

Tutorial Emgu Cv Opencv In Net C Vb C And More

Fast track your development skills to build resourceful, open-source business applications with Odoo 11 Key Features Discover the latest technical capabilities in Odoo 11 while you build your own app Program business logic and manipulate data to implement specific business rules in your applications Implement automated tests to add modules and techniques and debug module business logic Book Description Odoo continues to gain worldwide momentum as the best platform for open source ERP installations. Now, with Odoo 11, you have access to an improved GUI, performance optimization, integrated in-app purchase features, and a fast-growing community to help transform and modernize your business. With this practical guide, you will cover all the new features that Odoo 11 has to offer to build and customize business applications, focusing on the publicly available community edition. We begin with setting up a development environment, and as you make your way through the chapters, you will learn to build feature-rich business applications. With the aim of jump-starting your Odoo proficiency level, from no specific knowledge to application development readiness, you will develop your first Odoo application. We then move on to topics such as models and views, and understand how to use server APIs to add business logic, helping to lay a solid foundation for advanced topics. The book concludes with Odoo interactions and how to use the Odoo API from other programs, all of which will enable you to efficiently integrate applications with other external systems. What you will learn Install Odoo from source Manage Odoo server instances Create a new Odoo application from scratch covering the most frequently used elements Develop new models and use

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

inheritance to extend/modify existing models Use ORM methods, both in the Odoo server and from external clients Create Kanban views using QWeb effectively Develop custom web and website CMS pages Use external API to integrate Odoo with external applications Who this book is for Odoo 11 Development Essentials caters to developers who are familiar with Python and MVC design and now want to build effective business applications using Odoo.

Expand your knowledge of computer vision by building amazing projects with OpenCV 3 About This Book Build computer vision projects to capture high-quality image data, detect and track objects, process the actions of humans or animals, and much more Discover practical and interesting innovations in computer vision while building atop a mature open-source library, OpenCV 3 Familiarize yourself with multiple approaches and theories wherever critical decisions need to be made Who This Book Is For This book is ideal for you if you aspire to build computer vision systems that are smarter, faster, more complex, and more practical than the competition. This is an advanced book intended for those who already have some experience in setting up an OpenCV development environment and building applications with OpenCV. You should be comfortable with computer vision concepts, object-oriented programming, graphics programming, IDEs, and the command line. What You Will Learn Select and configure camera systems to see invisible light, fast motion, and distant objects Build a “camera trap”, as used by nature photographers, and process photos to create beautiful effects Develop a facial expression recognition system with various feature extraction techniques and machine learning methods Build a panorama Android application using the OpenCV stitching module in C++ with NDK support Optimize your object detection model, make it rotation invariant, and apply scene-specific constraints to

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

make it faster and more robust Create a person identification and registration system based on biometric properties of that person, such as their fingerprint, iris, and face Fuse data from videos and gyroscopes to stabilize videos shot from your mobile phone and create hyperlapse style videos In Detail Computer vision is becoming accessible to a large audience of software developers who can leverage mature libraries such as OpenCV. However, as they move beyond their first experiments in computer vision, developers may struggle to ensure that their solutions are sufficiently well optimized, well trained, robust, and adaptive in real-world conditions. With sufficient knowledge of OpenCV, these developers will have enough confidence to go about creating projects in the field of computer vision. This book will help you tackle increasingly challenging computer vision problems that you may face in your careers. It makes use of OpenCV 3 to work around some interesting projects. Inside these pages, you will find practical and innovative approaches that are battle-tested in the authors' industry experience and research. Each chapter covers the theory and practice of multiple complementary approaches so that you will be able to choose wisely in your future projects. You will also gain insights into the architecture and algorithms that underpin OpenCV's functionality. We begin by taking a critical look at inputs in order to decide which kinds of light, cameras, lenses, and image formats are best suited to a given purpose. We proceed to consider the finer aspects of computational photography as we build an automated camera to assist nature photographers. You will gain a deep understanding of some of the most widely applicable and reliable techniques in object detection, feature selection, tracking, and even biometric recognition. We will also build Android projects in which we explore the complexities of camera motion: first in panoramic image stitching and then in video stabilization. By the end of the

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

book, you will have a much richer understanding of imaging, motion, machine learning, and the architecture of computer vision libraries and applications! Style and approach This book covers a combination of theory and practice. We examine blueprints for specific projects and discuss the principles behind these blueprints, in detail.

Presents a hands-on view of the field of multi-view stereo with a focus on practical algorithms. It frames the multiview stereo problem as an image/geometry consistency optimization problem and describes its main two ingredients: robust implementations of photometric consistency measures and efficient optimization algorithms.

Enhances Python skills by working with data structures and algorithms and gives examples of complex systems using exercises, case studies, and simple explanations.

This book provides a practical guide to Emgu CV libraries, with sample code and examples used throughout to explain the concepts clearly. Each chapter deals with a different aspect of the Computer Vision field and the implementation of that topic in Emgu CV. If you are a C# programmer working on computer vision projects, this book is for you. You should have prior experience with C#.

This successful book provides in its second edition an interactive and illustrative guide from two-dimensional curve fitting to multidimensional clustering and machine learning with neural networks or support vector machines. Along the way topics like mathematical optimization or evolutionary algorithms are touched. All concepts and ideas are outlined in a clear cut manner with graphically depicted plausibility arguments and a little elementary mathematics. The major topics are extensively outlined with exploratory examples and applications. The primary goal is to be as illustrative as possible without hiding problems and pitfalls but to address them. The character of an illustrative cookbook is

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

complemented with specific sections that address more fundamental questions like the relation between machine learning and human intelligence. All topics are completely demonstrated with the computing platform Mathematica and the Computational Intelligence Packages (CIP), a high-level function library developed with Mathematica's programming language on top of Mathematica's algorithms. CIP is open-source and the detailed code used throughout the book is freely accessible. The target readerships are students of (computer) science and engineering as well as scientific practitioners in industry and academia who deserve an illustrative introduction. Readers with programming skills may easily port or customize the provided code. "From curve fitting to machine learning' is ... a useful book. ... It contains the basic formulas of curve fitting and related subjects and throws in, what is missing in so many books, the code to reproduce the results. All in all this is an interesting and useful book both for novice as well as expert readers. For the novice it is a good introductory book and the expert will appreciate the many examples and working code". Leslie A. Piegl (Review of the first edition, 2012).

"This book provides a working guide to the C++ Open Source Computer Vision Library (OpenCV) version 3.x and gives a general background on the field of computer vision sufficient to help readers use OpenCV effectively."--Preface.

Enhance your understanding of Computer Vision and image processing by developing real-world projects in OpenCV 3
About This Book Get to grips with the basics of Computer Vision and image processing This is a step-by-step guide to developing several real-world Computer Vision projects using OpenCV 3 This book takes a special focus on working with Tesseract OCR, a free, open-source library to recognize text in images Who This Book Is For If you are a software developer with a basic understanding of Computer Vision and

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

image processing and want to develop interesting Computer Vision applications with Open CV, this is the book for you. Knowledge of C++ is required. What You Will Learn Install OpenCV 3 on your operating system Create the required CMake scripts to compile the C++ application and manage its dependencies Get to grips with the Computer Vision workflows and understand the basic image matrix format and filters Understand the segmentation and feature extraction techniques Remove backgrounds from a static scene to identify moving objects for video surveillance Track different objects in a live video using various techniques Use the new OpenCV functions for text detection and recognition with Tesseract In Detail Open CV is a cross-platform, free-for-use library that is primarily used for real-time Computer Vision and image processing. It is considered to be one of the best open source libraries that helps developers focus on constructing complete projects on image processing, motion detection, and image segmentation. Whether you are completely new to the concept of Computer Vision or have a basic understanding of it, this book will be your guide to understanding the basic OpenCV concepts and algorithms through amazing real-world examples and projects. Starting from the installation of OpenCV on your system and understanding the basics of image processing, we swiftly move on to creating optical flow video analysis or text recognition in complex scenes, and will take you through the commonly used Computer Vision techniques to build your own Open CV projects from scratch. By the end of this book, you will be familiar with the basics of Open CV such as matrix operations, filters, and histograms, as well as more advanced concepts such as segmentation, machine learning, complex video analysis, and text recognition. Style and approach This book is a practical guide with lots of tips, and is closely focused on developing Computer vision applications with

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

OpenCV. Beginning with the fundamentals, the complexity increases with each chapter. Sample applications are developed throughout the book that you can execute and use in your own projects.

This book is intended for C++ developers who want to learn how to implement the main techniques of OpenCV and get started with it quickly. Working experience with computer vision / image processing is expected.

A basic problem in computer vision is to understand the structure of a real world scene given several images of it. Techniques for solving this problem are taken from projective geometry and photogrammetry. Here, the authors cover the geometric principles and their algebraic representation in terms of camera projection matrices, the fundamental matrix and the trifocal tensor. The theory and methods of computation of these entities are discussed with real examples, as is their use in the reconstruction of scenes from multiple images. The new edition features an extended introduction covering the key ideas in the book (which itself has been updated with additional examples and appendices) and significant new results which have appeared since the first edition. Comprehensive background material is provided, so readers familiar with linear algebra and basic numerical methods can understand the projective geometry and estimation algorithms presented, and implement the algorithms directly from the book.

This book explores the fundamental computer vision principles and state-of-the-art algorithms used to create cutting-edge visual effects for movies and television. It describes classical computer vision algorithms and recent developments, features more than 200 original

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

images, and contains in-depth interviews with Hollywood visual effects artists that tie the mathematical concepts to real-world filmmaking.

What is bad data? Some people consider it a technical phenomenon, like missing values or malformed records, but bad data includes a lot more. In this handbook, data expert Q. Ethan McCallum has gathered 19 colleagues from every corner of the data arena to reveal how they've recovered from nasty data problems. From cranky storage to poor representation to misguided policy, there are many paths to bad data. Bottom line? Bad data is data that gets in the way. This book explains effective ways to get around it. Among the many topics covered, you'll discover how to: Test drive your data to see if it's ready for analysis Work spreadsheet data into a usable form Handle encoding problems that lurk in text data Develop a successful web-scraping effort Use NLP tools to reveal the real sentiment of online reviews Address cloud computing issues that can impact your analysis effort Avoid policies that create data analysis roadblocks Take a systematic approach to data quality analysis

The eight-volume set comprising LNCS volumes 9905-9912 constitutes the refereed proceedings of the 14th European Conference on Computer Vision, ECCV 2016, held in Amsterdam, The Netherlands, in October 2016. The 415 revised papers presented were carefully reviewed and selected from 1480 submissions. The papers cover all aspects of computer vision and pattern recognition such as 3D computer vision; computational photography, sensing and display; face and gesture; low-

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

level vision and image processing; motion and tracking; optimization methods; physics-based vision, photometry and shape-from-X; recognition: detection, categorization, indexing, matching; segmentation, grouping and shape representation; statistical methods and learning; video: events, activities and surveillance; applications. They are organized in topical sections on detection, recognition and retrieval; scene understanding; optimization; image and video processing; learning; action, activity and tracking; 3D; and 9 poster sessions.

Computer Vision: Algorithms and Applications explores the variety of techniques commonly used to analyze and interpret images. It also describes challenging real-world applications where vision is being successfully used, both for specialized applications such as medical imaging, and for fun, consumer-level tasks such as image editing and stitching, which students can apply to their own personal photos and videos. More than just a source of “recipes,” this exceptionally authoritative and comprehensive textbook/reference also takes a scientific approach to basic vision problems, formulating physical models of the imaging process before inverting them to produce descriptions of a scene. These problems are also analyzed using statistical models and solved using rigorous engineering techniques. Topics and features: structured to support active curricula and project-oriented courses, with tips in the Introduction for using the book in a variety of customized courses; presents exercises at the end of each chapter with a heavy emphasis on testing algorithms and containing numerous suggestions for small mid-term projects; provides additional material

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

and more detailed mathematical topics in the Appendices, which cover linear algebra, numerical techniques, and Bayesian estimation theory; suggests additional reading at the end of each chapter, including the latest research in each sub-field, in addition to a full Bibliography at the end of the book; supplies supplementary course material for students at the associated website, <http://szeliski.org/Book/>. Suitable for an upper-level undergraduate or graduate-level course in computer science or engineering, this textbook focuses on basic techniques that work under real-world conditions and encourages students to push their creative boundaries. Its design and exposition also make it eminently suitable as a unique reference to the fundamental techniques and current research literature in computer vision.

Learning OpenCV 3Computer Vision in C++ with the OpenCV Library"O'Reilly Media, Inc."

OpenCV 3.0 Computer Vision with Java is a practical tutorial guide that explains fundamental tasks from computer vision while focusing on Java development. This book will teach you how to set up OpenCV for Java and handle matrices using the basic operations of image processing such as filtering and image transforms. It will also help you learn how to use Haar cascades for tracking faces and to detect foreground and background regions with the help of a Kinect device. It will even give you insights into server-side OpenCV. Each chapter is presented with several projects that are ready to use. The functionality of these projects is found in many classes that allow developers to understand computer

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

vision principles and rapidly extend or customize the projects for their needs.

When you combine nature's efficiency and the computer's speed, the financial possibilities are almost limitless. Today's traders and investment analysts require faster, sleeker weaponry in today's ruthless financial marketplace. Battles are now waged at computer speed, with skirmishes lasting not days or weeks, but mere hours. In his series of influential articles, Richard Bauer has shown why these professionals must add new computerized decision-making tools to their arsenal if they are to succeed. In *Genetic Algorithms and Investment Strategies*, he uniquely focuses on the most powerful weapon of all, revealing how the speed, power, and flexibility of GAs can help them consistently devise winning investment strategies. The only book to demonstrate how GAs can work effectively in the world of finance, it first describes the biological and historical bases of GAs as well as other computerized approaches such as neural networks and chaos theory. It goes on to compare their uses, advantages, and overall superiority of GAs. In subsequently presenting a basic optimization problem, *Genetic Algorithms and Investment Strategies* outlines the essential steps involved in using a GA and shows how it mimics nature's evolutionary process by moving quickly toward a near-optimal solution. Introduced to advanced variations of essential GA procedures, readers soon learn how GAs can be used to:

- * Solve large, complex problems and smaller sets of problems
- * Serve the needs of traders with widely different investment philosophies
- * Develop sound market

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

timing trading rules in the stock and bondmarkets *
Select profitable individual stocks and bonds * Devise powerful portfolio management systems Complete with information on relevant software programs, a glossary of GA terminology, and an extensive bibliography covering computerized approaches and market timing, Genetic Algorithms and Investment Strategies unveils in clear, nontechnical language a remarkably efficient strategic decision-making process that, when imaginatively used, enables traders and investment analysts to reap significant financial rewards.

& All Windows programmers developing applications that deal with graphics, monitors, or printers need to use GDI+. & & There is little documentation available on GDI+. There are only two books on the market, and they are both introductory. & & The author uses real world examples and extensive sample code.

Discover how CUDA allows OpenCV to handle complex and rapidly growing image data processing in computer and machine vision by accessing the power of GPU Key Features Explore examples to leverage the GPU processing power with OpenCV and CUDA Enhance the performance of algorithms on embedded hardware platforms Discover C++ and Python libraries for GPU acceleration Book Description Computer vision has been revolutionizing a wide range of industries, and OpenCV is the most widely chosen tool for computer vision with its ability to work in multiple programming languages. Nowadays, in computer vision, there is a need to process large images in real time, which is difficult to handle for OpenCV on its own. This is where CUDA

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

comes into the picture, allowing OpenCV to leverage powerful NVIDIA GPUs. This book provides a detailed overview of integrating OpenCV with CUDA for practical applications. To start with, you'll understand GPU programming with CUDA, an essential aspect for computer vision developers who have never worked with GPUs. You'll then move on to exploring OpenCV acceleration with GPUs and CUDA by walking through some practical examples. Once you have got to grips with the core concepts, you'll familiarize yourself with deploying OpenCV applications on NVIDIA Jetson TX1, which is popular for computer vision and deep learning applications. The last chapters of the book explain PyCUDA, a Python library that leverages the power of CUDA and GPUs for accelerations and can be used by computer vision developers who use OpenCV with Python. By the end of this book, you'll have enhanced computer vision applications with the help of this book's hands-on approach. What you will learn

- Understand how to access GPU device properties and capabilities from CUDA programs
- Learn how to accelerate searching and sorting algorithms
- Detect shapes such as lines and circles in images
- Explore object tracking and detection with algorithms
- Process videos using different video analysis techniques in Jetson TX1
- Access GPU device properties from the PyCUDA program
- Understand how kernel execution works

Who this book is for This book is a go-to guide for you if you are a developer working with OpenCV and want to learn how to process more complex image data by exploiting GPU processing. A thorough understanding of computer vision concepts and

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

programming languages such as C++ or Python is expected.

A step-by-step tutorial to help you master computer vision and mobile app development. This book is for Java developers who are new to computer vision and who would like to learn about how it is used in relation to application development. It is assumed that you have previous experience in Java, but not necessarily Android. A basic understanding of image data (for example pixels and color channels) would be helpful too. You are expected to have a mobile device running Android 2.2 (Froyo) or greater and it must have a camera.

Do you want your .NET code to have the absolute best performance it can? This book demystifies the CLR, teaching you how and why to write code with optimum performance. Learn critical lessons from a person who helped design and build one of the largest high-performance .NET systems in the world. This book does not just teach you how the CLR works-it teaches you exactly what you need to do now to obtain the best performance today. It will expertly guide you through the nuts and bolts of extreme performance optimization in .NET, complete with in-depth examinations of CLR functionality, free tool recommendations and tutorials, useful anecdotes, and step-by-step guides to measure and improve performance. Among the topics you will learn are how to: Choose what to measure and why Use many amazing tools, freely available, to solve problems quickly Understand the .NET garbage collector and its effect on your application Use effective coding patterns that lead to optimal garbage collection performance

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

Diagnose common GC-related issues Reduce costs of JITting Use multiple threads sanely and effectively, avoiding synchronization problems Know which .NET features and APIs to use and which to avoid Use code generation to avoid performance problems Measure everything and expose hidden performance issues Instrument your program with performance counters and ETW events Use the latest and greatest .NET features Ensure your code can run on mobile devices without problems Build a performance-minded team ...and much more.

A complete introduction to the basic and intermediate concepts of image processing from the leading people in the field Up-to-date content, including statistical modeling of natural, anisotropic diffusion, image quality and the latest developments in JPEG 2000 This comprehensive and state-of-the art approach to image processing gives engineers and students a thorough introduction, and includes full coverage of key applications: image watermarking, fingerprint recognition, face recognition and iris recognition and medical imaging. "This book combines basic image processing techniques with some of the most advanced procedures. Introductory chapters dedicated to general principles are presented alongside detailed application-orientated ones. As a result it is suitably adapted for different classes of readers, ranging from Master to PhD students and beyond." – Prof. Jean-Philippe Thiran, EPFL, Lausanne, Switzerland "Al Bovik's compendium proceeds systematically from fundamentals to today's research frontiers. Professor Bovik, himself a highly respected leader in the field, has

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

invited an all-star team of contributors. Students, researchers, and practitioners of image processing alike should benefit from the Essential Guide." – Prof. Bernd Girod, Stanford University, USA "This book is informative, easy to read with plenty of examples, and allows great flexibility in tailoring a course on image processing or analysis." – Prof. Pamela Cosman, University of California, San Diego, USA A complete and modern introduction to the basic and intermediate concepts of image processing – edited and written by the leading people in the field An essential reference for all types of engineers working on image processing applications Up-to-date content, including statistical modelling of natural, anisotropic diffusion, image quality and the latest developments in JPEG 2000 This volume of Advances in Intelligent and Soft Computing contains accepted papers presented at SOCO 2013, CISIS 2013 and ICEUTE 2013, all conferences held in the beautiful and historic city of Salamanca (Spain), in September 2013. Soft computing represents a collection or set of computational techniques in machine learning, computer science and some engineering disciplines, which investigate, simulate, and analyze very complex issues and phenomena. After a through peer-review process, the 8th SOCO 2013 International Program Committee selected 40 papers which are published in these conference proceedings, and represents an acceptance rate of 41%. In this relevant edition a special emphasis was put on the organization of special sessions. Four special sessions were organized related to relevant

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

topics as: Systems, Man, and Cybernetics, Data Mining for Industrial and Environmental Applications, Soft Computing Methods in Bioinformatics, and Soft Computing Methods, Modelling and Simulation in Electrical Engineer. The aim of the 6th CISIS 2013 conference is to offer a meeting opportunity for academic and industry-related researchers belonging to the various, vast communities of Computational Intelligence, Information Security, and Data Mining. The need for intelligent, flexible behaviour by large, complex systems, especially in mission-critical domains, is intended to be the catalyst and the aggregation stimulus for the overall event. After a through peer-review process, the CISIS 2013 International Program Committee selected 23 papers which are published in these conference proceedings achieving an acceptance rate of 39%. In the case of 4th ICEUTE 2013, the International Program Committee selected 11 papers which are published in these conference proceedings. The selection of papers was extremely rigorous in order to maintain the high quality of the conference and we would like to thank the members of the Program Committees for their hard work in the reviewing process. This is a crucial process to the creation of a high standard conference and the SOCO, CISIS and ICEUTE conferences would not exist without their help.

Create advanced applications with Python and OpenCV, exploring the potential of facial recognition, machine learning, deep learning, web computing and augmented reality. Key Features Develop your computer vision skills by mastering algorithms in Open Source Computer

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

Vision 4 (OpenCV 4) and Python Apply machine learning and deep learning techniques with TensorFlow and Keras Discover the modern design patterns you should avoid when developing efficient computer vision applications Book Description OpenCV is considered to be one of the best open source computer vision and machine learning software libraries. It helps developers build complete projects in relation to image processing, motion detection, or image segmentation, among many others. OpenCV for Python enables you to run computer vision algorithms smoothly in real time, combining the best of the OpenCV C++ API and the Python language. In this book, you'll get started by setting up OpenCV and delving into the key concepts of computer vision. You'll then proceed to study more advanced concepts and discover the full potential of OpenCV. The book will also introduce you to the creation of advanced applications using Python and OpenCV, enabling you to develop applications that include facial recognition, target tracking, or augmented reality. Next, you'll learn machine learning techniques and concepts, understand how to apply them in real-world examples, and also explore their benefits, including real-time data production and faster data processing. You'll also discover how to translate the functionality provided by OpenCV into optimized application code projects using Python bindings. Toward the concluding chapters, you'll explore the application of artificial intelligence and deep learning techniques using the popular Python libraries TensorFlow, and Keras. By the end of this book, you'll be able to develop advanced computer vision applications to meet your customers'

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

demands. What you will learn Handle files and images, and explore various image processing techniques Explore image transformations, including translation, resizing, and cropping Gain insights into building histograms Brush up on contour detection, filtering, and drawing Work with Augmented Reality to build marker-based and markerless applications Work with the main machine learning algorithms in OpenCV Explore the deep learning Python libraries and OpenCV deep learning capabilities Create computer vision and deep learning web applications Who this book is for This book is designed for computer vision developers, engineers, and researchers who want to develop modern computer vision applications. Basic experience of OpenCV and Python programming is a must.

This book presents recent progresses in control, automation, robotics, and measuring techniques. It includes contributions of top experts in the fields, focused on both theory and industrial practice. The particular chapters present a deep analysis of a specific technical problem which is in general followed by a numerical analysis and simulation, and results of an implementation for the solution of a real world problem. The presented theoretical results, practical solutions and guidelines will be useful for both researchers working in the area of engineering sciences and for practitioners solving industrial problems. .

Get savvy with OpenCV and actualize cool computer vision applications About This Book Use OpenCV's Python bindings to capture video, manipulate images, and track objects Learn about the different functions of

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

OpenCV and their actual implementations. Develop a series of intermediate to advanced projects using OpenCV and Python Who This Book Is For This learning path is for someone who has a working knowledge of Python and wants to try out OpenCV. This Learning Path will take you from a beginner to an expert in computer vision applications using OpenCV. OpenCV's application are humongous and this Learning Path is the best resource to get yourself acquainted thoroughly with OpenCV. What You Will Learn Install OpenCV and related software such as Python, NumPy, SciPy, OpenNI, and SensorKinect - all on Windows, Mac or Ubuntu Apply "curves" and other color transformations to simulate the look of old photos, movies, or video games Apply geometric transformations to images, perform image filtering, and convert an image into a cartoon-like image Recognize hand gestures in real time and perform hand-shape analysis based on the output of a Microsoft Kinect sensor Reconstruct a 3D real-world scene from 2D camera motion and common camera reprojection techniques Detect and recognize street signs using a cascade classifier and support vector machines (SVMs) Identify emotional expressions in human faces using convolutional neural networks (CNNs) and SVMs Strengthen your OpenCV2 skills and learn how to use new OpenCV3 features In Detail OpenCV is a state-of-art computer vision library that allows a great variety of image and video processing operations. OpenCV for Python enables us to run computer vision algorithms in real time. This learning path proposes to teach the following topics. First, we will learn how to get started

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

with OpenCV and OpenCV3's Python API, and develop a computer vision application that tracks body parts. Then, we will build amazing intermediate-level computer vision applications such as making an object disappear from an image, identifying different shapes, reconstructing a 3D map from images, and building an augmented reality application. Finally, we'll move to more advanced projects such as hand gesture recognition, tracking visually salient objects, as well as recognizing traffic signs and emotions on faces using support vector machines and multi-layer perceptrons respectively. This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: OpenCV Computer Vision with Python by Joseph Howse OpenCV with Python By Example by Prateek Joshi OpenCV with Python Blueprints by Michael Beyeler

Style and approach This course aims to create a smooth learning path that will teach you how to get started with will learn how to get started with OpenCV and OpenCV 3's Python API, and develop superb computer vision applications. Through this comprehensive course, you'll learn to create computer vision applications from scratch to finish and more!. Intel® Galileo and Intel® Galileo Gen 2: API Features and Arduino Projects for Linux Programmers provides detailed information about Intel® Galileo and Intel® Galileo Gen 2 boards for all software developers interested in Arduino and the Linux platform. The book covers the new Arduino APIs and is an introduction for developers on natively using Linux. Author Manoel

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

Carlos Ramon is a member of the Intel Galileo development team; in this book he draws on his practical experience in working on the Galileo project as he shares the team's findings, problems, fixes, workarounds, and techniques with the open source community. His areas of expertise are wide-ranging, including Linux-embedded kernel and device drivers, C/C++, Java, OpenGL, Assembler, Android NDK/SDK/ADK, and 2G/3G/4G modem integration. He has more than 17 years of experience in research and development of mobile devices and embedded circuits. His personal blog about programming is BytesThink (www.bytesthink.com).

Practical Computer Vision Projects About This Book
Updated for OpenCV 3, this book covers new features that will help you unlock the full potential of OpenCV 3
Written by a team of 7 experts, each chapter explores a new aspect of OpenCV to help you make amazing computer-vision aware applications
Project-based approach with each chapter being a complete tutorial, showing you how to apply OpenCV to solve complete problems
Who This Book Is For This book is for those who have a basic knowledge of OpenCV and are competent C++ programmers. You need to have an understanding of some of the more theoretical/mathematical concepts, as we move quite quickly throughout the book.
What You Will Learn
Execute basic image processing operations and cartoonify an image
Build an OpenCV project natively with Raspberry Pi and cross-compile it for Raspberry Pi.
Extend the natural feature tracking algorithm to

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

support the tracking of multiple image targets on a video
Use OpenCV 3's new 3D visualization framework to illustrate the 3D scene geometry
Create an application for Automatic Number Plate Recognition (ANPR) using a support vector machine and Artificial Neural Networks
Train and predict pattern-recognition algorithms to decide whether an image is a number plate
Use POSIT for the six degrees of freedom head pose
Train a face recognition database using deep learning and recognize faces from that database
In Detail As we become more capable of handling data in every kind, we are becoming more reliant on visual input and what we can do with those self-driving cars, face recognition, and even augmented reality applications and games. This is all powered by Computer Vision. This book will put you straight to work in creating powerful and unique computer vision applications. Each chapter is structured around a central project and deep dives into an important aspect of OpenCV such as facial recognition, image target tracking, making augmented reality applications, the 3D visualization framework, and machine learning. You'll learn how to make AI that can remember and use neural networks to help your applications learn. By the end of the book, you will have created various working prototypes with the projects in the book and will be well versed with the new features of OpenCV3. Style and approach This book takes a project-based approach and helps you learn about the new features by putting them to work by implementing them in your own projects. Build, create, and deploy your computer vision application with OpenCV

About This Book* This book

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

provides hands-on examples that cover the major features that are part of any important Computer Vision application* It explores important algorithms that allow you to recognize faces, identify objects, track camera movements, and much more* We share best practices and tips so you appreciate the power of OpenCVWho This Book Is ForThis is the perfect book for anyone who wants to dive into the exciting world of image processing and computer vision. This book is aimed at programmers with a working knowledge of C++. Prior knowledge of OpenCV or Computer Vision/Machine Learning is not required.What You Will Learn* Explore the steps involved in building a typical computer vision/machine learning application* Understand the relevance of OpenCV at every stage of building an application* Harness the the vast amount of information that lies hidden in images into the apps you build* Incorporate visual information in your apps to create more appealing software* Get acquainted with how large-scale and popular image editing apps such as Instagram work behind the scenes* Get a glimpse of how the image filters in apps can be recreated using simple operations in OpenCV* Appreciate how difficult it is for a computer program to perform tasks that are trivial for human beings* Get to know how to develop applications that perform face detection, gender detection from facial images, and handwritten character (digit) recognitionIn DetailComputer vision and machine learning concepts are frequently used in practical computer vision based projects. If you're a novice, this book provides the steps involved in building and deploying an end-to-end

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

application in the domain of computer vision using OpenCV/C++. It starts with instructions on how to install the library and ends with you having developed an application that does something tangible and useful in computer vision/machine learning. At the outset, we explain how to install OpenCV and demonstrate how to run some simple programs. You will start with images (the building blocks of image processing applications), and see how they are stored and processed by OpenCV. You'll get comfortable with OpenCV specific jargon (Mat Point, Scalar, and so on), and get to know how to traverse images and perform basic pixel-wise operations. Building upon this, we introduce slightly more advanced image processing concepts such as filtering, thresholding, and edge detection. In the latter parts, the book touches upon more complex and ubiquitous concepts such as face detection (using Haar cascade classifiers), interest point detection algorithms, and feature descriptors. You will now begin to appreciate the true power of the library in how it reduces mathematically non-trivial algorithms to a single line of code! The concluding sections will touch upon OpenCV's Machine Learning module. You will witness not only how OpenCV helps you pre-process and extract features from images that are relevant to the problems you are trying to solve, but also how to use Machine Learning algorithms that work on these features to make intelligent predictions! If you need to learn CUDA but don't have experience with parallel computing, *CUDA Programming: A Developer's Introduction* offers a detailed guide to CUDA with a grounding in parallel fundamentals. It starts by

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

introducing CUDA and bringing you up to speed on GPU parallelism and hardware, then delving into CUDA installation. Chapters on core concepts including threads, blocks, grids, and memory focus on both parallel and CUDA-specific issues. Later, the book demonstrates CUDA in practice for optimizing applications, adjusting to new hardware, and solving common problems. Comprehensive introduction to parallel programming with CUDA, for readers new to both Detailed instructions help readers optimize the CUDA software development kit Practical techniques illustrate working with memory, threads, algorithms, resources, and more Covers CUDA on multiple hardware platforms: Mac, Linux and Windows with several NVIDIA chipsets Each chapter includes exercises to test reader knowledge

Develop applications in Microsoft Kinect 2 using gesture and speech recognition, scanning of objects in 3D, and body tracking. Create motion-sensing applications for entertainment and practical uses, including for commercial products and industrial applications. Beginning Microsoft Kinect for Windows SDK 2.0 is dense with code and examples to ensure that you understand how to build Kinect applications that can be used in the real world. Techniques and ideas are presented to facilitate incorporation of the Kinect with other technologies. What You Will Learn Set up Kinect 2 and a workspace for Kinect application development Access audio, color, infrared, and skeletal data streams from Kinect Use gesture and speech recognition Perform computer vision manipulations on image data streams

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

Develop Windows Store apps and Unity3D applications with Kinect 2 Take advantage of Kinect Fusion (3D object mapping technology) and Kinect Ripple (Kinect projector infotainment system) Who This Book Is For Developers who want to include the simple but powerful Kinect technology into their projects, including amateurs and hobbyists, and professional developers Each chapter in the book is an individual project and each project is constructed with step-by-step instructions, clearly explained code, and includes the necessary screenshots. You should have basic OpenCV and C/C++ programming experience before reading this book, as it is aimed at Computer Science graduates, researchers, and computer vision experts widening their expertise.

This first book on real-time computer vision will interest all involved in the design and programming of visually guided systems.

GPU Parallel Program Development using CUDA teaches GPU programming by showing the differences among different families of GPUs. This approach prepares the reader for the next generation and future generations of GPUs. The book emphasizes concepts that will remain relevant for a long time, rather than concepts that are platform-specific. At the same time, the book also provides platform-dependent explanations that are as valuable as generalized GPU concepts. The book consists of three separate parts; it starts by explaining parallelism using CPU multi-threading in Part I. A few simple programs are used to demonstrate the concept of dividing a large task into multiple parallel sub-tasks and

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

mapping them to CPU threads. Multiple ways of parallelizing the same task are analyzed and their pros/cons are studied in terms of both core and memory operation. Part II of the book introduces GPU massive parallelism. The same programs are parallelized on multiple Nvidia GPU platforms and the same performance analysis is repeated. Because the core and memory structures of CPUs and GPUs are different, the results differ in interesting ways. The end goal is to make programmers aware of all the good ideas, as well as the bad ideas, so readers can apply the good ideas and avoid the bad ideas in their own programs. Part III of the book provides pointer for readers who want to expand their horizons. It provides a brief introduction to popular CUDA libraries (such as cuBLAS, cuFFT, NPP, and Thrust), the OpenCL programming language, an overview of GPU programming using other programming languages and API libraries (such as Python, OpenCV, OpenGL, and Apple's Swift and Metal,) and the deep learning library cuDNN.

Build real-world computer vision applications and develop cool demos using OpenCV for Python About This Book Learn how to apply complex visual effects to images using geometric transformations and image filters Extract features from an image and use them to develop advanced applications Build algorithms to help you understand the image content and perform visual searches Who This Book Is For This book is intended for Python developers who are new to OpenCV and want to develop computer vision applications with OpenCV-Python. This book is also useful for generic software

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

developers who want to deploy computer vision applications on the cloud. It would be helpful to have some familiarity with basic mathematical concepts such as vectors, matrices, and so on. What You Will Learn

- Apply geometric transformations to images, perform image filtering, and convert an image into a cartoon-like image
- Detect and track various body parts such as the face, nose, eyes, ears, and mouth
- Stitch multiple images of a scene together to create a panoramic image
- Make an object disappear from an image
- Identify different shapes, segment an image, and track an object in a live video
- Recognize an object in an image and build a visual search engine
- Reconstruct a 3D map from images
- Build an augmented reality application

In Detail Computer vision is found everywhere in modern technology. OpenCV for Python enables us to run computer vision algorithms in real time. With the advent of powerful machines, we are getting more processing power to work with. Using this technology, we can seamlessly integrate our computer vision applications into the cloud. Web developers can develop complex applications without having to reinvent the wheel. This book will walk you through all the building blocks needed to build amazing computer vision applications with ease. We start off with applying geometric transformations to images. We then discuss affine and projective transformations and see how we can use them to apply cool geometric effects to photos. We will then cover techniques used for object recognition, 3D reconstruction, stereo imaging, and other computer vision applications. This book will also provide clear examples written in Python to build OpenCV

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

applications. The book starts off with simple beginner's level tasks such as basic processing and handling images, image mapping, and detecting images. It also covers popular OpenCV libraries with the help of examples. The book is a practical tutorial that covers various examples at different levels, teaching you about the different functions of OpenCV and their actual implementation. Style and approach This is a conversational-style book filled with hands-on examples that are really easy to understand. Each topic is explained very clearly and is followed by a programmatic implementation so that the concept is solidified. Each topic contributes to something bigger in the following chapters, which helps you understand how to piece things together to build something big and complex. A streamlined and highly effective approach to trading without indicators Most forex traders rely on technical analysis books written for stock, futures, and option traders. However, long before computers and calculators, traders were trading naked. Naked trading is the simplest (and oldest) trading method. It's simply trading without technical indicators, and that is exactly what this book is about. Traders who use standard technical indicators focus on the indicators. Traders using naked trading techniques focus on the price chart. Naked trading is a simple and superior way to trade and is suited to those traders looking to quickly achieve expertise with a trading method. Offers a simpler way for traders to make effective decisions using the price chart Based on coauthor Walter Peters method of trading and managing money almost exclusively without indicators

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

Coauthor Alexander Nekritin is the CEO and President of TradersChoiceFX, one of the largest Forex introducing brokers in the world Naked Forex teaches traders how to profit the simple naked way!

Recipe-based approach to tackle the most common problems in Computer Vision by leveraging the functionality of OpenCV using Python APIs Key Features ?Build computer vision applications with OpenCV functionality via Python API ?Get to grips with image processing, multiple view geometry, and machine learning ?Learn to use deep learning models for image classification, object detection, and face recognition Book Description OpenCV 3 is a native cross-platform library for computer vision, machine learning, and image processing. OpenCV's convenient high-level APIs hide very powerful internals designed for computational efficiency that can take advantage of multicore and GPU processing. This book will help you tackle increasingly challenging computer vision problems by providing a number of recipes that you can use to improve your applications. In this book, you will learn how to process an image by manipulating pixels and analyze an image using histograms. Then, we'll show you how to apply image filters to enhance image content and exploit the image geometry in order to relay different views of a pictured scene. We'll explore techniques to achieve camera calibration and perform a multiple-view analysis. Later, you'll work on reconstructing a 3D scene from images, converting low-level pixel information to high-level concepts for applications such as object detection and recognition. You'll also discover how to process video from files or cameras and how to detect and track moving objects. Finally, you'll get acquainted with recent approaches in deep learning and neural networks. By the end of the book, you'll be able to apply your skills in OpenCV to create computer vision applications in various domains. What

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

you will learn ?Get familiar with low-level image processing methods ?See the common linear algebra tools needed in computer vision ?Work with different camera models and epipolar geometry ?Find out how to detect interesting points in images and compare them ?Binarize images and mask out regions of interest ?Detect objects and track them in videos Who this book is for This book is for developers who have a basic knowledge of Python. If you are aware of the basics of OpenCV and are ready to build computer vision systems that are smarter, faster, more complex, and more practical than the competition, then this book is for you.

OpenCV is a famous computer vision library, used to analyze and transform copious amounts of image data, even in real time and on a mobile device. This book focuses on leveraging mobile platforms to build interactive and useful applications. The book starts off with an introduction to OpenCV and Android and how they interact with each other using OpenCV's Java API. You'll also discover basic image processing techniques such as erosion and dilation of images, before walking through how to build more complex applications, such as object detection, image stitching, and face detection. As you progress, you will be introduced to OpenCV's machine learning framework, enabling you to make your applications smarter. The book ends with a short chapter covering useful Android tips and tricks and some common errors and solutions that people might face while building an application. By the end of the book, readers will have gained more expertise in building their own OpenCV projects for the Android platform and integrating OpenCV application programming into existing projects.

Develop vision-aware and intelligent Android applications with the robust OpenCV library About This Book This is the most up-to-date book on OpenCV Android programming on the market at the moment. There is no direct competition for our

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

title. Based on a technology that is increasing in popularity, proven by activity in forums related to this topic. This book uniquely covers applications such as the Panoramic viewer and Automatic Selfie, among others. Who This Book Is For If you are an Android developer and want to know how to implement vision-aware applications using OpenCV, then this book is definitely for you. It would be very helpful if you understand the basics of image processing and computer vision, but no prior experience is required What You Will Learn Identify and install all the elements needed to start building vision-aware Android applications Explore image representation, colored and gray scale Recognize and apply convolution operations and filtering to deal with noisy data Use different shape analysis techniques Extract and identify interest points in an image Understand and perform object detection Run native computer vision algorithms and gain performance boosts In Detail Starting from the basics of computer vision and OpenCV, we'll take you all the way to creating exciting applications. You will discover that, though computer vision is a challenging subject, the ideas and algorithms used are simple and intuitive, and you will appreciate the abstraction layer that OpenCV uses to do the heavy lifting for you. Packed with many examples, the book will help you understand the main data structures used within OpenCV, and how you can use them to gain performance boosts. Next we will discuss and use several image processing algorithms such as histogram equalization, filters, and color space conversion. You then will learn about image gradients and how they are used in many shape analysis techniques such as edge detection, Hough Line Transform, and Hough Circle Transform. In addition to using shape analysis to find things in images, you will learn how to describe objects in images in a more robust way using different feature detectors and descriptors. By the end of this

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

book, you will be able to make intelligent decisions using the famous Adaboost learning algorithm. Style and approach An easy-to-follow tutorial packed with hands-on examples. Each topic is explained and placed in context, and the book supplies full details of the concepts used for added proficiency.

Unleash the power of computer vision with Python using OpenCV About This Book Create impressive applications with OpenCV and Python Familiarize yourself with advanced machine learning concepts Harness the power of computer vision with this easy-to-follow guide Who This Book Is For Intended for novices to the world of OpenCV and computer vision, as well as OpenCV veterans that want to learn about what's new in OpenCV 3, this book is useful as a reference for experts and a training manual for beginners, or for anybody who wants to familiarize themselves with the concepts of object classification and detection in simple and understandable terms. Basic knowledge about Python and programming concepts is required, although the book has an easy learning curve both from a theoretical and coding point of view. What You Will Learn Install and familiarize yourself with OpenCV 3's Python API Grasp the basics of image processing and video analysis Identify and recognize objects in images and videos Detect and recognize faces using OpenCV Train and use your own object classifiers Learn about machine learning concepts in a computer vision context Work with artificial neural networks using OpenCV Develop your own computer vision real-life application In Detail OpenCV 3 is a state-of-the-art computer vision library that allows a great variety of image and video processing operations. Some of the more spectacular and futuristic features such as face recognition or object tracking are easily achievable with OpenCV 3. Learning the basic concepts behind computer vision algorithms, models, and OpenCV's

Download Ebook Tutorial Emgu Cv Opencv In Net C Vb C And More

API will enable the development of all sorts of real-world applications, including security and surveillance. Starting with basic image processing operations, the book will take you through to advanced computer vision concepts. Computer vision is a rapidly evolving science whose applications in the real world are exploding, so this book will appeal to computer vision novices as well as experts of the subject wanting to learn the brand new OpenCV 3.0.0. You will build a theoretical foundation of image processing and video analysis, and progress to the concepts of classification through machine learning, acquiring the technical know-how that will allow you to create and use object detectors and classifiers, and even track objects in movies or video camera feeds. Finally, the journey will end in the world of artificial neural networks, along with the development of a hand-written digits recognition application. Style and approach This book is a comprehensive guide to the brand new OpenCV 3 with Python to develop real-life computer vision applications. OpenCV 4 for Secret Agents is an updated edition of the book that introduced thousands of developers to cat face detection, real-time Eulerian video magnification, and other scintillating topics in computer vision. Now, Python 3 and Android Studio are supported. With an applied approach and a love of storytelling, the author presents projects ...

[Copyright: b05bbc2ad103c48bf0d1169f01014575](#)