

Video Camera Resolution Explained

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Computational Photography CRC Press

The 30-volume set, comprising the LNCS books 12346 until 12375, constitutes the refereed proceedings of the 16th European Conference on Computer Vision, ECCV 2020, which was planned to be held in Glasgow, UK, during August 23-28, 2020. The conference was held virtually due to the COVID-19 pandemic. The 1360 revised papers presented in these proceedings were carefully reviewed and selected from a total of 5025 submissions. The papers deal with topics such as computer vision; machine learning; deep neural networks; reinforcement learning; object recognition; image classification; image processing; object detection; semantic segmentation; human pose estimation; 3d reconstruction; stereo vision; computational photography; neural networks; image coding; image reconstruction; object recognition; motion estimation.

Working with HDV Butterworth-Heinemann

With contributions from some of the world's leading experts, the second edition of this classic reference compiles all major techniques of flow visualization and demonstrates their applications in all fields of science and technology. A new chapter has been added that covers flow visualization applications in large wide tunnels for airplane and automobile testing. Several important examples of applications are included. A second new chapter details the use of infrared (IR) cameras for detecting and observing the boundary layer transition in industrial wind tunnels and flight testing of commercial transport airplanes. A final new chapter has been added on multiphase flow and pulsed-light velocimetry.

GoPro MAX: How To Use GoPro Max CRC Press

Over the past few years, HDV has burst onto the professional video production landscape and is changing the world of high-definition acquisition. Are you ready to make the transition to HDV? Let this book, with its clear, unbiased overview of HDV, be your guide. More than a catalog of HDV products, this book provides you with perspective on the driving forces behind high-definition, technical information about digital video technologies that's easy to follow, and real-world tips for getting the most out of your HDV investment. The book also includes a tear-out focusing chart, HDV resource guide, and detailed glossary for quick reference, making it a timely and valuable resource for video professionals and students. Working with HDV provides the answers to some of the big questions surrounding this exciting format: - Why has HDV become so popular so quickly? - Is HDV right for your next project? - What are your HDV camcorder/equipment options? - How does HDV differ from other video formats? - Why is shooting with HDV similar to shooting with a film camera? - How will you manage your HDV post production workflow? - Does HDV make good business sense for your operation? - What are the alternatives to HDV on the market? Don't get left behind as HDV momentum continues to build--get up and running quickly with this handy guide that demystifies what to use and how to use it.

Exam Ref 70-485 Advanced Windows Store App Development using C# (MCS D) Routledge

Consistently rated as the best overall introduction to computer-based image processing, The Image Processing Handbook covers two-dimensional (2D) and three-dimensional (3D) imaging techniques, image printing and storage methods, image processing algorithms, image and feature measurement, quantitative image measurement analysis, and more. Incorporating image processing and analysis examples at all scales, from nano- to astro-, this Seventh Edition: Features a greater range of computationally intensive algorithms than previous versions Provides better organization, more quantitative results, and new material on recent developments Includes completely rewritten chapters on 3D imaging and a thoroughly revamped chapter on statistical analysis Contains more than 1700 references to theory, methods, and applications in a wide variety of disciplines Presents 500+ entirely new figures and images, with more than two-thirds appearing in color The Image Processing Handbook, Seventh Edition delivers an accessible and up-to-date treatment of image processing, offering broad coverage and comparison of algorithms, approaches, and outcomes.

The Shut Up and Shoot Documentary Guide Artech House Publishers

The introduction and recent advancements of computational photography have revolutionized the imaging industry. Computational photography is a combination of imaging techniques at the intersection of various fields such as optics, computer vision, and computer graphics. These methods enhance the capabilities of traditional digital photography by applying computational techniques both during and after the capturing process. This thesis targets two major subjects in this field: High Dynamic Range (HDR) image reconstruction and Light Field (LF) compressive capturing, compression, and real-time rendering. The first part of the thesis focuses on the HDR images that concurrently contain detailed information from the very dark shadows to the brightest areas in the scenes. One of the main contributions presented in this thesis is the development of a unified reconstruction algorithm for spatially variant exposures in a single image. This method is based on a camera noise model, and it simultaneously resamples, reconstructs, denoises, and demosaics the image while extending its dynamic range. Furthermore, the HDR reconstruction algorithm is extended to adapt to the local features of the image, as well as the noise statistics, to preserve the high-frequency edges during reconstruction. In the second part of this thesis, the research focus shifts to the acquisition, encoding, reconstruction, and rendering of light field images and videos in a real-time setting. Unlike traditional integral

photography, a light field captures the information of the dynamic environment from all angles, all points in space, and all spectral wavelength and time. This thesis employs sparse representation to provide an end-to-end solution to the problem of encoding, real-time reconstruction, and rendering of high dimensional light field video data sets. These solutions are applied on various types of data sets, such as light fields captured with multi-camera systems or hand-held cameras equipped with micro-lens arrays, and spherical light fields. Finally, sparse representation of light fields was utilized for developing a single sensor light field video camera equipped with a color-coded mask. A new compressive sensing model is presented that is suitable for dynamic scenes with temporal coherency and is capable of reconstructing high-resolution light field videos.

Business Method Patents Springer Science & Business Media

Vulnerability Assessment of Physical Protection Systems guides the reader through the topic of physical security with a unique, detailed and scientific approach. The book describes the entire vulnerability assessment (VA) process, from the start of planning through final analysis and out brief to senior management. It draws heavily on the principles introduced in the author’s best-selling Design and Evaluation of Physical Protection Systems and allows readers to apply those principles and conduct a VA that is aligned with system objectives and achievable with existing budget and personnel resources. The text covers the full spectrum of a VA, including negotiating tasks with the customer; project management and planning of the VA; team membership; and step-by-step details for performing the VA, data collection and analysis. It also provides important notes on how to use the VA to suggest design improvements and generate multiple design options. The text ends with a discussion of how to out brief the results to senior management in order to gain their support and demonstrate the return on investment of their security dollar. Several new tools are introduced to help readers organize and use the information at their sites and allow them to mix the physical protection system with other risk management measures to reduce risk to an acceptable level at an affordable cost and with the least operational impact. This book will be of interest to physical security professionals, security managers, security students and professionals, and government officials. Guides the reader through the topic of physical security doing so with a unique, detailed and scientific approach Takes the reader from beginning to end and step-by-step through a Vulnerability Assessment Over 150 figures and tables to illustrate key concepts

Micro Total Analysis Systems ’98 Pearson Education

This book constitutes the refereed contest reports of the 20th International Conference on Pattern Recognition, ICPR 2010, held in Istanbul, Turkey, in August 2010. The 31 revised full papers presented were carefully reviewed and selected. The papers are organized in topical sections on BiHTR - Bi-modal handwritten Text Recognition, CAMCOM 2010 - Verification of Video Source Camera Competition, CDC - Classifier Domains of Competence, GEPR - Graph Embedding for Pattern Recognition, ImageCLEF@ICPR - Information Fusion Task, ImageCLEF@ICPR - Visual Concept Detection Task, ImageCLEF@ICPR - Robot Vision Task, MOBIO - Mobile Biometry Face and Speaker Verification Evaluation, PR in HIMA - Pattern Recognition in Histopathological Images, SDHA 2010 - Semantic Description of Human Activities.

Single-Camera Video Production Linköping University Electronic Press

Photographers! Your guide is here! The demand for high-quality photographs is higher than ever. Whether you’re building your influencer rating online, capturing the moments of a child’s life, or are looking for ways to improve your skills, photography know-how is a must-have skill. Digital Photography For Dummies helps you do more than pointing, shooting, and hoping for the best or slapping a filter on a camera phone shot. This book introduces you to the camera settings and techniques that separate okay pictures from frame-worthy portraits. It then explains how to apply those skills to capturing your own portraits, landscape shots, and high-action photos. Develop a better eye for image composition Discover how to light photos better, including using natural light Learn to get quick results in auto settings or take full control in manual mode Discover the elements of exposure and how they influence the final product Find instructions on taking a formal or casual portrait Apply basic editing techniques to finalize your image Go beyond photo apps and apply the techniques pros use for their images.

Computer Vision and Image Processing Kaisanti Press

The REBO Guide to High Definition Video Production is the first and only book on high definition video to focus on production, not politics. It's a practical book about what it really takes to produce programming in high definition video starting from the very earliest days of production right on out to the most up-to-date techniques and equipment. Given the inevitability of the widescreen market acceptance of some form of high-resolution, widescreen video transmission, film and video production professionals will find the book's emphasis on the real-life issues involved in using high definition in film-style and live, multi-camera productions invaluable in 'Preparing for a Widescreen World'. The book is organized into sections based on the major components of a production--from Production through Post Production, Engineering, Creative Considerations--and includes the experiences, insights, and anecdotes of some of the most experienced High Definition producers, directors, DPs, and engineers in the world. The Guide...was written to appeal to people with various levels of technical knowledge. It includes an introductory section on video technology, anecdotal non-technical case studies, and the hard-core technical information that producers and engineers need to know to get their jobs done. REBO has led the way in field-testing new equipment and ground-breaking applications for all aspects of high definition video technology since 1986. The company remains the only independent concern in the world involved in every aspect of high definition from production, post production, and programming through education, to research and applied technology development. Each year REBO is recognized internationally by a diverse body of professionals for its achievements. Accolades include the Prix du Court Metrage award for Best Fiction Short at the Cannes International Film Festival; special recognition from NASA for the first high definition videotaping of the shuttle launch; and, for six straight years, the highest awards at the International Electronic Cinema Festival in Montreux and Tokyo. Clay Gordon is a twelve year veteran of computer graphics, interactive media, and video production industries. He has undertaken a wide variety of research, design, development and writing projects for clients as diverse as IBM, Interactive

Digital Solutions, AGFA Matrix, AV Video, Millimeter and Wired.

Journal of the National Institute of Information and Communications Technology Elsevier

This revision of the classic book on CCTV technology, CCTV Surveillance, provides a comprehensive examination of CCTV, covering the applications of various systems, how to design and install a system, and how to choose the right hardware. Taking into account the ever-changing advances in technology using digital techniques and the Internet, CCTV Surveillance, Second Edition, is completely updated with the recent advancements in digital cameras and digital recorders, remote monitoring via the Internet, and CCTV integration with other security systems. Continuing in the celebrated tradition of the first edition, the second edition is written to serve as a useful resource for the end-user as well as the technical practitioner. Each chapter begins with an overview, and presents the latest information on the relevant equipment, describing the characteristics, features and application of each device. Coverage of aging or obsolete technology is reduced to a historical perspective, and eight brand new chapters cover digital video technology, multiplexers, integrated camera-lens-housing, smart domes, and rapid deployment CCTV systems. Serves as an indispensable resource on CCTV theory Includes eight new chapters on the use of digital components and other related technologies that have seen a recent explosion in use Fully illustrated, the book contains completely updated photographs and diagrams that represent the latest in CCTV technology advancements

Popular Mechanics Springer Science & Business Media

The essential fundamentals of 3D animation for aspiring 3D artists 3D is everywhere--video games, movie and television special effects, mobile devices, etc. Many aspiring artists and animators have grown up with 3D and computers, and naturally gravitate to this field as their area of interest. Bringing a blend of studio and classroom experience to offer you thorough coverage of the 3D animation industry, this must-have book shows you what it takes to create compelling and realistic 3D imagery. Serves as the first step to understanding the language of 3D and computer graphics (CG) Covers 3D animation basics: pre-production, modeling, animation, rendering, and post-production Dissects core 3D concepts including design, film, video, and games Examines what artistic and technical skills are needed to succeed in the industry Offers helpful real-world scenarios and informative interviews with key educators and studio and industry professionals Whether you're considering a career in as a 3D artist or simply wish to expand your understanding of general CG principles, this book will give you a great overview and knowledge of core 3D Animation concepts and the industry.

Computer Vision - ECCV 2002 CRC Press

Prepare for Microsoft Exam 70-485—and help demonstrate your real-world mastery of building Windows Store apps with C#. Designed for experienced developers ready to advance their status, Exam Ref focuses on the critical-thinking and decision-making acumen needed for success at the MCSD level. Focus on the expertise measured by these objectives: Develop Windows Store apps Discover and interact with devices Program user interaction Enhance the user interface Manage data and security Prepare for a solution deployment This Microsoft Exam Ref: Organizes its coverage by exam objectives. Features strategic, what-if scenarios to challenge you.

3D Animation Essentials CRC Press

This two-volume set (CCIS 1147, CCIS 1148) constitutes the refereed proceedings of the 4th International Conference on Computer Vision and Image Processing. held in Jaipur, India, in September 2019. The 73 full papers and 10 short papers were carefully reviewed and selected from 202 submissions. The papers are organized according to the following topics: Part I: Biometrics; Computer Forensic; Computer Vision; Dimension Reduction; Healthcare Information Systems; Image Processing; Image segmentation; Information Retrieval; Instance based learning; Machine Learning.Part II: ?Neural Network; Object Detection; Object Recognition; Online Handwriting Recognition; Optical Character Recognition; Security and Privacy; Unsupervised Clustering.

Video Camera Technology Springer Science & Business Media

Design and Evaluation of Physical Security Systems, Second Edition, includes updated references to security expectations and changes since 9/11. The threat chapter includes references to new threat capabilities in Weapons of Mass Destruction, and a new figure on hate crime groups in the US. All the technology chapters have been reviewed and updated to include technology in use since 2001, when the first edition was published. Garcia has also added a new chapter that shows how the methodology described in the book is applied in transportation systems. College faculty who have adopted this text have suggested improvements and these have been incorporated as well. This second edition also includes some references to the author's recent book on Vulnerability Assessment, to link the two volumes at a high level. New chapter on transportation systems Extensively updated chapter on threat definition Major changes to response chapter

Video Microscopy Elsevier

Design modelling has benefited from computation but in most projects to date there is still a strong division between computational design and simulation leading up to construction and the completed building that is cut off from the computational design modelling. The Design Modelling Symposium Berlin 2013 would like to challenge the participants to reflect on the possibility of computational systems that bridge design phase and occupancy of buildings. This rethinking of the designed artifact beyond its physical has had profound effects on other industries already. How does it affect architecture and engineering? At the scale of engineering and building systems new perspectives may open up by engaging built form as a continuous prototype, which can track and respond during use and serve as a real world implementation of its design model. This has been tried many times from intelligent façades to smart homes and networked grids but much of it was only technology driven and not approached from a more holistic design perspective.

Vulnerability Assessment of Physical Protection Systems Wolters Kluwer

Micro-TAS '98 is the third of a series of symposia initiated by MBSA (University of Twente) in 1994, on the subject of miniaturizing, and integrating within a monolithic structure, the chemical, biochemical and biological procedures commonly used for analysis and synthesis. The primary tool used to develop micro-total analysis systems (mu- TAS) has been micro-photolithographic patterning and micromachining. These powerful tools of Micro System Technology (MST or MEMS) have been applied in highly imaginative ways to develop microchip chemical arrays, fully integrated pump and fluid manifolds, and electrokinetically driven micro-channel systems to be used for genetic analysis, clinical diagnostics and environmental monitoring, and to integrate reactions as diverse as the polymerase chain reaction (PCR) and the large volume, partial oxidation of ammonia. This text illustrates the rapid expansion of the field, the extensive industrial involvement, the increasing number of participating researchers, the expanding range of concepts and applications that utilize MST and microfluidic devices, and new MST-compatible plastic micro-machining to meet the needs of the life science community. This volume contains the proceedings of the Third International Symposium on Micro-Total Analysis Systems, mu-TAS '98, held on October 13-16 in Banff, Alberta, Canada. State-of-the-art invited and contributed papers presented by the world's leading mu- TAS research groups provide a highly informative picture of the growth since 1994 and of the promising future of this exciting and rapidly growing field.

Digital Photography For Dummies epubli

Today’s successful cinematographer must be equal parts artist, technician, and business-person. The cinematographer needs to master the arts of lighting, composition, framing and other aesthetic considerations, as well as the technology of digital cameras, recorders, and workflows, and must know how to choose the right tools (within their budget) to get the job done. David Stump’s Digital Cinematography focuses on the tools and

technology of the trade, looking at how digital cameras work, the ramifications of choosing one camera versus another, and how those choices help creative cinematographers to tell a story. This book empowers the reader to correctly choose the appropriate camera and workflow for their project from today’s incredibly varied options, as well as understand the ins and outs of implementing those options. Veteran ASC cinematographer David Stump has updated this edition with the latest technology for cameras, lenses, and recorders, as well as included a new section on future cinematographic trends. Ideal for advanced cinematography students as well as working professionals looking for a resource to stay on top of the latest trends, this book is a must read.

How Video Works CRC Press

Ever since television became practical in the early 1950s, closed-circuit television (CCTV) in conjunction with the light microscope has provided large screen display, raised image contrast, and made the images formed by ultraviolet and infrared rays visible. With the introduction of large-scale integrated circuits in the last decade, TV equipment has improved by leaps and bounds, as has its application in microscopy. With modem CCTV, sometimes with the help of digital computers, we can distill the image from a scene that appears to be nothing but noise; capture fluorescence too dim to be seen; visualize structures far below the limit of resolution; crispen images hidden in fog; measure, count, and sort objects; and record in time-lapsed and high-speed sequences through the light microscope without great difficulty. In fact, video is becoming indispensable for harnessing the fullest capacity of the light microscope, a capacity that itself is much greater than could have been envisioned just a few years ago. The time seemed ripe then to review the basics of video, and of microscopy, and to examine how the two could best be combined to accomplish these tasks. The Marine Biological Laboratory short courses on Analytical and Quantitative Light Microscopy in Biology, Medicine, and the Materials Sciences, and the many inquiries I received on video microscopy, supported such an effort, and Kirk Jensen of Plenum Press persuaded me of its worth.

Digital Forensics Explained Springer Science & Business Media

Authored by a pioneer and leading authority in broadcast and video technology, this comprehensive examination of video camera technology and applications covers the fundamentals and latest advances in cameras ranging from consumer camcorders to state-of-the-art professional broadcast models. Focusing on the latest digital technology used in today's cameras, the book is the first to cover camera technology as it applies to a broad range of fields including broadcasting, computers, and telecommunications.

Computer Vision – ECCV 2020 Elsevier

Popular Mechanics inspires, instructs and influences readers to help them master the modern world. Whether it’s practical DIY home-improvement tips, gadgets and digital technology, information on the newest cars or the latest breakthroughs in science -- PM is the ultimate guide to our high-tech lifestyle.