FACE FEATURES IN REALTIME FRAMEWORK

Indira G,
Master of Computer Application,
Dhanalakshmi Srinivasan Engineering
College, Perambalur, Tamilnadu

Ass Prof., SaravanaS,
Master of Computer Application,
Dhanalakshmi Srinivasan Engineering
College, Perambalur, Tamilnadu

ABSTRACT

For face recognition in surveillance scenarios, identifying a person captured on image or video is one of the key tasks. This implies matching faces on both still images and video sequences. Automatic face recognition for still images with high quality can achieve satisfactory performance, but for video-based face recognition it is hard to attain similar levels of performance. Compared to still images face recognition, there are several disadvantages of video sequences. First, images captured by CCTV cameras are generally of poor quality. The noise level is higher, and images may be blurred due to movement or subject being out of focus. Second, image resolution is normally lower for video sequences. If

the subject is very far from the camera, the actual face image resolution can be as low as 64 by 64 pixels. Last, face image variations, such as illumination, expression, pose, occlusion, and motion, are more serious in video sequences. The approach can address the unbalanced distributions between still images and videos in a robust way by generating multiple "bridges" to connect the still images and video frames. So in this project, we can implement still to video matching approach to match the images with videos using Grossman manifold learning approach and Convolutional Neural network algorithm to know unknown matches. Using Grassmann learning algorithm to read the features vectors and matching feature vectors based on deep learning approaches. Finally

provide voice alert at the time unknown matching in real time environments. And also provide SMS alert and Email alert at the time of unknown face detection.

INTRODUCTION

Spark Technology is a global software development and information technology outsourcing company with offshore development center in Chennai. We firmly believe in offering exceptional value to our customers using state of the art technology. While our core business practices are built around acquiring and honing our expertise in the latest front line technologies, we strive to keep ourselves on the cutting edge technology. We realize that your business must keep pace with the speed of thought, and we believe that your ideas and enterprises deserve substantial reinvention. We address these changing needs of your business with solutions that are not only cost-effective but also fast to deploy, highly scalable and reliable.

While Traditional outsourcing concentrates on non-core tasks being shipped out, Spark Technology outsourced software development is

KeyWord: Distance Metric Learning, Dissimilarity Learning, Person Re-identification, Kernel-Based Learning.

targeted at the core tasks, the more critical part of your organization. Traditional offshore development is promoted on the premise of price wars alone, while Spark technology offshore development is built on the idea of having a skilled knowledge force at a remote location, for a fraction of the original costs.

EXISTING SYSTEM

The term multi-view face recognition, in a strict sense, only refers to situations where multiple cameras acquire the subject (or scene) simultaneously and an algorithm collaboratively utilizes the acquired images/videos. But the term has frequently been used to recognize faces across pose variations. This ambiguity does not cause any problem for recognition with (still) images; a group of images simultaneously taken with multiple cameras and those taken with a single camera but at different

view angles are equivalent as far as pose variations are concerned. However, in the case of video data, the two cases diverge. While a multi-camera system guarantees the acquisition of multi-view data at any moment, the chance of obtaining the equivalent data by using a single camera is unpredictable. Such differences become vital in non-cooperative recognition applications such as surveillance.

DISADVANTAGES

- Fail to simultaneously utilize the rich information and relationship between still images.
- Only implement image to image matching.

PROPOSED SYSTEM

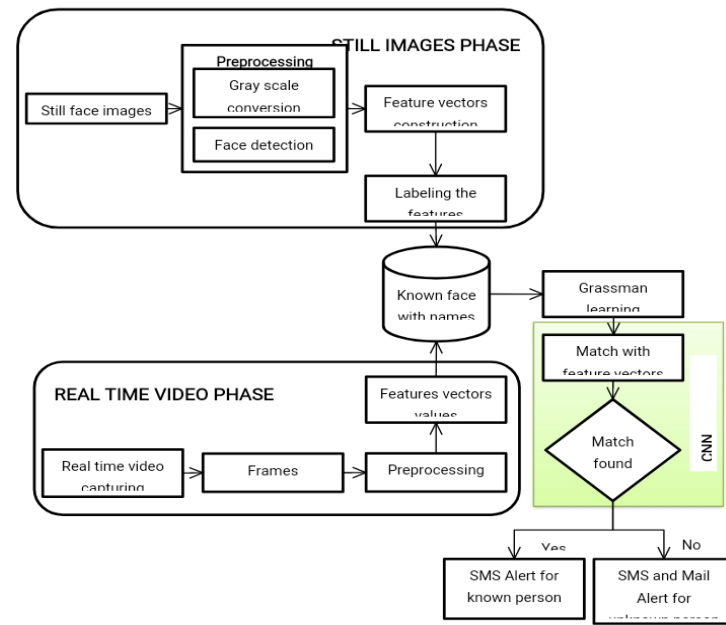
Face detection is the first stage of a face recognition system. A lot of research has been done in this area, most of which is efficient and effective for still images only & could not be applied to video sequences directly. Face recognition in videos is an active topic in the field of image processing, computer vision and biometrics over

many years. Compared with still face recognition videos contain more abundant information than a single image so video contain spatio-temporal information. To improve the accuracy of face recognition in videos to get more robust and stable recognition can be achieved by fusing information of multi frames and temporal information and multi poses of faces in videos make it possible to explore shape information of face and combined into the framework of face recognition. The video-based recognition has more advantages over the image-based recognition.

ADVANTAGES

- Overcome heterogeneous face matching problem.
- Build the relationship between the unbalanced distributions of still images and video clips of different quality.
- Complexity is low and performance is high
- Time consuming process.

SYSTEM ARCHITECTURE



should be addressed for the

SYSTEM MAINTENANCE

I. System maintenance is an on-going activity, which covers a wide variety of activities, including removing program and design errors, updating documentation and test data and updating user support. An integral part of software is the maintenance one, which requires an accurate maintenance plan to be prepared during the software development. It should specify how users will request modifications or report problems. The budget should include resource and cost estimates. A new decision

developing of every new system feature and its quality objectives..Net Framework.

II. The .NET Framework (pronounced dot net) is a software framework developed by Microsoft that runs primarily on Microsoft Windows. It includes a large library and provides language interoperability (each language can use code written in other languages) across several programming languages. Programs written for the .NET Framework execute in a software environment (as contrasted to hardware environment), known as the

Common Language Runtime (CLR), an application virtual machine that provides services such as security, memory management, and exception handling. The class library and the CLR together constitute the

.NET Framework.

The .NET Framework's Base Class Library provides user interface, data access, database connectivity, cryptography, web application development, numeric algorithms, and network communications. Programmers produce software by combining their own source code with the .NET Framework and other libraries. The .NET Framework is intended to be used by most new applications created for the Windows platform. Microsoft also produces an integrated development environment largely for .NET software called Visual Studio.

CONCLUSION.

Face recognition has gained a significant position among most commonly used applications of image processing furthermore availability of viable technologies in this field have

contributed a great deal to it. Automatic face recognition (AFR) technologies have made many improvements in the changing world. Smart door control system using Real-Time Face Recognition is a real-world solution which comes with day to day activities of handling door opening and closing. Face recognition-based system is a process of recognizing the person face for entering into the home by using face biometrics based on high - definition monitor video and other information technology. In my face recognition project, a computer system will be able to find and recognize human faces fast and precisely in images or videos that are being captured through a surveillance camera. Numerous algorithms and techniques have been developed for improving the performance of face recognition. It helps in conversion of the frames of the video into images so that the face of the person can be easily recognized for their system, so that the user database can be easily reflected automatically. In this project, reviewed face recognition technique for still images and video sequences in real time door control system.

REFERENCES

- [1] M. Ayazoglu, B. Li, C. Dicle, M. Sznaier, and O. Camps. Dynamic subspace-based coordinated multicamera tracking. In 2011 IEEE International Conference on Computer Vision (ICCV), pages 2462–2469, Nov. 2011.
- [2] D. Baltieri, R. Vezzani, and R. Cucchiara. Learning articulated body models for people re-identification. In Proceedings of the 21st ACM International Conference on Multimedia, MM '13, pages 557–560, New York, NY, USA, 2013. ACM.
- [3] D. Baltieri, R. Vezzani, and R. Cucchiara. Mapping appearance descriptors on 3d body models for people reidentification. International Journal of Computer Vision, 111(3):345–364, 2015.
- [4] I. B. Barbosa, M. Cristani, B. Caputo, A. Rognhaugen, and T. Theoharis. Looking beyond appearances: Synthetic training data for deep cnns in re-identification. arXiv preprint arXiv:1701.03153, 2017.
- [5] A. Bedagkar-Gala and S. Shah. Multiple person reidentification using part based spatio-temporal color appearance model. In Computer Vision Workshops (ICCV Workshops), 2011 IEEE International Conference on, pages 1721–1728, Nov 2011.
- [6] A. Bedagkar-Gala and S. K. Shah. Part-based spatiotemporal model for multi-person re-identification. Pattern Recognition Letters, 33(14):1908 – 1915, 2012. Novel Pattern Recognition-Based Methods for Re-identification in Biometric Context.