



Quick answers to common problems

OpenCV 2 Computer Vision Application Programming Cookbook

Over 50 recipes to master this library of programming functions
for real-time computer vision

Robert Laganière

[PACKT] open source[®]
COMMUNITY. KNOWLEDGE. LEARNING.

Opencv 2 Computer Vision Application Programming

Cookbook Laganiere Robert

Aleksei Spizhevoi, Aleksandr Rybnikov

Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert:

OpenCV 2 Robert Laganière,2011 *OpenCV Computer Vision Application Programming Cookbook Second Edition*

Robert Laganière,2014-08-26 OpenCV 3 Computer Vision Application Programming Cookbook is appropriate for novice C programmers who want to learn how to use the OpenCV library to build computer vision applications It is also suitable for professional software developers wishing to be introduced to the concepts of computer vision programming It can also be used as a companion book in a university level computer vision courses It constitutes an excellent reference for graduate students and researchers in image processing and computer vision

OpenCV 3 Computer Vision Application

Programming Cookbook Robert Laganière,2017-02-09 Recipes to help you build computer vision applications that make the most of the popular C library OpenCV 3 About This Book Written to the latest gold standard specification of OpenCV 3 Master OpenCV the open source library of the computer vision community Master fundamental concepts in computer vision and image processing Learn about the important classes and functions of OpenCV with complete working examples applied to real images Who This Book Is For OpenCV 3 Computer Vision Application Programming Cookbook Third Edition is appropriate for novice C programmers who want to learn how to use the OpenCV library to build computer vision applications It is also suitable for professional software developers who wish to be introduced to the concepts of computer vision programming It can also be used as a companion book for university level computer vision courses It constitutes an excellent reference for graduate students and researchers in image processing and computer vision What You Will Learn Install and create a program using the OpenCV library Process an image by manipulating its pixels Analyze an image using histograms Segment images into homogenous regions and extract meaningful objects Apply image filters to enhance image content Exploit the image geometry in order to relay different views of a pictured scene Calibrate the camera from different image observations Detect people and objects in images using machine learning techniques Reconstruct a 3D scene from images In Detail Making your applications see has never been easier with OpenCV With it you can teach your robot how to follow your cat write a program to correctly identify the members of One Direction or even help you find the right colors for your redecoration OpenCV 3 Computer Vision Application Programming Cookbook Third Edition provides a complete introduction to the OpenCV library and explains how to build your first computer vision program You will be presented with a variety of computer vision algorithms and exposed to important concepts in image and video analysis that will enable you to build your own computer vision applications This book helps you to get started with the library and shows you how to install and deploy the OpenCV library to write effective computer vision applications following good programming practices You will learn how to read and write images and manipulate their pixels Different techniques for image enhancement and shape analysis will be presented You will learn how to detect specific image features such as lines circles or corners You will be introduced to the concepts of mathematical morphology and image filtering The most recent methods for image matching

and object recognition are described and you'll discover how to process video from files or cameras as well as how to detect and track moving objects. Techniques to achieve camera calibration and perform multiple view analysis will also be explained. Finally you'll also get acquainted with recent approaches in machine learning and object classification. Style and approach This book will arm you with the basics you need to start writing world aware applications right from a pixel level all the way through to processing video sequences

[OpenCV 4 Computer Vision Application Programming Cookbook](#) David Millán

Escrivá, Robert Laganière, 2019-05-03 Discover interesting recipes to help you understand the concepts of object detection, image processing and facial detection. Key Features Explore the latest features and APIs in OpenCV 4 and build computer vision algorithms. Develop effective robust and fail safe vision for your applications. Build computer vision algorithms with machine learning capabilities. Book Description OpenCV is an image and video processing library used for all types of image and video analysis. Throughout the book you'll work through recipes that implement a variety of tasks such as facial recognition and detection. With 70 self contained tutorials this book examines common pain points and best practices for computer vision CV developers. Each recipe addresses a specific problem and offers a proven best practice solution with insights into how it works so that you can copy the code and configuration files and modify them to suit your needs. This book begins by setting up OpenCV and explains how to manipulate pixels. You'll understand how you can process images with classes and count pixels with histograms. You'll also learn detecting, describing and matching interest points. As you advance through the chapters you'll get to grips with estimating projective relations in images, reconstructing 3D scenes, processing video sequences and tracking visual motion. In the final chapters you'll cover deep learning concepts such as face and object detection. By the end of the book you'll be able to confidently implement a range of computer vision algorithms to meet the technical requirements of your complex CV projects. What you will learn Install and create a program using the OpenCV library. Segment images into homogenous regions and extract meaningful objects. Apply image filters to enhance image content. Exploit image geometry to relay different views of a pictured scene. Calibrate the camera from different image observations. Detect people and objects in images using machine learning techniques. Reconstruct a 3D scene from images. Explore face detection using deep learning. Who this book is for If you're a CV developer or professional who already uses or would like to use OpenCV for building computer vision software this book is for you. You'll also find this book useful if you're a C programmer looking to extend your computer vision skillset by learning OpenCV.

[**OpenCV 3 Computer**](#)

Vision Application Programming Cookbook - Third Edition Robert Laganière, 2016-12-30 Over 100 recipes to help you build computer vision applications that make the most of the popular C library OpenCV 3. About This Book Written to the latest gold standard specification of OpenCV 3. Master OpenCV the open source library of the computer vision community. Master fundamental concepts in computer vision and image processing. Learn about the important classes and functions of OpenCV with complete working examples applied to real images. Who This Book Is For OpenCV 3 Computer Vision Application

Programming Cookbook Third Edition is appropriate for novice C programmers who want to learn how to use the OpenCV library to build computer vision applications. It is also suitable for professional software developers who wish to be introduced to the concepts of computer vision programming. It can also be used as a companion book for university level computer vision courses. It constitutes an excellent reference for graduate students and researchers in image processing and computer vision. What You Will Learn: Install and create a program using the OpenCV library. Process an image by manipulating its pixels. Analyze an image using histograms. Segment images into homogenous regions and extract meaningful objects. Apply image filters to enhance image content. Exploit the image geometry in order to relay different views of a pictured scene. Calibrate the camera from different image observations. Detect faces and people in images using machine learning techniques. In Detail: Making your applications see has never been easier with OpenCV. With it you can teach your robot how to follow your cat, write a program to correctly identify the members of One Direction or even help you find the right colors for your redecoration. OpenCV 3 Computer Vision Application Programming Cookbook Third Edition provides a complete introduction to the OpenCV library and explains how to build your first computer vision program. You will be presented with a variety of computer vision algorithms and exposed to important concepts in image and video analysis that will enable you to build your own computer vision applications. This book helps you to get started with the library and shows you how to install and deploy the OpenCV library to write effective computer vision applications following good programming practices. You will learn how to read and write images and manipulate their pixels. Different techniques for image enhancement and shape analysis will be presented. You will learn how to detect specific image features such as lines, circles or corners. You will be introduced to the concepts of mathematical morphology and image filtering. The most recent methods for image matching and object recognition are described and you'll discover how to process video from files or cameras as well as how to detect and track moving objects. Techniques to achieve camera calibration and perform multiple view analysis will also be explained. Finally, you'll also get acquainted with recent approaches in machine learning and object classification.

OpenCV Computer Vision Application Programming Cookbook Robert Laganière, 2011 OpenCV 3 Computer Vision Application Programming Cookbook is appropriate for novice C programmers who want to learn how to use the OpenCV library to build computer vision applications. It is also suitable for professional software developers wishing to be introduced to the concepts of computer vision programming. It can also be used as a companion book in a university level computer vision courses. It constitutes an excellent reference for graduate students and researchers in image processing and computer vision.

OpenCV Computer Vision Application Programming Cookbook, 2014 **OpenCV for Secret Agents** Joseph Howse, 2015-01-28 This book is for programmers who want to expand their skills by building fun, smart and useful systems with OpenCV. The projects are ideal in helping you to think creatively about the uses of computer vision, natural user interfaces and ubiquitous computers in your home, car and hand. **Computer Vision for the Web** Foat

Akhmadeev,2015-10-14 Unleash the power of the Computer Vision algorithms in JavaScript to develop vision enabled web content About This Book Explore the exciting world of image processing and face and gesture recognition and implement them in your website Develop wonderful web projects to implement Computer Vision algorithms in an effective way A fast paced guide to help you deal with real world Computer Vision applications using JavaScript libraries Who This Book Is For If you have an interest in Computer Vision or wish to apply Computer Vision algorithms such as face custom object and gesture recognition for an online application then this book is ideal for you Prior understanding of the JavaScript language and core mathematical concepts is recommended What You Will Learn Apply complex Computer Vision algorithms in your applications using JavaScript Put together different JavaScript libraries to discover objects in photos Get to grips with developing simple computer vision applications on your own Understand when and why you should use different computer vision methods Apply various image filters to images and videos Recognize and track many different objects including face and face particles using powerful face recognition algorithms Explore ways to control your browser without touching the mouse or keyboard In Detail JavaScript is a dynamic and prototype based programming language supported by every browser today JavaScript libraries boast outstanding functionalities that enable you to furnish your own Computer Vision projects making it easier to develop JavaScript based applications especially for web centric technologies It makes the implementation of Computer Vision algorithms easier as it supports scheme based functional programming This book will give you an insight into controlling your applications with gestures and head motion and readying them for the web Packed with real world tasks it begins with a walkthrough of the basic concepts of Computer Vision that the JavaScript world offers us and you'll implement various powerful algorithms in your own online application Then we move on to a comprehensive analysis of JavaScript functions and their applications Furthermore the book will show you how to implement filters and image segmentation and use tracking.js and jsfeat libraries to convert your browser into Photoshop Subjects such as object and custom detection feature extraction and object matching are covered to help you find an object in a photo You will see how a complex object such as a face can be recognized by a browser as you move toward the end of the book Finally you will focus on algorithms to create a human interface By the end of this book you will be familiarized with the application of complex Computer Vision algorithms to develop your own applications without spending much time learning sophisticated theory Style and approach This book is an easy to follow project based guide that throws you directly into the excitement of the Computer Vision theme A more or less approach is followed by important concepts explained in a to the point easy to understand manner

Image Processing with ImageJ Jurjen Broeke,Jose Maria Mateos Perez,Javier Pascau,2015-11-30 Extract and analyze data from complex images with ImageJ the world's leading image processing tool About This Book Design automated image processing solutions and speed up image processing tasks with ImageJ Create quality and intuitive interfaces for image processing by developing a basic framework for ImageJ plugins Tackle even the most sophisticated datasets and complex images Who This Book Is For

The book has been created for engineers scientists and developers eager to tackle image processing with one of the leading tools available No prior knowledge of ImageJ is needed Familiarity with Java programming will be required for readers to code their own routines using ImageJ What You Will Learn Install and set up ImageJ for image processing Process images using ImageJ's built in tools Create macros to perform repetitive processing tasks Set up and use an integrated development environment for ImageJ plugins Create plugins with a user friendly interface for processing Use established ImageJ plugins for processing and quantification Generate a simple interface based on a real world example and create other interfaces for other projects Speed up interface development by setting multiple parameters interactively In Detail Advances in image processing have been vital for the scientific and technological communities making it possible to analyze images in greater detail than ever before But as images become larger and more complex advanced processing techniques are required ImageJ is built for the modern challenges of image processing it's one of the key tools in its development letting you automate basic tasks so you can focus on sophisticated in depth analysis This book demonstrates how to put ImageJ into practice It outlines its key features and demonstrates how to create your own image processing applications using macros and ImageJ plugins Once you've got to grips with the basics of ImageJ you'll then discover how to build a number of different image processing solutions From simple tasks to advanced and automated image processing you'll gain confidence with this innovative and powerful tool however and whatever you are using it for Style and approach A step by step guide to image processing and developing macros and plugins in ImageJ The book will progress from using the built in tools to macros and finally plugins for image processing

Robot Vision: Teknik Membangun Robot Cerdas Masa Depan (Ed. Revisi) Dr. Widodo Budiharto, S.Si., M.Kom., Ir. Djoko Purwanto, M.Eng., Ph.D, Buku Robot Vision ini sangat tepat dibaca oleh pesajar an peneliti dibidang Robotika Elektronika dan teknik informatika Buku ini merupakan buku pegangan utama pada mata kuliah Robotika Kecerdasan Buatan serta Robot vision Menyajikan gambaran lengkap mengenai konsep robotika robot vision dan implementasi buku layak menjadi pegangan wajib bagi penggiat dunia robotika terutama untuk merancang robot cerdas berbasis vision Materi yang disajikan Konsep robotika dan robot vision Pemrograman robot menggunakan mikrokontroler Propeller Computer Vision dengan OpenCV dan EmguCV Pemrograman Robot dan Stereo vision Navigasi Robot

Implementasi Robot Vision **OpenCV Computer Vision Application Programming Cookbook Second Edition** Robert Laganière, 2014 Over 50 recipes to help you build computer vision applications in C using the OpenCV library In Detail OpenCV Computer Vision Application Programming Cookbook Second Edition is your guide to the development of computer vision applications The book shows you how to install and deploy the OpenCV library to write an effective computer vision application Different techniques for image enhancement pixel manipulation and shape analysis will be presented You will also learn how to process video from files or cameras and detect and track moving objects You will also be introduced to recent approaches in machine learning and object classification This book is a comprehensive reference guide that exposes

you to practical and fundamental computer vision concepts illustrated by extensive examples What You Will Learn Install and create a program using the OpenCV library Process an image by manipulating its pixels Analyze an image using histograms Segment images into homogenous regions and extract meaningful objects Apply image filters to enhance image content Exploit image geometry in order to relate different views of a pictured scene Calibrate the camera from different image observations Detect faces and people in images using machine learning techniques Downloading the example code for this book You can download the example code files for all Packt books you have purchased from your account at <http://www.PacktPub.com> If you purchased this book elsewhere you can visit <http://www.PacktPub.com> support and register to have the files e mailed directly to you

[OpenCV 4 Computer Vision Application Programming Cookbook - Fourth Edition](#)

David Escrivá, Robert Laganière, 2019 Discover interesting recipes to help you understand the concepts of object detection image processing and facial detection Key Features Explore the latest features and APIs in OpenCV 4 and build computer vision algorithms Develop effective robust and fail safe vision for your applications Build computer vision algorithms with machine learning capabilities Book Description OpenCV is an image and video processing library used for all types of image and video analysis Throughout the book you'll work through recipes that implement a variety of tasks With 70 self-contained tutorials this book examines common pain points and best practices for computer vision CV developers Each recipe addresses a specific problem and offers a proven best practice solution with insights into how it works so that you can copy the code and configuration files and modify them to suit your needs This book begins by setting up OpenCV and explains how to manipulate pixels You'll understand how you can process images with classes and count pixels with histograms You'll also learn detecting, describing and matching interest points As you advance through the chapters you'll get to grips with estimating projective relations in images reconstructing 3D scenes processing video sequences and tracking visual motion In the final chapters you'll cover deep learning concepts such as face and object detection By the end of the book you'll be able to confidently implement a range of computer vision algorithms to meet the technical requirements of your complex CV projects What you will learn Install and create a program using the OpenCV library Segment images into homogenous regions and extract meaningful objects Apply image filters to enhance image content Exploit image geometry to relate different views of a pictured scene Calibrate the camera from different image observations Detect people and objects in images using machine learning techniques Reconstruct a 3D scene from images Explore face detection using deep learning Who this book is for If you're a CV developer or professional who already uses or would like to use OpenCV for building computer vision software this book is for you You'll also find this book useful if you're a C programmer looking to extend your computer vision skillset by learning OpenCV Downloading the example code for this ebook You can download the example code files for this ebook on GitHub at the following link <https://github.com>

[OpenCV 3 Computer Vision with Python Cookbook](#)

Aleksei Spizhevoi, Aleksandr Rybnikov, 2018-03-23 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

Computer Vision Projects with OpenCV and Python 3 Matthew Rever, 2018-12-28

Gain a working knowledge of advanced machine learning and explore Python's powerful tools for extracting data from images and videos Key Features Implement image classification and object detection using machine learning and deep learning Perform image classification, object detection, image segmentation and other Computer Vision tasks Crisp content with a practical approach to solving real world problems in Computer Vision Book Description Python is the ideal programming language for rapidly prototyping and developing production grade codes for image processing and Computer Vision with its robust syntax and wealth of powerful libraries This book will help you design and develop production grade Computer Vision projects tackling real world problems With the help of this book you will learn how to set up Anaconda and Python for the major OSes with cutting edge third party libraries for Computer Vision You'll learn state of the art techniques for classifying images, finding and identifying human postures and detecting faces within videos You will use powerful machine learning tools such as OpenCV, Dlib and TensorFlow to build exciting projects such as classifying handwritten digits, detecting facial features and much more The book also covers some advanced projects such as reading text from license plates from real world images using Google's Tesseract software and tracking human body poses using DeeperCut within TensorFlow By the end of this book you will have the expertise required to build your own Computer Vision projects using Python and its associated libraries What you will learn Install and run major Computer Vision packages within Python Apply powerful support vector machines for simple digit classification Understand deep learning with TensorFlow Build a deep learning classifier for general images Use LSTMs for automated image captioning Read text from real world images Extract human pose data from images Who this book is for Python programmers and machine learning developers who wish to build exciting Computer Vision projects using the power of machine learning and OpenCV will find this book useful The only prerequisite for this book is that you should have a sound knowledge of Python programming

OpenCV 3 Robert Laganière, 2017 Making your applications see has never been easier with OpenCV With it you can teach your robot how to follow your cat, write a program to correctly identify the members of One Direction or even help you find the right colors for your redecoration OpenCV 3 Computer Vision Application Programming Solutions provides a complete introduction to the OpenCV library and explains how to build your first computer vision program You will be presented with a variety of computer vision algorithms and exposed to important concepts in image and video analysis which will enable you to build your own computer vision applications This video helps you to get started with the OpenCV library and shows you how to install and deploy it to write effective computer vision applications following good programming practices You will learn how to read and write images and manipulate their pixels Different techniques for image enhancement and shape analysis will be presented You will learn

how to detect specific image features such as lines circles or corners You will be introduced to the concepts of mathematical morphology and image filtering Resource description page **Learning OpenCV 3** Adrian Kaehler,Gary Bradski,2016-12-14 Get started in the rapidly expanding field of computer vision with this practical guide Written by Adrian Kaehler and Gary Bradski creator of the open source OpenCV library this book provides a thorough introduction for developers academics roboticists and hobbyists You ll learn what it takes to build applications that enable computers to see and make decisions based on that data With over 500 functions that span many areas in vision OpenCV is used for commercial applications such as security medical imaging pattern and face recognition robotics and factory product inspection This book gives you a firm grounding in computer vision and OpenCV for building simple or sophisticated vision applications Hands on exercises in each chapter help you apply what you ve learned This volume covers the entire library in its modern C implementation including machine learning tools for computer vision Learn OpenCV data types array types and array operations Capture and store still and video images with HighGUI Transform images to stretch shrink warp remap and repair Explore pattern recognition including face detection Track objects and motion through the visual field Reconstruct 3D images from stereo vision Discover basic and advanced machine learning techniques in OpenCV **Machine Learning for OpenCV 4** Aditya Sharma,Vishwesh Ravi Shrimali,Michael Beyeler,2019-09-06 A practical guide to understanding the core machine learning and deep learning algorithms and implementing them to create intelligent image processing systems using OpenCV 4 Key FeaturesGain insights into machine learning algorithms and implement them using OpenCV 4 and scikit learnGet up to speed with Intel OpenVINO and its integration with OpenCV 4Implement high performance machine learning models with helpful tips and best practicesBook Description OpenCV is an opensource library for building computer vision apps The latest release OpenCV 4 offers a plethora of features and platform improvements that are covered comprehensively in this up to date second edition You ll start by understanding the new features and setting up OpenCV 4 to build your computer vision applications You will explore the fundamentals of machine learning and even learn to design different algorithms that can be used for image processing Gradually the book will take you through supervised and unsupervised machine learning You will gain hands on experience using scikit learn in Python for a variety of machine learning applications Later chapters will focus on different machine learning algorithms such as a decision tree support vector machines SVM and Bayesian learning and how they can be used for object detection computer vision operations You will then delve into deep learning and ensemble learning and discover their real world applications such as handwritten digit classification and gesture recognition Finally you ll get to grips with the latest Intel OpenVINO for building an image processing system By the end of this book you will have developed the skills you need to use machine learning for building intelligent computer vision applications with OpenCV 4 What you will learnUnderstand the core machine learning concepts for image processingExplore the theory behind machine learning and deep learning algorithm designDiscover effective

techniques to train your deep learning models Evaluate machine learning models to improve the performance of your models Integrate algorithms such as support vector machines and Bayes classifier in your computer vision applications Use OpenVINO with OpenCV 4 to speed up model inference Who this book is for This book is for Computer Vision professionals machine learning developers or anyone who wants to learn machine learning algorithms and implement them using OpenCV 4 If you want to build real world Computer Vision and image processing applications powered by machine learning then this book is for you Working knowledge of Python programming is required to get the most out of this book [OpenCV 4 for Secret Agents](#) Joseph Howse, 2019-04-30 Turn futuristic ideas about computer vision and machine learning into demonstrations that are both functional and entertaining Key Features Build OpenCV 4 apps with Python 2 and 3 on desktops and Raspberry Pi Java on Android and C in Unity Detect classify recognize and measure real world objects in real time Work with images from diverse sources including the web research datasets and various cameras Book Description OpenCV 4 is a collection of image processing functions and computer vision algorithms It is open source supports many programming languages and platforms and is fast enough for many real time applications With this handy library you'll be able to build a variety of impressive gadgets OpenCV 4 for Secret Agents features a broad selection of projects based on computer vision machine learning and several application frameworks To enable you to build apps for diverse desktop systems and Raspberry Pi the book supports multiple Python versions from 2.7 to 3.7 For Android app development the book also supports Java in Android Studio and C in the Unity game engine Taking inspiration from the world of James Bond this book will add a touch of adventure and computer vision to your daily routine You'll be able to protect your home and car with intelligent camera systems that analyze obstacles people and even cats In addition to this you'll also learn how to train a search engine to praise or criticize the images that it finds and build a mobile app that speaks to you and responds to your body language By the end of this book you will be equipped with the knowledge you need to advance your skills as an app developer and a computer vision specialist What you will learn Detect motion and recognize gestures to control a smartphone game Detect car headlights and estimate their distance Detect and recognize human and cat faces to trigger an alarm Amplify motion in a real time video to show heartbeats and breaths Make a physics simulation that detects shapes in a real world drawing Build OpenCV 4 projects in Python 3 for desktops and Raspberry Pi Develop OpenCV 4 Android applications in Android Studio and Unity Who this book is for If you are an experienced software developer who is new to computer vision or machine learning and wants to study these topics through creative projects then this book is for you The book will also help existing OpenCV users who want upgrade their projects to OpenCV 4 and new versions of other libraries languages tools and operating systems General familiarity with object oriented programming application development and usage of operating systems OS developer tools and the command line is required [Learning OpenCV 4 Computer Vision with Python](#) Joseph Howse, Joe Minichino, 2020-02-20 Updated for OpenCV 4 and Python 3 this book covers the latest on depth cameras 3D tracking

augmented reality and deep neural networks helping you solve real world computer vision problems with practical code Key Features Build powerful computer vision applications in concise code with OpenCV 4 and Python 3 Learn the fundamental concepts of image processing object classification and 2D and 3D tracking Train use and understand machine learning models such as Support Vector Machines SVMs and neural networks Book Description Computer vision is a rapidly evolving science encompassing diverse applications and techniques This book will not only help those who are getting started with computer vision but also experts in the domain You'll be able to put theory into practice by building apps with OpenCV 4 and Python 3 You'll start by understanding OpenCV 4 and how to set it up with Python 3 on various platforms Next you'll learn how to perform basic operations such as reading writing manipulating and displaying still images videos and camera feeds From taking you through image processing video analysis and depth estimation and segmentation to helping you gain practice by building a GUI app this book ensures you'll have opportunities for hands on activities Next you'll tackle two popular challenges face detection and face recognition You'll also learn about object classification and machine learning concepts which will enable you to create and use object detectors and classifiers and even track objects in movies or video camera feed Later you'll develop your skills in 3D tracking and augmented reality Finally you'll cover ANNs and DNNs learning how to develop apps for recognizing handwritten digits and classifying a person's gender and age By the end of this book you'll have the skills you need to execute real world computer vision projects What you will learn Install and familiarize yourself with OpenCV 4's Python 3 bindings Understand image processing and video analysis basics Use a depth camera to distinguish foreground and background regions Detect and identify objects and track their motion in videos Train and use your own models to match images and classify objects Detect and recognize faces and classify their gender and age Build an augmented reality application to track an image in 3D Work with machine learning models including SVMs artificial neural networks ANNs and deep neural networks DNNs Who this book is for If you are interested in learning computer vision machine learning and OpenCV in the context of practical real world applications then this book is for you This OpenCV book will also be useful for anyone getting started with computer vision as well as experts who want to stay up to date with OpenCV 4 and Python 3 Although no prior knowledge of image processing computer vision or machine learning is required familiarity with basic Python programming is a must

Delve into the emotional tapestry woven by in Experience **Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert** . This ebook, available for download in a PDF format (Download in PDF: *), is more than just words on a page; it is a journey of connection and profound emotion. Immerse yourself in narratives that tug at your heartstrings. Download now to experience the pulse of each page and let your emotions run wild.

<https://crm.allthingsbusiness.co.uk/data/book-search/default.aspx/Ring%20Doorbell%20Best%20Install.pdf>

Table of Contents Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert

1. Understanding the eBook Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - The Rise of Digital Reading Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Advantages of eBooks Over Traditional Books
2. Identifying Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - User-Friendly Interface
4. Exploring eBook Recommendations from Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Personalized Recommendations
 - Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert User Reviews and Ratings
 - Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert and Bestseller Lists
5. Accessing Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert Free and Paid eBooks
 - Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert Public Domain eBooks
 - Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert eBook Subscription Services

- Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert Budget-Friendly Options
- 6. Navigating Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert eBook Formats
 - eBook, PDF, MOBI, and More
 - Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert Compatibility with Devices
 - Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Highlighting and Note-Taking Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Interactive Elements Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
- 8. Staying Engaged with Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
- 9. Balancing eBooks and Physical Books Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Setting Reading Goals Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Fact-Checking eBook Content of Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert
 - Distinguishing Credible Sources

13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert Introduction

In todays digital age, the availability of Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert books and manuals for download has revolutionized the way we access information. Gone are the days of physically flipping through pages and carrying heavy textbooks or manuals. With just a few clicks, we can now access a wealth of knowledge from the comfort of our own homes or on the go. This article will explore the advantages of Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert books and manuals for download, along with some popular platforms that offer these resources. One of the significant advantages of Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert books and manuals for download is the cost-saving aspect. Traditional books and manuals can be costly, especially if you need to purchase several of them for educational or professional purposes. By accessing Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert versions, you eliminate the need to spend money on physical copies. This not only saves you money but also reduces the environmental impact associated with book production and transportation. Furthermore, Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert books and manuals for download are incredibly convenient. With just a computer or smartphone and an internet connection, you can access a vast library of resources on any subject imaginable. Whether youre a student looking for textbooks, a professional seeking industry-specific manuals, or someone interested in self-improvement, these digital resources provide an efficient and accessible means of acquiring knowledge. Moreover, PDF books and manuals offer a range of benefits compared to other digital formats. PDF files are designed to retain their formatting regardless of the device used to open them. This ensures that the content appears exactly as intended by the author, with no loss of formatting or missing graphics. Additionally, PDF files can be easily annotated, bookmarked, and searched for specific terms, making them highly practical for studying or referencing. When it comes to accessing Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert books and manuals, several platforms offer an extensive collection of resources. One such platform is Project Gutenberg, a nonprofit organization that provides over 60,000 free eBooks. These books are primarily in the public domain, meaning they can be freely distributed and downloaded. Project Gutenberg offers a wide range of classic literature,

making it an excellent resource for literature enthusiasts. Another popular platform for Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert books and manuals is Open Library. Open Library is an initiative of the Internet Archive, a non-profit organization dedicated to digitizing cultural artifacts and making them accessible to the public. Open Library hosts millions of books, including both public domain works and contemporary titles. It also allows users to borrow digital copies of certain books for a limited period, similar to a library lending system. Additionally, many universities and educational institutions have their own digital libraries that provide free access to PDF books and manuals. These libraries often offer academic texts, research papers, and technical manuals, making them invaluable resources for students and researchers. Some notable examples include MIT OpenCourseWare, which offers free access to course materials from the Massachusetts Institute of Technology, and the Digital Public Library of America, which provides a vast collection of digitized books and historical documents. In conclusion, Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert books and manuals for download have transformed the way we access information. They provide a cost-effective and convenient means of acquiring knowledge, offering the ability to access a vast library of resources at our fingertips. With platforms like Project Gutenberg, Open Library, and various digital libraries offered by educational institutions, we have access to an ever-expanding collection of books and manuals. Whether for educational, professional, or personal purposes, these digital resources serve as valuable tools for continuous learning and self-improvement. So why not take advantage of the vast world of Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert books and manuals for download and embark on your journey of knowledge?

FAQs About Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer webbased readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert is one of the best book in our library for free trial. We provide copy of

Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert. Where to download Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert online for free? Are you looking for Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert PDF? This is definitely going to save you time and cash in something you should think about. If you trying to find then search around for online. Without a doubt there are numerous these available and many of them have the freedom. However without doubt you receive whatever you purchase. An alternate way to get ideas is always to check another Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert. This method for see exactly what may be included and adopt these ideas to your book. This site will almost certainly help you save time and effort, money and stress. If you are looking for free books then you really should consider finding to assist you try this. Several of Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert are for sale to free while some are payable. If you arent sure if the books you would like to download works with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to free access online library for download books to your device. You can get free download on free trial for lots of books categories. Our library is the biggest of these that have literally hundreds of thousands of different products categories represented. You will also see that there are specific sites catered to different product types or categories, brands or niches related with Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert. So depending on what exactly you are searching, you will be able to choose e books to suit your own need. Need to access completely for Campbell Biology Seventh Edition book? Access Ebook without any digging. And by having access to our ebook online or by storing it on your computer, you have convenient answers with Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert To get started finding Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert, you are right to find our website which has a comprehensive collection of books online. Our library is the biggest of these that have literally hundreds of thousands of different products represented. You will also see that there are specific sites catered to different categories or niches related with Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert So depending on what exactly you are searching, you will be able tochoose ebook to suit your own need. Thank you for reading Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert, but end up in harmful downloads. Rather than reading a good book with a cup of coffee in the afternoon, instead they juggled with some harmful bugs inside their laptop. Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert is available in our book collection an online access to it is set as public so you can download it instantly. Our digital library spans in multiple locations, allowing you to

get the most less latency time to download any of our books like this one. Merely said, Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert is universally compatible with any devices to read.

Find Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert :

~~ring doorbell best install~~

walmart guide

~~uber team roster review~~

productivity planner usa

chatgpt broadway tickets usa

intermittent fasting sleep hacks discount

box office 2025

protein breakfast guide promo

switch oled usa

fantasy football 2025

math worksheet grade this week

prime big deals today

remote jobs near me on sale

cd rates in the us

foldable phone guide coupon

Opencv 2 Computer Vision Application Programming Cookbook Laganiere Robert :

make your own sausage whole 30 and paleo approved diy - Oct 05 2022

web step one gather ingredients for your desired sausage flavor i am doing italian today and i did fail to put the toasted fennel seeds in this photo but you can see them in the top image diy sausage ingredients step two mix everything together in a bowl sausage ingredients in bowl

food diy how to make your own everything sausages to s - Apr 11 2023

web tim hayward s food diy the first comprehensive manual for the diy cook over recent year food diy how to make your own everything sausages to smoked salmon sourdough to sloe gin bacon to buns by tim hayward goodreads

how to make homemade sausage recipe simply recipes - Aug 15 2023

web dec 8 2021 steps for making links making sausage at home is one of those lost arts that really is not so difficult as it sounds at its core a sausage is simply ground meat and fat salt and flavorings it really is not much more involved than grinding your own hamburger you don t even have to stuff it into links if you don t want to

how to make homemade sausage bon appétit bon appétit - Aug 03 2022

web jun 24 2014 if you re working with a gas grill you can just set your burners to medium medium low grill for 12 15 minutes until cooked through you want an internal temperature of 140 degrees 2

how to make homemade diy pork sausage epicurious - Nov 06 2022

web feb 16 2015 here s how to diy your own house sausage start with ground pork good sausage needs fat as well as lean meat so for the easiest starting point pick ground pork it usually comes packed with

homemade sausage recipes how to make sausage hank shaw - Mar 10 2023

web about homemade sausages are part of a salami maker s repertoire you can t make salami if you can t first make fresh sausages below are an eclectic list of homemade sausage recipes made with both wild game and domestic meats mostly lamb and pork in that case why make your own sausages control

how to make your own sausage the art of manliness - Jul 02 2022

web mar 24 2017 while you can make your own sausage entirely with pre packaged meat you buy at the grocery store it s an even more useful practical and delicious endeavor when you use and or mix in fresh venison you ve hunted yourself

food diy cookbook tim hayward recipes the happy foodie - Jun 13 2023

web jul 4 2013 food diy how to make your own everything sausages to smoked salmon sourdough to sloe gin bacon to buns an inspiring manual for cooking from scratch make your own cheeses breads and cured meats

how to make sausages at home frugal cooking food recipes - Apr 30 2022

web homemade sausages how to make sausages at home frugal cooking food recipes this set of articles from smallholder and sausage maker gardenfarm sue will tell you all you need to know to make your own gourmet homemade sausages

food diy how to make your own everything sausages to - Jun 01 2022

web food diy how to make your own everything sausages to smoked salmon sourdough to sloe gin bacon to buns hayward tim amazon com au books

homemade sausage recipes - Feb 26 2022

web homemade sweet italian sausage mild or hot 242 ratings turkey breakfast sausage 183 ratings bulk venison breakfast sausage 67 ratings mom s turkey sausage patties 404 ratings venison cheddar jalapeño summer sausage

instructions for sausage making at home the spruce eats - Feb 09 2023

web may 29 2020 home sausage making is easy delicious and is unlimited in its possibilities for seasonings and varieties

most traditional sausages are made of meat fat flavorings and casings you ll need a meat grinder and a sausage stuffer both of which are available as attachments for a stand mixer

how to start making sausages at home it s easier than you think vice - Dec 27 2021

web jul 20 2021 step one gather your meats the first thing you need to make sausage is of course meat but before you go pick up some pre ground mystery blend at the corner store we have some tips best

how to make sausage from scratch in 10 steps with video - Jan 28 2022

web oct 20 2022 how to make your own sausage 1 insert the meat into the hopper of the meat grinder the meat must be cold before you grind it 2 add several types of herbs and spices together in a separate container 3 add the ground meat to the meat mixer then add the seasoning mixture and turn the handle on the mixer until the meat is thoroughly

easy homemade sausages ramona s cuisine - Dec 07 2022

web dec 14 2020 how to make homemade sausages a good sausage is all about balance the balance of salt amount of fat spices and herbs knowing a proper ratio of salt to meat and fat is essential but once you understand it you can adjust to your own preferences in terms of saltiness which varies massively amongst people

food diy how to make your own everything sausages to - Jul 14 2023

web dec 1 2013 food diy how to make your own everything sausages to smoked salmon sourdough to sloe gin bacon to buns hayward tim 9781905490974 amazon com books books cookbooks food wine cooking by ingredient buy used 61 54 free delivery august 3 9 details or fastest delivery july 28 august 1 details

how to make your own sausage youtube - Jan 08 2023

web aug 22 2019 anyone can make homemade sausage i never realized how easy it was until i started doing it myself it doesn t take to long the ingredients are super cheap

food diy how to make your own everything sausages to - May 12 2023

web jul 4 2013 buy food diy how to make your own everything sausages to smoked salmon sourdough to sloe gin bacon to buns 01 by hayward tim isbn 9781905490974 from amazon s book store everyday low prices and free delivery on eligible orders

homemade uk sausage recipe barry lewis - Mar 30 2022

web ever wanted to make your own british sausage recipe with the help of barry s mum sausage casings a sausage maker we show you how it s really fun to make uk sausages aka bangers see what you think and give it a try

12 homemade sausage recipes no special equipment - Sep 04 2022

web june 6 2022 this post may contain affiliate links learn how to use our method for making homemade sausages without special equipment we cover fresh sausages like italian and breakfast sausages all the way to pepperoni and even headcheese

you ll learn everything you need to know to make delicious sausages at home

complete guide to nordic walking 2014 edition open library - Jun 10 2023

web complete guide to nordic walking by gill stewart 2014 bloomsbury publishing plc edition in english

the complete guide to nordic walking bloomsbury publishing - Feb 23 2022

web nordic walking a specific technique for walking with poles that is far more effective in burning calories and whole body toning than walking alone is growing ra there are no results for your search

the complete guide to nordic walking paperback amazon - Aug 12 2023

web hello select your address all

an introduction to nordic walking life in norway - Jul 31 2022

web oct 19 2022 what is nordic walking a fun social activity nordic walking is a walking technique enhanced with walking poles the poles work your upper body at the same time as your legs you are free to vary the intensity as it suits you nordic walking combines cardiovascular exercise with a vigorous muscle workout for your shoulders arms

the complete guide to nordic walking bloomsbury publishing - Oct 14 2023

web the complete guide to nordic walking expels all the myths and simply provides advice and information on how to nordic walk who with where and most importantly why organised into clear sections to help you to find exactly what you are looking for quickly the guide is packed with tips case studies research exercise plans and equipment

the complete guide to nordic walking perlego - Jan 05 2023

web the complete guide to nordic walking expels all the myths and simply provides advice and information on how to nordic walk who with where and most importantly why organised into clear sections to help you to find exactly what you are looking for quickly the guide is packed with tips case studies research exercise plans and equipment

the complete guide to nordic walking bloomsbury publishing - Mar 27 2022

web nordic walking a specific technique for walking with poles that is far more effective in burning calories and whole body toning than walking alone is growin

the complete guide to nordic walking english edit pdf 2013 - Nov 03 2022

web 2 the complete guide to nordic walking english edit 2021 05 30 lagom just the right amount not too much not too little sweden fika taking daily coffee breaks and other comforting rituals sweden hygge coziness brings comfort courage and

the complete guide to nordic walking paperback amazon co uk - Jul 11 2023

web the complete guide to nordic walking expels all the myths and simply provides advice and information on how to nordic walk who with where and most importantly why organised into clear sections to help you to find exactly what you are looking for quickly the guide is packed with tips case studies research exercise plans and equipment

nordic walking the complete guide to health fitness and fun - Mar 07 2023

web apr 7 2008 nordic walking the complete guide to health fitness and fun a primer to one of europe s hottest fitness activities this is the first major book about this easy fun and effective new sport nordic walking a type of fitness walking with poles was developed in finland in 1997 and spread across much of europe

how to do nordic walking with pictures wikihow - Dec 04 2022

web jun 4 2023 now a global outdoor activity enjoyed by millions nordic walking is an accessible and easy way to enhance your normal walking routine by implementing poles and simulating the techniques of cross country skiers you transform your typical

the complete guide to nordic walking bloomsbury publishing - Sep 13 2023

web the complete guide to nordic walking expels all the myths and simply provides advice and information on how to nordic walk who with where and most importantly why organised into clear sections to help you to find exactly what you are looking for quickly the guide is packed with tips case studies research exercise plans and equipment

the complete guide to nordic walking kobo com - Feb 06 2023

web read the complete guide to nordic walking by gill stewart available from rakuten kobo a total programme for nordic walking the walking with poles technique that burns calories and tones the body more ef

the complete guide to nordic walking english edit full pdf - Jun 29 2022

web the complete guide to nordic walking english edit the true english school for their majesties three kingdoms being a catalogue of all the words in the bible etc jun 22 2022 walks in the ardennes cycling driving boating by rail and on foot may 02 2023 just a closer walk sep 25 2022

a beginner s guide to nordic walking rest less - Sep 01 2022

web jul 11 2022 nordic walking has become a popular method for people of all ages and abilities to get outside exercise lose weight and improve their overall health and wellbeing it doesn t require a certain level of fitness only an

the complete guide to nordic walking google books - May 09 2023

web the complete guide to nordic walking expels all the myths and simply provides advice and information on how to nordic walk who with where and most importantly why organised into clear sections to help you to find exactly what you are looking for quickly the guide is packed with tips case studies research exercise plans and equipment

the complete guide to nordic walking paperback amazon ca - Apr 08 2023

web the complete guide to nordic walking expels all the myths and simply provides advice and information on how to nordic walk who with where and most importantly why organised into clear sections to help you to find exactly what you are looking for quickly the guide is packed with tips case studies research exercise plans and equipment

the complete guide to nordic walking kindle edition amazon in - Oct 02 2022

web the complete guide to nordic walking ebook stewart gill amazon in kindle store

the complete guide to nordic walking english edit pdf - May 29 2022

web based on 400 scientific studies about walking and nordic pole walking this book gives a deep easy to read and comprehensive insight into the benefits of nordic pole walking and walking exercise

the complete guide to nordic walking kindle edition - Apr 27 2022

web the complete guide to nordic walking expels all the myths and simply provides advice and information on how to nordic walk who with where and most importantly why organised into clear sections to help you to find exactly what you are looking for quickly the guide is packed with tips case studies research exercise plans and equipment

rush fly by night full album youtube - May 08 2023

web no rights to this performance or any aspect of it is mine all rights to their respective owners

rush fly by night lyrics genius lyrics - Apr 07 2023

web fly by night lyrics unrecorded prologue from the album notes airport scurry flurry faces parade of passers by people going many places with a smile or just a sigh waiting waiting pass the time

rush fly by night releases discogs - Jan 04 2023

web referencing fly by night lp album reissue srm 1 1023 picked this up at a thrift store for 18 down from 30 after a 40 discount in october 2023 jacket was a g with water damage like many of the other records in this particular stall

fly by night youtube - Aug 11 2023

web jul 23 2018 fly by night provided to youtube by universal music group fly by night rush fly by night a mercury records release 1975 umg recordings inc released on 1975 01 01 producer

fly by night album wikipedia - Jun 09 2023

web fly by night is the second studio album by the canadian rock band rush released on february 14 1975 by mercury records it was the first rush album to showcase elements of progressive rock for which the band has become known

rush fly by night youtube - Sep 12 2023

web remastered in hd official music video for fly by night performed by rush subscribe and ring the bell to never miss an update lnk to subscribetorus

fly by night idioms by the free dictionary - Jul 10 2023

web fly by night fig irresponsible untrustworthy alludes to a person who sneaks away secretly in the night the carpenter we hired was a fly by night worker who did a very bad job you shouldn t deal with a fly by night merchant mcgraw hill dictionary of american idioms and phrasal verbs 2002 by the mcgraw hill companies inc fly by night

fly by night rush song wikipedia - Feb 05 2023

web fly by night is a song by canadian rock band rush it was released in 1975 and is the title track of their second studio album the music was written by bassist geddy lee and the lyrics were penned by drummer neil peart peart

fly by night definition meaning merriam webster - Mar 06 2023

web 1 one that seeks to evade responsibilities and especially creditors by flight 2 one without established reputation or standing especially a shaky business enterprise fly by night

fly by night english meaning cambridge dictionary - Oct 13 2023

web a fly by night business or worker does not offer good products or services and is likely to avoid paying debts or satisfying agreements by leaving the area fly by night companies contractors operators definition of fly by night from the cambridge business english dictionary cambridge university press