

Vehicle Tracking And Speed Estimation For Traffic

Thank you entirely much for downloading Vehicle Tracking And Speed Estimation For Traffic. Most likely you have knowledge that, people have look numerous times for their favorite books later than this Vehicle Tracking And Speed Estimation For Traffic, but stop happening in harmful downloads.

Rather than enjoying a good ebook in the same way as a cup of coffee in the afternoon, otherwise they juggled in imitation of some harmful virus inside their computer. Vehicle Tracking And Speed Estimation For Traffic is straightforward in our digital library an online permission to it is set as public thus you can download it instantly. Our digital library saves in complex countries, allowing you to acquire the most less latency era to download any of our books subsequent to this one. Merely said, the Vehicle Tracking And Speed Estimation For Traffic is universally compatible behind any devices to read.



Smart Systems: Innovations in Computing Springer Nature
This book gathers selected research papers presented at the International Conference on Recent Trends in Machine Learning, IOT, Smart Cities & Applications (ICMISC 2020), held on 29–30 March 2020 at CMR Institute of Technology, Hyderabad, Telangana, India. Discussing current trends in machine learning, Internet of things, and smart cities applications, with a focus on multi-disciplinary research in the area of artificial intelligence and cyber-physical systems, this book is a valuable resource for scientists, research scholars and PG students wanting formulate their research ideas and find the future directions in these areas. Further, it serves as a reference work anyone wishing to understand the latest technologies used by practicing engineers around the globe.
First International Conference on Digital Image Processing and Pattern Recognition, DPPR 2011, Tirunelveli, Tamil Nadu, India, September 23-25, 2011, Proceedings Cambridge University Press
With the evolution of technology, vehicles are becoming increasingly connected and automated. They have evolved into rich sensing platforms with a plethora of diverse sensors, generating large amounts of real-time data including the location information, speed, acceleration, steering angle etc. With the recent advances of intelligent vehicle systems and Dedicated Short Range Communication (DSRC) devices, this data is broadcasted multiple times per second, so that each vehicle can be aware of nearby vehicles. However, such systems may fail to provide the location information if DSRC is not supported by one of the vehicles or in the case of a GPS unavailability and some of the shared data over DSRC or other networks could jeopardize user privacy. In this work, we focus on developing techniques that improve available location information and demonstrate the driver specificity of the shared data over such systems. GPS is widely used in critical infrastructures but is vulnerable to radio frequency (RF) interference. A common source of interference are commercial drivers that use GPS jammers to circumvent vehicle tracking systems. Existing mechanisms to detect and identify such interference emitting vehicles on roadways require a large number of specialized detectors or a manual observation process. To detect GPS jammers on roads, we designed a system that could detect any transmission at GPS L1 frequency. The key components of the system are monitoring stations (which are equipped with directional antennas and cameras) and mobile detectors (e.g., smartphones). Using an off-the-shelf software-defined radio (USRP) to emulate GPS jamming signals, we conducted a case study evaluation of our system with multiple trial drives on local highways in 2 US cities and found the monitoring stations effective. Through our experiments on a local highway with a vehicle transmitting interference in the 900MHz ISM band, we found that the vehicle identification rate of our mechanism is 65% for a single-point setup and 100% for a two-point setup. To study the privacy of the data shared among vehicles, we designed a system that can access a rich set of in-vehicle sensor data through a custom CAN bus interface and examined its driver specificity. We designed classifier features that allow distinguishing drivers based on a minimal set of sensor data. We evaluated the system with data from 480 real-world trips collected over 3 weeks from five university mail vans, with 24 drivers in a controlled experiment, and 103 trips with four drivers across two households. Our system could achieve 91% accuracy within the 20s after the driver enters the vehicle in the real world experiments. While the stream of rich sensor data can be communicated to and processed in a remote cloud, bandwidth and latency challenges encourage computation of this data on the vehicles themselves. With high computing powers and less power consumption, vehicles can sense the dynamic environment like no other platform. We propose to use harvesting vehicles as edge compute nodes, focusing on sensing and interpretation of traffic from live video streams. This work proposes effective fine-grained traffic volume estimation using in-vehicle dashboard mounted cameras. With the proposed system, we collect the footage of the traffic, detect vehicles using a real-time object detection method and estimate the lane of travel with the speed information for vehicles that are traveling in both directions. With such an

information, not only the current positions of vehicles but also the estimated future positions of vehicles could be shown on a map. We conduct studies on different roads, our vehicle detection accuracy is over 75% even for highly occupied roads, and our speed estimation error is less than 12%. We could also estimate the lane of travel with over 80% accuracy.
Advances in Visual Informatics Springer Nature
Discover the latest research in path planning and robust path tracking control In Autonomous Road Vehicle Path Planning and Tracking Control, a team of distinguished researchers delivers a practical and insightful exploration of how to design robust path tracking control. The authors include easy to understand concepts that are immediately applicable to the work of practicing control engineers and graduate students working in autonomous driving applications. Controller parameters are presented graphically, and regions of guaranteed performance are simple to visualize and understand. The book discusses the limits of performance, as well as hardware-in-the-loop simulation and experimental results that are implementable in real-time. Concepts of collision and avoidance are explained within the same framework and a strong focus on the robustness of the introduced tracking controllers is maintained throughout. In addition to a continuous treatment of complex planning and control in one relevant application, the Autonomous Road Vehicle Path Planning and Tracking Control includes: A thorough introduction to path planning and robust path tracking control for autonomous road vehicles, as well as a literature review with key papers and recent developments in the area Comprehensive explorations of vehicle, path, and path tracking models, model-in-the-loop simulation models, and hardware-in-the-loop models Practical discussions of path generation and path modeling available in current literature In-depth examinations of collision free path planning and collision avoidance Perfect for advanced undergraduate and graduate students with an interest in autonomous vehicles, Autonomous Road Vehicle Path Planning and Tracking Control is also an indispensable reference for practicing engineers working in autonomous driving technologies and the mobility groups and sections of automotive OEMs.
Next Generation Sensors and Systems Springer Science & Business Media
Acts as single source reference providing readers with an overview of how computer vision can contribute to the different applications in the field of road transportation This book presents a survey of computer vision techniques related to three key broad problems in the roadway transportation domain: safety, efficiency, and law enforcement. The individual chapters present significant applications within those problem domains, each presented in a tutorial manner, describing the motivation for and benefits of the application, and a description of the state of the art. Key features: Surveys the applications of computer vision techniques to road transportation system for the purposes of improving safety and efficiency and to assist law enforcement. Offers a timely discussion as computer vision is reaching a point of being useful in the field of transportation systems. Available as an enhanced eBook with video demonstrations to further explain the concepts discussed in the book, as well as links to publically available software and data sets for testing and algorithm development. The book will benefit the many researchers, engineers and practitioners of computer vision, digital imaging, automotive and civil engineering working in intelligent transportation systems. Given the breadth of topics covered, the text will present the reader with new and yet unconceived possibilities for application within their communities.
Proceedings of the AIIT International Congress on Transport Infrastructure and Systems (Rome, Italy, 10-12 April 2017) Springer Nature
Ongoing advancements in modern technology have led to significant developments in intelligent systems. With the numerous applications available, it becomes imperative to conduct research and make further progress in this field. Intelligent Systems: Concepts, Methodologies, Tools, and Applications contains a compendium of the latest academic material on the latest breakthroughs and recent progress in intelligent systems. Including innovative studies on information retrieval, artificial intelligence, and software engineering, this multi-volume book is an ideal source for researchers, professionals, academics, upper-level students, and practitioners

interested in emerging perspectives in the field of intelligent systems.
Transportation Data Research Butterworth-Heinemann
This book is a collection of carefully selected works presented at the Third International Conference on Computer Vision & Image Processing (CVIP 2018). The conference was organized by the Department of Computer Science and Engineering of PDPM Indian Institute of Information Technology, Design & Manufacturing, Jabalpur, India during September 29 – October 01, 2018. All the papers have been rigorously reviewed by the experts from the domain. This 2 volume proceedings include technical contributions in the areas of Image/Video Processing and Analysis; Image/Video Formation and Display; Image/Video Filtering, Restoration, Enhancement and Super-resolution; Image/Video Coding and Transmission; Image/Video Storage, Retrieval and Authentication; Image/Video Quality; Transform-based and Multi-resolution Image/Video Analysis; Biological and Perceptual Models for Image/Video Processing; Machine Learning in Image/Video Analysis; Probability and uncertainty handling for Image/Video Processing; and Motion and Tracking.
Proceedings of China SAE Congress 2020: Selected Papers Springer
This book constitutes the refereed proceedings of the 14th Conference on Advances in Autonomous Robotics, TAROS 2013, held in Oxford, UK, in August 2013. The 36 revised full papers presented together with 25 extended abstracts were carefully reviewed and selected from 89 submissions. The papers cover various topics such as artificial intelligence, bio-inspired and aerial robotics, computer vision, control, humanoid and robotic arm, swarm robotics, verification and ethics.
Advances in Digital Image Processing and Information Technology MDPI
Transport Infrastructure Asset management in transport infrastructure, financial viability of transport engineering projects/ Life cycle Cost Analysis, Life-Cycle Assessment and Sustainability Assessment of transport infrastructure/ Infrastructures financing and pricing with equity appraisal, operation optimization and energy management/ Low-Volume roads: planning, maintenance, operations, environmental and social issues/ Public-Private Partnership (PPP) experience in transport infrastructure in different countries and economic conditions/ Airport Pavement Management Systems, runway design and maintenance/ Port maintenance and development issues, technology relating to cargo handling, landside access, cruise operations/ Infrastructure Building Information Modelling (I-BIM) / Pavement design and innovative bituminous materials/ Recycling and re-use in road pavements, environmentally sustainable technologies/ Stone pavements, ancient roads and historic railways/ Cementitious stabilization of materials used in the rehabilitation of transportation infrastructure. Transport Systems Sustainable transport and the environment protection including green vehicles/ Urban transport, land use development, spatial and transport planning/ Bicycling, bike, bike-sharing systems, cycling mobility/ Human factor in transport systems/ Intelligent Mobility: emerging technologies to enable the smarter movement of people and goods/ Airport landside: access roads, parking facilities, terminal facilities, aircraft apron and the azdjaent taxiway/ Transportation policy, planning and design, modelling and decision making/ Transport economics, finance and pricing issues, optimization problems, equity appraisal/ Road safety impact assessments, road safety audits, the management of road network safety and safety inspections/ Tunnels and underground structures: preventing incidents- accidents mitigating their effects for both people and goods/ Traffic flow characteristics, traffic control devices, work zone traffic control, highway capacity and quality of service/ Track-vehicle interactions in railway systems, capacity analysis of railway networks/ Risk assessment and safety in air and railway transport, reliability aspects/ Maritime transport and inland waterways transport research/ Intermodal freight transport: terminals and logistics.
Proceedings of SSIC 2021 Springer Nature
The research book is a continuation of the authors’ previous works, which are focused on recent advances in computer vision methodologies and technical solutions using conventional and intelligent paradigms. The book gathers selected contributions addressing aerial and satellite image processing and related fields. Topics covered include novel tensor and wave models, a new comparative morphology scheme, warping compensation in video stabilization, image deblurring based on physical processes of blur impacts, and a rapid and robust core structural verification algorithm for feature extraction in images and videos, among others. All chapters focus on practical implementations. Given the

tremendous interest among researchers in the development and applications of computer vision paradigms in the field of business, engineering, medicine, security and aviation, this book offers a timely guide.

Motion Planning for Intelligent Transportation Systems
Springer

The Environmental Noise Directive (END) requires that a five-year updating of noise maps is carried out to check and report on the changes that have occurred during the reference period. The updating process is usually achieved using a standardized approach consisting of collecting and processing information through acoustic models to produce the updated noise maps. This procedure is time consuming and costly, and has a significant impact on the financial statement of the authorities responsible for providing the maps. Furthermore, the END requires that easy-to-read noise maps are made available to the public to provide information on noise levels and the subsequent actions to be undertaken by local and central authorities to reduce noise impacts. In order to update the noise maps more easily and in a more effective way, it is convenient to design an integrated system incorporating real-time noise measurement and signal processing to identify and analyze the noise sources present in the mapping area (e.g., road traffic noise, leisure noise, etc.) as well as to automatically generate and present the corresponding noise maps. This wireless acoustic sensor network design requires transversal knowledge, from accurate hardware design for acoustic sensors to network structure design and management of the information with signal processing to identify the origin of the measured noise and graphical user interface application design to present the results to end users. This book is collection in which several views of methodology and technologies required for the development of an efficient wireless acoustic sensor network from the first stages of its design to the tests conducted during deployment, its final performance, and possible subsequent implications for authorities in terms of the definition of policies. Contributions include several LIFE and H2020 projects aimed at the design and implementation of intelligent acoustic sensor networks with a focus on the publication of good practices for the design and deployment of intelligent networks in other locations.

Global Trends in Information Systems and Software Applications Springer
This book features original papers from the 3rd International Conference on Smart IoT Systems: Innovations and Computing (SSIC 2021), presenting scientific work related to smart solution concepts. It discusses scientific works related to smart solutions concept in the context of computational collective intelligence consisted of interaction between smart devices for smart environments and interactions. Thanks to the high-quality content and the broad range of the topics covered, the book appeals to researchers pursuing advanced studies.

Natural and Artificial Computation in Engineering and Medical Applications
Vehicle Tracking and Speed Estimation

System
This project is intends to develop a vehicle tracking and speed estimation using digital image processing technique. Therefore this project needs a video input to make the system work. The system is designed to track the vehicle position and calculate its moving speed. The method that uses to estimate the speed of the moving vehicle currently is RADAR (Radio Detection and Ranging). But this method requires high end equipment, which means the cost for this method is high. Therefore an alternative way is needed. This proposed method is using the image processing technique. This system consists of 4 major steps: 1) image acquisition 2) image background subtraction 3) location detection 4) speed estimation. The rate of accuracy for this system is expected to have 99%.
Vehicle Tracking and Speed Estimation for Traffic Surveillance
EAI International Conference on Big Data Innovation for Sustainable Cognitive Computing
BDCC 2018 supporting the Conference.

Second International Conference, ICCVG 2010, Warsaw, Poland, September 20-22, 2010, Proceedings
Springer Nature

The author has maintained two open-source MATLAB Toolboxes for more than 10 years: one for robotics and one for vision. The key strength of the Toolboxes provide a set of tools that allow the user to work with real problems, not trivial examples. For the student the book makes the algorithms accessible, the Toolbox code can be read to gain understanding, and the examples illustrate how it can be used —instant gratification in just a couple of lines of MATLAB code. The code can also be the starting point for new work, for researchers or students, by writing programs based on Toolbox functions, or modifying the Toolbox code itself. The purpose of this book is to expand on the tutorial material provided with the toolboxes, add many more examples, and to weave this into a narrative that covers robotics and computer vision separately and together. The author shows how complex problems can be decomposed and solved using just a few simple lines of code, and hopefully to inspire up and coming researchers. The topics covered are guided by the real problems observed over many years as a practitioner of both robotics and computer vision. It is written in a light but informative style, it is easy to read and absorb, and includes a lot of Matlab examples and figures. The book is a real walk through the fundamentals of robot kinematics, dynamics and joint level control, then camera models, image processing,

feature extraction and epipolar geometry, and bring it all together in a visual servo system. Additional material is provided at <http://www.petercorke.com/RVC>

Vehicle Tracking and Speed Estimation for Traffic Surveillance
John Wiley & Sons

This book includes a selection of articles from The 2019 World Conference on Information Systems and Technologies (WorldCIST '19), held from April 16 to 19, at La Toja, Spain. WorldCIST is a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and challenges in modern information systems and technologies research, together with their technological development and applications. The book covers a number of topics, including A) Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H) Big Data Analytics and Applications; I) Human – Computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; and N) Technologies for Biomedical Applications.

4th International Conference, ObCom 2011, Vellore, TN, India, December 9-11, 2011, Part II. Proceedings
Springer

This book constitutes the refereed proceedings of the 14th Scandinavian Conference on Image Analysis, SCIA 2005, held in Joensuu, Finland in June 2005. The 124 papers presented together with 6 invited papers were carefully reviewed and selected from 236 submissions. The papers are organized in topical sections on image segmentation and understanding, color image processing, applications, theory, medical image processing, image compression, digitalization of cultural heritage, computer vision, machine vision, and pattern recognition.

Innovative Data Communication Technologies and Application
Springer

This project is intends to develop a vehicle tracking and speed estimation using digital image processing technique. Therefore this project needs a video input to make the system work. The system is designed to track the vehicle position and calculate its moving speed. The method that uses to estimate the speed of the moving vehicle currently is RADAR (Radio Detection and Ranging). But this method requires high end equipment, which means the cost for this method is high. Therefore an alternative way is needed. This proposed method is using the image processing technique. This system consists of 4 major steps: 1) image acquisition 2) image background subtraction 3) location detection 4) speed estimation. The rate of accuracy for this system is expected to have 99%.

Tools of Transport Telematics
Springer Nature

The purpose of this Special Issue is to create an an academic platform whereby high-quality research papers are published on the applications of innovative AI algorithms to transportation planning and operation. The authors present their original research articles related to the applications of AI or machine-learning techniques to transportation planning and operation. The topics of the articles encompass traffic surveillance, traffic safety, vehicle emission reduction, congestion management, traffic speed forecasting, and ride sharing strategy.

Transport Infrastructure and Systems
Springer Science & Business Media

CVPR is the premier annual computer vision event comprising the main conference and several co located workshops and short courses With its high quality and low cost, it provides an exceptional value for students, academics and industry researchers

Vehicle Tracking and Speed Estimation System
IGI Global

This report documents the second project, in a series of three research projects funded by the Washington State Department of Transportation (WSDOT), that will enable already deployed, uncalibrated CCTV cameras to be used as traffic speed sensors. In the second phase, reported on here, roadway features are used to augment the camera calibration. This overcomes the occlusion problem, or apparent blending together of small vehicles as seen in the far field of the camera images, that existed in the first phase. Activity maps, fog lines, and vanishing points are a few of the additional features used, and the details of these algorithms are described in this report. These results have also been peer reviewed and published.

Enhancing Vehicle Data Availability and Privacy for Connected Cars
Springer

This book constitutes the refereed proceedings of the First International Conference on Digital Image Processing and Pattern Recognition, DPPR 2011, held in Tirunelveli, India, in September 2011. The 48 revised full papers were carefully reviewed and selected from about 400 submissions. The conference brought together leading researchers, engineers and scientists in the domain of Digital Image Processing and Pattern Recognition. The papers cover all theoretical and practical aspects of the field and present new advances and current research results in two tracks, namely: digital image processing and pattern recognition, and computer science, engineering and information technology.