Access Free Paj7025r2 Multiple Objects Tracking Sensor Module Pdf Free Copy

Techniques for Detection and Tracking of Multiple Objects Deep Similarity Metric Learning for Multiple Object Tracking Fundamentals of Object Tracking Multiple Object Tracking Using Deep Learning Techniques Analytic Combinatorics for Multiple Object Tracking Proceedings Computer Vision 2001 IEEE Workshop on Multi-object Tracking Higher-order Multiple Object Tracking Tracking Multiple Objects in Space Person Re-Identification Multiple Object Tracking A Mobile Service Oriented Multiple Object Tracking Augmented Reality Architecture for Education and Learning Experiences Real-time Distributed Video Tracking of Multiple Objects from Single and Multiple Cameras Final Report on a Study of the Multiple Object Tracking System Searching Through Subsets of Moving Items Multi-feature RGB-D Generic Object Tracking Using a Simple Filter Hierarchy Multi-scale Particle Filtering for Multiple Object Tracking in Video Sequences Multiple Object Tracking Systems Tracking Multiple Objects in Video Sequences Data Association for Multi-Object Visual Tracking Multiple Object Tracking Supports Thematic Role Features for Language Feature-Based Probabilistic Data Association for Video-Based Multi-Object Tracking Multiple Object Tracking Using Video Segmentation Through Space and Time Multiple Objects Tracking Using Blackboard, Pyramid and Transputers Training Algorithms for Multiple Object Tracking Neural Network Approach to Tracking Multiple Objects Poisson Multi Bernoulli Mixtures for Multiple Object Tracking Accelerated Object Tracking with Local Binary Features Unequal Attention Allocation in Multiple Object Tracking The Role of Visual Attention in Multiple Object Tracking Robust Multiple Object Tracking Using ReID Features and Graph Convolutional Networks The Effect of Divided Attention on Multiple Object Tracking Performance Multi-Camera Networks Multiple Object Tracking Based on Paint Patterns Advances in Computational Intelligence and Informatics Computer Vision ECCV 2016 Workshops Object Tracking Analysis of Visual Distinctive Features for the Global Tracking of Multiple Objects

Mots-clés de l'auteur: multi-object tracking ; behaviour modelling ; tracking ; detection ; interaction ; mixed integer programming. The book shows that the analytic combinatorics (AC) method encodes the combinatorial problems of multiple object trackingwithout information lossinto the derivatives of a generating function (GF). The book lays out an easy-to-follow path from theory to practice and includes salient AC application examples. Since GFs are not widely utilized amongst the tracking community, the book takes the reader from the basics of the subject to applications of theory starting from the simplest problem of single object tracking, and advancing chapter by chapter to more challenging multi-object tracking problems. Many established tracking filters (e.g., Bayes-Markov, PDA, JPDA, IPDA, JIPDA, CPHD, PHD, multi-Bernoulli, MBM, LMBM, and MHT) are derived in this manner with simplicity, economy, and considerable clarity. The AC method gives significant and fresh insights into the modeling assumptions of these filters and, thereby, also shows the potential utility of various approximation methods that are well established techniques in applied mathematics and physics, but are new to tracking. These unexplored possibilities are reviewed in the final chapter of the book. "The marked behavioral difficulties displayed by children with Attention Deficit Hyperactivity Disorder (ADHD) have been proposed to be the result of an impaired attentional system, specifically in terms of the ability to sustain, select, and divide attention (Rapport, 2013). However, impaired performance on experimental attention tasks has only been modestly associated with observed behavioral patterns reported by parents and teachers (e.g., Barkley 1991; Nigg, 2005; Jonsdottir, Bouma, Sergeant, & Scherder, 2006). Thus, the focus of this study was to examine attention abilities among children with ADHD with an experimental task that more closely captures the dynamic nature of attention that is needed in the real-world environment. The multiple object tracking (MOT) task was proposed to serve this purpose, as the tracking of multiple moving objects reflects the navigation required in a typical dynamic environmental context. As such, performance on the "Catch the Spies" variant of the MOT task (Trick, Jaspers-Frayer, & Sethi, 2005), including immediate and delayed report conditions, was compared between children with ADHD of an average CA of 10.3 years and a matched group of TD children. Furthermore, the ecological validity of the MOT task was examined by comparing the tracking performance and behavioral ratings of all participants. The results suggest that multiple object tracking may be developmentally appropriate in children with ADHD, as the level of accuracy on the task was similar for the two groups. In addition, performance on the MOT task was not correlated with attention problems ratings from a clinical measure across the two groups. These findings suggest that the behavioral symptoms that are essential for the diagnosis of ADHD may not be related to a difficulty monitoring the moving objects in their environment." -- Annotation Contains 12 papers from a July 2001 workshop on visual tracking of multiple objects in computer vision. Topics discussed include unified multi-camera detection and tracking using region-matching, maintaining the identity of multiple vehicles as they travel through a video network, tracking body parts of multiple people, joint likelihood methods for mitigating visual tracking disturbances, and combined segmentation and tracking of overlapping objects with feedback. Other subjects include tracking and recognizing two-person interactions in outdoor image sequences, multiple camera fusion for multi-object tracking, tracking multiple people with a multi-camera system, and engineering statistics for multi-object tracking. This volume lacks a subject index. c. Book News Inc. The first book of its kind dedicated to the challenge of person re-identification, this text provides an in-depth, multidisciplinary discussion of recent developments and state-of-the-art methods. Features: introduces examples of robust feature representations, reviews salient feature weighting and selection mechanisms and examines the benefits of semantic attributes; describes how to segregate meaningful body parts from background clutter; examines the use of 3D depth images and contextual constraints derived from the visual appearance of a group; reviews approaches to feature transfer function and distance metric learning and discusses potential solutions to issues of data scalability and identity inference; investigates the limitations of existing benchmark datasets, presents strategies for camera topology inference and describes techniques for improving post-rank search efficiency; explores the design rationale and implementation considerations of building a practical re-identification system. This book is a collection of outstanding papers presented at the 1st International Conference on Advances in Computational Intelligence and Informatics (ICACII 2019), organized by the Department of Computer Science & Engineering, Anurag Group of Institutions (AGI), Hyderabad, on 20–21 December 2019. It includes innovative ideas and new research findings in the field of Computational Intelligence and Informatics that will benefit researchers, scientists, technocrats, academics and engineers alike. The areas covered include high-performance systems, data science and analytics, computational intelligence and expert systems, cloud computing, computer networks and emerging technologies. An important task in computer vision is tracking objects precisely to enable further data analysis. However, in reality, we can not guarantee that the tracking results out of a motion capture (MoCap) system are always accurate, due to lack of cameras numbers, limitation of camera coverage and so on. Unfortunately, manually xing these errors can take more than 10 hours for a ve-minute MoCap. Therefore, we are motivated to develop a method to x imperfect motion capture data in terms of tracking correctness and gap lling. This thesis presents an innovative tracking algorithm to track objects formed by multiple trajectories with geometric correlations. In this thesis, we use a human skeleton formed by 39 markers (i.e. 39 trajectories) to illustrate how our algorithm can apply geometric constraints and select results among multiple results. We extend our algorithm to track multiple subjects (e.g. dual players and a human with a sword). As tracking accuracy depends mainly on finding good discriminative features to estimate the target location, finally, we propose to learn good features for generic object tracking using online convolutional neural networks (OCNN). In order to learn discriminative and stable features for tracking, we propose a novel object function to train OCNN by penalizing the feature variations in consecutive frames, and the tracker is built by integrating OCNN with a color-based multi-appearance model. Our experimental results on real-world videos show that our tracking systems have superior performance when compared with several state-of-the-art trackers. In the feature, we plan to apply the Bayesian Hierarchical Appearance Model (BHAM) for multiple objects tracking. The first book, by the leading experts, on this rapidly developing field with applications to security, smart homes, multimedia, and environmental monitoring Comprehensive coverage of fundamentals, algorithms, design methodologies, system implementation issues, architectures, and applications Presents in detail the latest developments in multi-camera calibration, active and heterogeneous camera networks, multi-camera object and event detection, tracking, coding, smart camera architecture and middleware This book is the definitive reference in multi-camera networks. It gives clear guidance on the conceptual and implementation issues involved in the design and operation of multi-camera networks, as well as presenting the state-of-the-art in hardware, algorithms and system development. The book is broad in scope, covering smart camera architectures, embedded processing, sensor fusion and middleware, calibration and topology, network-based detection and tracking, and applications in distributed and collaborative methods in camera networks. This book will be an ideal reference for university researchers, R&D engineers, computer engineers, and graduate students working in signal and video processing, computer vision, and sensor networks. Hamid Aghajan is a Professor of Electrical Engineering (consulting) at Stanford University. His research is on multi-camera networks for smart environments with application to smart homes, assisted living and well being, meeting rooms, and avatar-based communication and social interactions. He is Editor-in-Chief of Journal of Ambient Intelligence and Smart Environments, and was general chair of ACM/IEEE ICDSC 2008. Andrea Cavallaro is Reader (Associate Professor) at Queen Mary, University of London (QMUL). His research is on target tracking and audiovisual content analysis for advanced surveillance and multi-sensor systems. He serves as Associate Editor of the IEEE Signal Processing Magazine and the IEEE Trans. on Multimedia, and has been general chair of IEEE AVSS 2007, ACM/IEEE ICDSC 2009 and BMVC 2009. The first book, by the leading experts, on this rapidly developing field with applications to security, smart homes, multimedia, and environmental monitoring Comprehensive coverage of fundamentals, algorithms, design methodologies, system implementation issues, architectures, and applications Presents in detail the latest developments in multi-camera calibration, active and heterogeneous camera

networks, multi-camera object and event detection, tracking, coding, smart camera architecture and middleware Computer vision is the science and technology of making machines that see. It is concerned with the theory, design and implementation of algorithms that can automatically process visual data to recognize objects, track and recover their shape and spatial layout. The International Computer Vision Summer School - ICVSS was established in 2007 to provide both an objective and clear overview and an in-depth analysis of the state-of-the-art research in Computer Vision. The courses are delivered by world renowned experts in the field, from both academia and industry, and cover both theoretical and practical aspects of real Computer Vision problems. The school is organized every year by University of Cambridge (Computer Vision and Robotics Group) and University of Catania (Image Processing Lab). Different topics are covered each year. A summary of the past Computer Vision Summer Schools can be found at: http://www.dmi.unict.it/icvss This edited volume contains a selection of articles covering some of the talks and tutorials held during the first two editions of the school on topics such as Recognition, Registration and Reconstruction. The chapters provide an in-depth overview of these challenging areas with key references to the existing literature. The three-volume set LNCS 9913, LNCS 9914, and LNCS 9915 comprises the refereed proceedings of the Workshops that took place in conjunction with the 14th European Conference on Computer Vision, ECCV 2016, held in Amsterdam, The Netherlands, in October 2016. The three-volume set LNCS 9913, LNCS 9914, and LNCS 9915 comprises the refereed proceedings of the Workshops that took place in conjunction with the 14th European Conference on Computer Vision, ECCV 2016, held in Amsterdam, The Netherlands, in October 2016. 27 workshops from 44 workshops proposals were selected for inclusion in the proceedings. These address the following themes: Datasets and Performance Analysis in Early Vision; Visual Analysis of Sketches; Biological and Artificial Vision; Brave New Ideas for Motion Representations; Joint ImageNet and MS COCO Visual Recognition Challenge; Geometry Meets Deep Learning; Action and Anticipation for Visual Learning; Computer Vision for Road Scene Understanding and Autonomous Driving; Challenge on Automatic Personality Analysis; BioImage Computing; Benchmarking Multi-Target Tracking: MOTChallenge; Assistive Computer Vision and Robotics; Transferring and Adapting Source Knowledge in Computer Vision; Recovering 6D Object Pose; Robust Reading; 3D Face Alignment in the Wild and Challenge; Egocentric Perception, Interaction and Computing; Local Features: State of the Art, Open Problems and Performance Evaluation; Crowd Understanding; Video Segmentation; The Visual Object Tracking Challenge Workshop; Web-scale Vision and Social Media; Computer Vision for Audio-visual Media; Computer VISion for ART Analysis; Virtual/Augmented Reality for Visual Artificial Intelligence; Joint Workshop on Storytelling with Images and Videos and Large Scale Movie Description and Understanding Challenge. The tracking of moving objects in video sequences, also known as visual tracking, involves the estimation of positions, and possibly velocities, of these objects. Visual tracking is an important research problem because of its many industrial, biomedical, and security applications. Significant progress has been made on this topic over the last few decades. However, the ability to track objects accurately in video sequences having challenging conditions and unexpected events, e.g., background motion, object shadow, objects with different sizes and contrasts, a sudden change in illumination, partial object camouflage, and low signal-to-noise ratio, remains an important research problem. To address such difficulties, we adopted a multi-scale Bayesian approach to develop robust multiple object trackers. We introduce a novel concept in the field of visual tracking by adaptively fusing tracking results obtained from a fixed or variable number of wavelet subbands, corresponding to different scene directions and object scales, of a given video frame. Previous approaches to visual tracking were based on using the full- resolution video frame or a smoothed version of it. These approaches have limitations that were overcome by our multi-scale approach that is described in detail in this thesis. This thesis describes the design and implementation of four novel multi-scale visual trackers that are based on particle filtering and the adaptive fusion of subband frames generated using wavelets. We evaluated the performance of our novel trackers using different video sequences from the CAVIAR and VISOR databases. Compared to a standard full-resolution particle filter-based tracker, and a single wavelet subband (LL)2 based tracker, our multi-scale trackers demonstrate significantly more accurate tracking performance, in addition to a reduction in average frame processing time. In the human quest for scientific knowledge, empirical evidence is collected by visual perception. Tracking with computer vision takes on the important role to reveal complex patterns of motion that exist in the world we live in. Multi-object tracking algorithms provide new information on how groups and individual group members move through three-dimensional space. They enable us to study in depth the relationships between individuals in moving groups. These may be interactions of pedestrians on a crowded sidewalk, living cells under a microscope, or bats emerging in large numbers from a cave. Being able to track pedestrians is important for urban planning; analysis of cell interactions supports research on biomaterial design; and the study of bat and bird flight can guide the engineering of aircraft. We were inspired by this multitude of applications to consider the crucial component needed to advance a single-object tracking system to a multi-object tracking system—data association. Data association in the most general sense is the process of matching information about newly observed objects with information that was previously observed about them. This information may be about their identities, positions, or trajectories. Algorithms for data association search for matches that optimize certain match criteria and are subject to physical conditions. They can therefore be formulated as solving a "constrained optimization problem"—the problem of optimizing an objective function of some variables in the presence of constraints on these variables. As such, data association methods have a strong mathematical grounding and are valuable general tools for computer vision researchers. This book serves as a tutorial on data association methods, intended for both students and experts in computer vision. We describe the basic research problems, review the current state of the art, and present some recently developed approaches. The book covers multi-object tracking in two and three dimensions. We consider two imaging scenarios involving either single cameras or multiple cameras with overlapping fields of view, and requiring across-time and across-view data association methods. In addition to methods that match new measurements to already established tracks, we describe methods that match trajectory segments, also called tracklets. The book presents a principled application of data association to solve two interesting tasks: first, analyzing the movements of groups of free-flying animals and second, reconstructing the movements of groups of pedestrians. We conclude by discussing exciting directions for future research. Multiple object tracking, i.e. simultaneously tracking multiple objects in the scene, is an important but challenging visual task. Objects should be accurately detected and distinguished from each other to avoid erroneous trajectories. Since remarkable progress has been made in object detection field, “tracking-by-detection” approaches are widely adopted in multiple object tracking research. Objects are detected in advance and tracking reduces to an association problem: linking detections of the same object through frames into trajectories. Most tracking algorithms employ both motion and appearance models for data association. For multiple object tracking problems where exist many objects of the same category, a fine-grained discriminant appearance model is paramount and indispensable. Therefore, we propose an appearance-based re-identification model using deep similarity metric learning to deal with multiple object tracking in mono-camera videos. Two main contributions are reported in this dissertation: First, a deep Siamese network is employed to learn an end-to-end mapping from input images to a discriminant embedding space. Different metric learning configurations using various metrics, loss functions, deep network structures, etc., are investigated, in order to determine the best re-identification model for tracking. In addition, with an intuitive and simple classification design, the proposed model achieves satisfactory re-identification results, which are comparable to state-of-the-art approaches using triplet losses. Our approach is easy and fast to train and the learned embedding can be readily transferred onto the domain of tracking tasks. Second, we integrate our proposed re-identification model in multiple object tracking as appearance guidance for detection association. For each object to be tracked in a video, we establish an identity-related appearance model based on the learned embedding for re-identification. Similarities among detected object instances are exploited for identity classification. The collaboration and interference between appearance and motion models are also investigated. An online appearance-motion model coupling is proposed to further improve the tracking performance. Experiments on Multiple Object Tracking Challenge benchmark prove the effectiveness of our modifications, with a state-of-the-art tracking accuracy. During the past decade, object detection and object tracking in videos have received a great deal of attention from the research community in view of their many applications, such as human activity recognition, human computer interaction, crowd scene analysis, video surveillance, sports video analysis, autonomous vehicle navigation, driver assistance systems, and traffic management. Object detection and object tracking face a number of challenges such as variation in scale, appearance, view of the objects, as well as occlusion, and changes in illumination and environmental conditions. Object tracking has some other challenges such as similar appearance among multiple targets and long-term occlusion, which may cause failure in tracking. Detection-based tracking techniques use an object detector for guiding the tracking process. However, existing object detectors usually suffer from detection errors, which may mislead the trackers, if used for tracking. Thus, improving the performance of the existing detection schemes will consequently enhance the performance of detection-based trackers. The objective of this research is two fold: (a) to investigate the use of 2D discrete Fourier and cosine transforms for vehicle detection, and (b) to develop a detection-based online multi-object tracking technique.The first part of the thesis deals with the use of 2D discrete Fourier and cosine transforms for vehicle detection. For this purpose, we introduce the transform-domain two-dimensional histogram of oriented gradients (TD2DHOG) features, as a truncated version of 2DHOG in the 2DDFT or 2DDCT domain. It is shown that these TD2DHOG features obtained from an image at the original resolution and a downsampled version from the same image are approximately the same within a multiplicative factor. This property is then utilized in developing a scheme for the detection of vehicles of various resolutions using a single classifier rather than multiple resolution-specific classifiers. Extensive experiments are conducted, which show that the use of the single classifier in the proposed detection scheme reduces drastically the training and storage cost over the use of a classifier pyramid, yet providing a detection accuracy similar to that obtained using TD2DHOG features with a classifier pyramid. Furthermore, the proposed method provides a detection accuracy that is similar or even better than that provided by the state-of-the-art techniques.In the second part of the thesis, a robust collaborative model, which enhances the interaction between a pre-trained object detector and a number of particle filter-based single-object online trackers, is proposed. The proposed scheme is based on associating a detection with a tracker for each frame. For each tracker, a motion model that incorporates the associated detections with the object dynamics, and a likelihood function that provides different weights for the propagated particles and the newly created ones from the associated detections are introduced, with a view to reduce the effect of detection errors on the tracking process. Finally, a new image sample selection scheme is introduced in order to update the appearance model of a given tracker. Experimental results show the effectiveness of the proposed scheme in enhancing the multi-object tracking performance. "This research focuses on tracking generic non-rigid objects at close range to an infrared triangulation-based RGB-D sensor. The work was motivated by direct industry demand for a foundation for a low-cost application to operate in a surveillance setting. There are several novel components of this research that build on classical and state-of-the-art literature to extend into this real-world environment with limited constraints. The initialization is automatic with no a priori knowledge of the object and there are no restrictions on object appearance or transformation. There are no assumptions on object placement and only a very general physical model is applied to object trajectory. The tracking is performed using a Kalman filter and polynomial predictor to hypothesize the next location and a particle filter with colour, edge, depth edge, and absolute depth features to pinpoint object location. This work deals with challenges that are not explored in other work including highly variable object motion characteristics and generality with respect to the object tracked. It also explores the potential for multiple objects to occupy the same x-y location and have the same appearance. The result is a basic model for generic single object tracking that can be extended to any scenario with tailored occlusion-handling and augmented with behavioural analysis to confront a real-world problem." -- This project has been devoted to (i) learning what Multiple Object Tracking (MOT) is, (ii) learning Python, one of the most used languages in Machine Learning and computer vision, and (iii) to evaluate a tracker (TrajTrack), currently being developed at the image processing group (GPI), against the UA-DETRAC dataset. The work has been divided in two parts. On the one hand, we have studied MOT and its main challenges, such as occlusions or identity switches, in order to follow multiple objects throughout a video sequence. To fully understand this problem, we have developed a multiple tennis ball tracker in Python from scratch. On the other hand, we have used TrajTrack, which is evaluated on a pedestrian dataset (MOT17), and adapted it to be evaluated against a car dataset (UA-DETRAC). For this, we have retrained the detection and re-identification models. We have obtained a 98.6% MOTA score for training and a 74.7% MOTA score for testing. These results are comparable with the state-of-the-art techniques. "Deep Learning allows for great advancements in computer vision research and development. An area that is garnering attention is single object tracking and multi-object tracking. Object tracking continues to progress vastly in terms of detection and building re-identification features, but more effort needs to be dedicated to data association. In this thesis, the goal is to use a graph neural network to combine the information from both the bounding box interaction as well as the appearance feature information in a single association chain. This work is designed to explore the usage of graph neural networks and their message passing abilities during tracking to come up with stronger data associations. This thesis combines all steps from detection through association using state of the art methods along with novel re-identification applications. The metrics used to determine success are Multi-Object Tracking Accuracy (MOTA), Multi-Object

Tracking Precision (MOTP), ID Switching (IDs), Mostly Tracked, and Mostly Lost. Within this work, the combination of multiple appearance feature vectors to create a stronger single feature vector is explored to improve accuracy. Different types of data augmentations such as random erase and random noise are explored and their results are examined for effectiveness during tracking. A unique application of triplet loss is also implemented to improve overall network performance as well. Throughout testing, baseline models have been improved upon and each successive improvement is added to the final model output. Each of the improvements results in the sacrifice of some performance metrics but the overall benefits outweigh the costs. The datasets used during this thesis are the UAVDT Benchmark and the MOT Challenge Dataset. These datasets cover aerial-based vehicle tracking and pedestrian tracking. The UAVDT Benchmark and MOT Challenge dataset feature crowded scenery as well as substantial object overlap. This thesis demonstrates the increased matching capabilities of a graph network when paired with a robust and accurate object detector as well as an improved set of appearance feature vectors."--Abstract. In multiple object tracking (MOT), observers keep track of a number of objects that move haphazardly around a display in the presence of identical distractors. The present work examined the role of visual attention in the MOT task using event-related potentials (ERPs). Specifically, I measured the amplitude of the N1 component to probe flashes presented on targets, distractors, or neutral display areas. The results of these experiments showed evidence that visual attention enhances targets and suppresses distractors during MOT (Experiment 1, 3, & 4). However, there was also evidence that when tracking load was light (two targets and two distractors), accurate tracking could be carried out without any apparent contribution from the visual attention system (Experiment 2). These results suggest that attentional selection during MOT is flexibly determined by task demands as well as tracking load and that visual attention may not always be necessary for accurate tracking. This paper describes the design of our service-oriented architecture to support mobile multiple object tracking augmented reality applications applied to education and learning scenarios. The architecture is composed of a mobile multiple object tracking augmented reality client, a web service framework, and dynamic content providers. Tracking of multiple real objects and retrieval of associated multiple media contents allows more complex augmented reality learning scenarios to be constructed that could improve students' knowledge and learning strategies on a mobile platform. It also allows students to create their own augmented reality learning environments and select preferences from acquired digital contents based on multiple object real scenes. Mobile users are able to request contextual digital contents from web service providers to augment these multiple objects in the real world. The digital contents are generally dynamically acquired digital media, e.g. 3D models, images, textual descriptive data, metadata, multimedia or even social media data. New digital contents for augmenting the real world are acquired through a service-oriented approach by accessing any appropriate web services to deliver that content to the augmented learning environment. [For the complete proceedings, see ED557171.]. Introduces object tracking algorithms from a unified, recursive Bayesian perspective, along with performance bounds and illustrative examples. "Multi-object tracking is a problem with wide application in modern computing. Object tracking is leveraged in areas such as human computer interaction, autonomous vehicle navigation, panorama generation, as well as countless other robotic applications. Several trackers have demonstrated favorable results for tracking of single objects. However, modern object trackers must make significant tradeoffs in order to accommodate multiple objects while maintaining real-time performance. These tradeoffs include sacrifices in robustness and

accuracy that adversely affect the results. This thesis details the design and multiple implementations of an object tracker that is focused on computational efficiency. The computational efficiency of the tracker is achieved through use of local binary descriptors in a template matching approach. Candidate templates are matched to a dictionary composed of both static and dynamic templates to allow for variation in the appearance of the object while minimizing the potential for drift in the tracker. Locality constraints have been used to reduce tracking jitter. Due to the significant promise for parallelization, the tracking algorithm was implemented on the Graphics Processing Unit (GPU) using the CUDA API. The tracker's efficiency also led to its implantation on a mobile platform as one of the mobile trackers that can accurately track at faster than realtime speed. Benchmarks were performed to compare the proposed tracker to state of the art trackers on a wide range of standard test videos. The tracker implemented in this work has demonstrated a higher degree of accuracy while operating several orders of magnitude faster."--Abstract.

heffsguns.com