



Aerial Surveillance using Edge based Approach: A perspective view

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Abstract

The trend and technology is a very similar auto democratic terminology in the field of computer science. If we consider the fact of image in the perspective of Aerial, many algorithm and technology has already explained to counterpart with advanced human race. In this paper of abstract we like to give emphasis based on Aerial Surveillance where mapping a picture in the various angle or we can tell as parameter like angle of projection, method, and distance and resolution etc. to counterpart our assumption as of to maintain the best to the accuracy. If we consider the Military technology is in the field of air force where people give emphasis of projection to the angel of contact. Hence in this paper we tries to give emphasis on the fact of accuracy using the best algorithmic approach and computational effect of efficiency by using high bandwidth network and image quality in order to ensure the very best solution to the human race.

Keywords: Aerial Surveillance, Edge, Angel of projection, High Bandwidth Network, Dynamic Merging technology.

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1. Introduction

Technology and it's introductory is
the most base foundation which lead us to



next level of research. In this context of paper, the word surveillance is the French word for "watching over"; "sur" means "from above" and "veiller" means "to watch". The inverse (reciprocal) of surveillance is surveillance ("to watch from below"). The word surveillance may be applied to observation from a distance by means of electronic equipment (such as CCTV cameras), or interception of electronically transmitted information (such as Internet traffic or phone calls). It may also refer to simple, relatively no- or low-technology methods such as human intelligence agents and postal interception.

There are various Aerial Products has combined years of experience in aerostat manufacturing with extensive knowledge of secure data networking and image sensor expertise to manifesto the research in the very perfect way. The result is the LTAS Series - Aerostat Surveillance Systems and Mast Systems. The LTAS 100 is a completely new concept in aerial imaging, designed for urban environments, while the LTAS 200 and 300 series are more traditional technologies and are designed for borders, ports and areas where lighting conditions require thermal imagers. The technology is rumored to be able to scan objects down to four inches wide, and the military-grade equipment may be able to capture not just aerial views of cities, but also to probe further into the domestic arrangements of the general public.

The technology giant expects to soon announce new mapping technology to rival Google Maps, following Apple's acquisition of Swedish C3 Technologies an advanced 3D mapping business last year.

2. Related work

In the context of this paper, several different processes are needed for the computer analysis of aerial videos and much methodology as adopted to give the best of the technology. In this, we considered first, the static objects in the video frames must be recognized to determine the context of the events. Static objects might include forests, , roads, runways, and buildings, among others. Next the moving objects in the video must be detected, tracked, and identified. Moving objects include vehicles (cars, trucks, tanks, and buses) and people. Given the static objects and moving objects in a set of frames, events are by the actions of the moving objects and their interactions with the static objects. For example, two cars might pull on a road and stop together in a field. People might get out of the cars and approach each other for a meeting. A caravan of trucks might travel in one direction on a dirt road for a period of time and then make a U-turn and proceed in the opposite direction. A vehicle might pull up to a building and disappear into an underground garage or tunnel, then reappear some time later. In all of these cases, both the moving objects and the static objects must be recognized and their interactions noted.



Fig: 2.1 View Of the Surveillance of Dynamic projection

In the fig.2.1 it shows the method of angle and the 3D centric approach towards the destination. As the turn of the century approached yet another national debate on illegal immigration placed the spotlight on America's borders. The resulting attention increased agency budgets and abetted the

propagation of technology. As a result, numerous Border Patrol stations along the southwest border installed Remote Video Surveillance Systems that, in some locations, covered several miles of the border. These surveillance systems included both infrared night cameras and closed



circuit day cameras. The additional funding also provided a plethora of new technology which included handheld Gamma-Densitometers known as K910B Busters to detect hidden contraband, and fiber optic

Taking the concept to the extended version of telecom technology, Beyond GPRS, EDGE takes the cellular community one step closer to UMTS. It provides higher data rates than GPRS and introduces a new modulation scheme called 8-PSK. EDGE is also being adopted by the TDMA community for their migration to UMTS. Nuntius has solutions for the EDGE handset functions to help reach handset deployment quicker. For more information, contact Nuntius Systems, Inc. Many wireless data applications today can be implemented with 9.6kbit/s data. However, bandwidth-hungry fixed line data applications - web browsing, access to corporate data bases, and so on - would benefit from higher transmission speeds when used over the mobile network. HSCSD will significantly improve performance, especially for time-critical applications. GPRS will enable cost-effective wireless access to applications that rely upon data bursts, adding packet switching to GSM with a packet-based air interface on top of the current circuit switched mode of operation. GPRS will provide the connectivity needed in packet-switched data networks such as the Internet.

In the context of surveillance, Image stitching has been widely used in many applications in preserve view to implement the best strategy in making a decision for the

projection based on the angle and other parameters which is described in this paper of our methodology. In the context we take the basics of computer vision including how an image is formed from a camera, motion models and common image processing methods. This gives an outline of the image stitching techniques in the preview of distance technology toward the image. It presented a simplified flowchart of producing panoramic image from image acquisition to image remapping and finally to image blending. The concept introduces the automatic panoramic image stitching method using invariant features which enables the recent technology migration to panoramic suit. It provides detailed algorithm descriptions about how images can be automatically stitched using SIFT features and RANSAC homographic estimation makes though illustration of feature based image stitching. Theories about feature extraction, feature matching, homograph estimation, image wrapping and image blending are all introduced in this makes comprehensive illustration of two-view geometry. The concept of homographic and infinite homographic. It presents what functions are provided by the library and how these functions can be used to implement camera calibration and image stitching algorithms.

3. Methods

The methodology we follow in this context of surveillance is the trend of the most EDGE technology to minimize the network and overcome the best to the recent



trend that has already provided. EDGE, expected to be deployed in 2000-2001, is a major improvement in GSM phase 2+. As a modification to existing GSM networks, EDGE does not require new network elements. EDGE is especially attractive to GSM 900, GSM 1800 and GSM 1900 operators that do not have a license for UMTS, but still wish to offer competitive personal multimedia applications utilizing the existing band allocation. Also, EDGE can co-exist with UMTS, for instance to provide high-speed services for wide-area coverage while UMTS is deployed in urban hot spots.

Persistent aerial surveillance is an emerging domain with needs to assess ongoing activity in large areas for tasks such as force protection, traffic management, and urban planning. Automated analysis tools are important as the size of the area monitored and the number of objects to track is difficult to manage manually. Both tracking and activity analysis research in wide-area aerial surveillance (WAAS) video are recent and limited. Here, we introduce a scalable approach to handle the challenges inherent to tracking objects and analysis of traffic activity in such video.

Projection to Mapping Approach

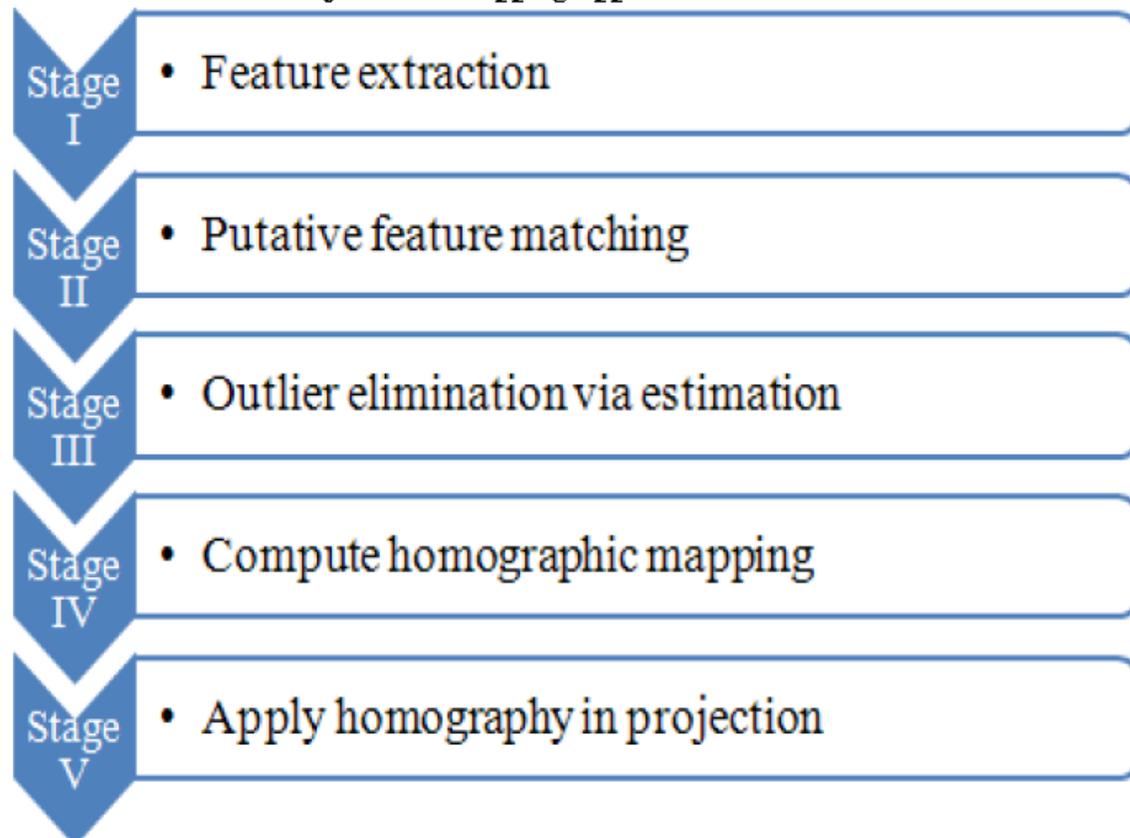




Fig.3.1 Feature Based Mosaic Approach to Projection Based on angel Method.

After features are extracted from each image set to be combined in the mosaic, putative feature matches are computed. The feature matching stage produces these putative matches which should have as high of a correct matching rate as possible, yet undoubtedly will produce some false matches. These false matches are then presumably identified in stage three by an estimation process. During this process the false matches are considered outliers to some sort of likelihood model and the correct matches or inliers are passed on to stage four. The fourth stage takes these estimated true matches and computes the geometric transformation which best maps the corresponding scene points from one image to the same scene points in the other. Many types of transformations are possible including simple Euclidean, similarity and perspective.

DSA protocol Based Approach:

In the Direction Specific Algorithm, We try to give emphasis on the path and id associated with approach, follows the following steps.

The Route Cache should support storing more than one source route for each destination.

If a node S is using a source route to some destination D that includes intermediate node N, S should shorten the route to destination D when it learns of a shorter

route to node N than the one that is listed as the prefix of its current route to D. However, the cache should still retain the ability to revert to the older, longer route to N if the shorter one does not work.

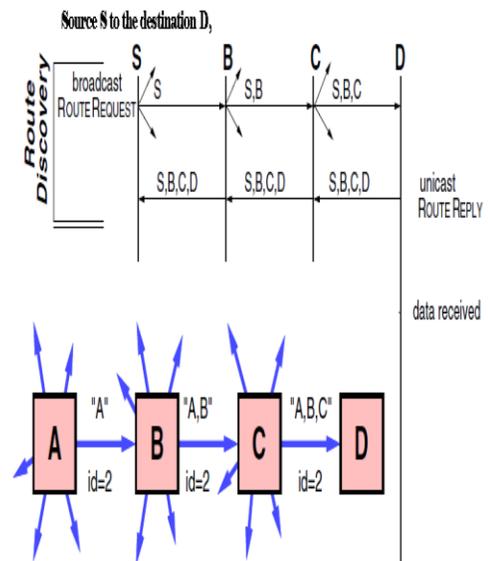


Fig.3.2 Showing the DSA approach to the ID based route.

In a typical streaming application, the execution of a particular task begins after data is received. The execution of a particular task is called id based execution.. At the end of execution of a task, data is produced. The data produced and consumed by the actors are called tokens. The rate at which each actor produces and consumes tokens is called token rate. In the

description, each edge forms a channel for each actor to produce and consume tokens.

The technology makes the movement of various methods and also related work, in this paper we propose a new Aerial Surveillance vehicle detection approach which makes the advantages of existing systems avoid their counterpart. In the base of the proposed framework the fig. 3.2 explains the methodology of workflow in the framework. The framework consists of two axis approach trailing phase and implementation phase. In the trailing phase, we take consideration of several features which include projection angle corner features and vehicles colors, size, speed etc... In the implementation phase same feature extraction is also performed as in trailing phase. Afterwards the extracted features are used to classify pixels as vehicle pixel or non vehicle pixel using SVM. In this paper, we do not perform region based classification, which would highly depend on results of color segmentation algorithms such as mean shift. There is no need to generate multi-scale sliding windows either. The distinguishing feature of the proposed framework is that the detection task is based on pixel wise classification. However, the features are extracted in a neighborhood region of each pixel.

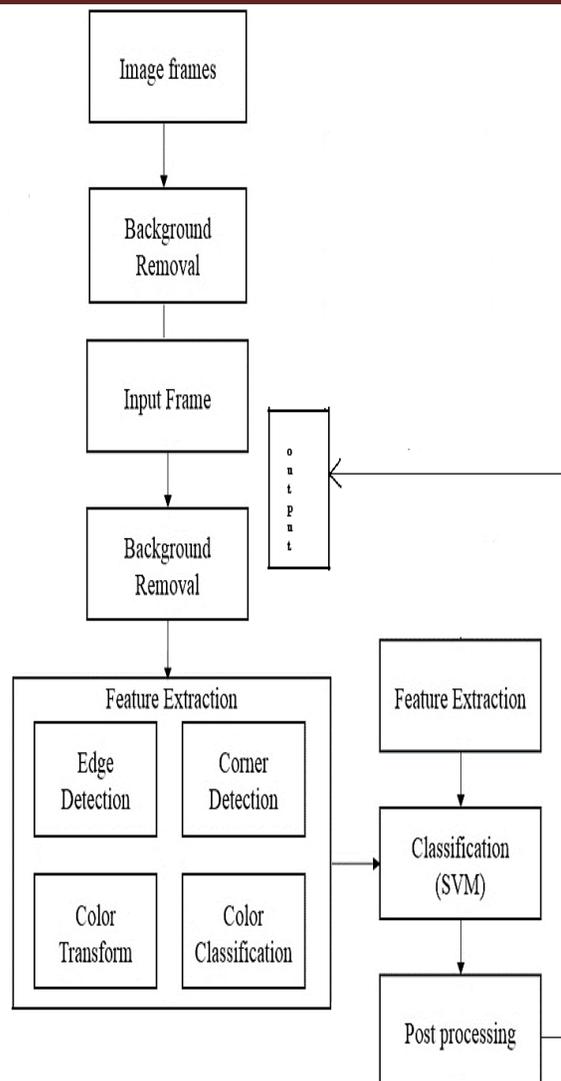


Fig.3.3 Showing the Framework (Proposed Two Vertical Method)

The input image is resized to enlarged image which is de-composed into 2 levels. Some of them are they form a compact representation, they encode edge information which is an important feature for vehicle detection, they capture information from multiple resolution levels

and also there exist fast algorithms for computing these features.

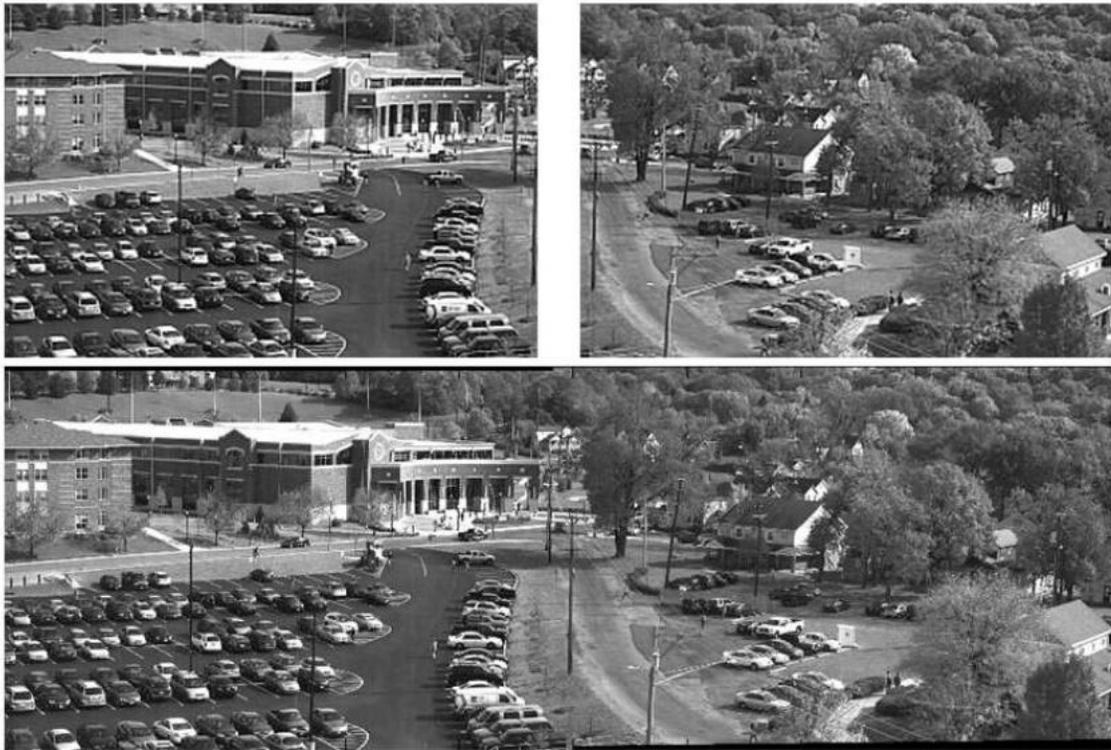


Fig.3.4 Surveillance HD image from High Angle of Projection

In the above fig.3.3. Showing the high crystal HD view in the context to field of Military in the best of the image to give a clear look, how the projection and it's related surrounding can be affected. In this paper, we try to the best to service of the mankind.

4. Conclusion And Recommendations

In the context of the analysis of requirements of feasibility, acceptability, and suitability, we tried to give emphasis on the concept of EDGE and the biased based

networking algorithm, which lead to the next level of enhancement of the present solution. It was in this step wherein analysis screened out technology that could potentially enhance the capabilities of captured image under the moving condition, but either exceeded the agency's fiscal abilities, or proved too dangerous to operate. Adopting the light sport aircraft proved unacceptable due to a low survival rate in the event of an accident. Detected patterns include traffic flow direction, unit vs. bidirectional roads, acceleration or deceleration zones, and bidirectional stops.



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