3dconnexion Home

CONRAD SANTANA

PC Mag Addison-Wesley
Three-dimensional (3D) integration is identified as a possible avenue for continuous performance growth in integrated circuits (IC) as the conventional scaling approach is faced with unprecedented challenges in fundamental and economic limits. Wafer level 3D IC can take several forms, and they usually include a stack of several thinned IC layers th
Large-scale 3D Data Integration Taylor & Francis
Mastering 3D Printing shows you how to get the most out of your printer, including how to design models, choose materials, work with different printers, and integrate 3D printing with traditional prototyping to make techniques like sand casting more efficient. You've printed key chains. You've printed simple toys. Now you're ready to innovate with your 3D printer to start a business or teach and inspire others. Joan Horvath has been an educator, engineer, author, and startup 3D printing company team member. She shows you all of the technical details you need to know to go beyond simple model printing to make your 3D printer work for you as a prototyping device, a teaching tool, or a business machine.
X3D MIT Press
The age of 3D printing and personal fabrication is upon us! You've probably heard of the incredibly sophisticated, yet inexpensive 3D printers that can produce almost any creation you give them. But how do you become part of that revolution? Sandeep Singh takes you through the skills you need to learn and the services and technologies you need to know—explaining what 3D printing is, how it works, and what it can do for you. You'll find yourself rapidly prototyping and learning to produce complex designs that can be fabricated by online 3D printing services or privately-owned 3D printers—in your hands in no time. Beginning Google SketchUp for 3D Printing starts by explaining how to use SketchUp and its plug-ins to make your design products. You will learn how to present and animate 3D models, and how to use Google Earth and 3D Warehouse to sell and market your 3D models. You'll also catch a glimpse of the 3D printing's future so you can plan ahead while mastering today's tools. Beginning Google SketchUp for 3D Printing is the perfect book for 3D designers, hobbyists, woodworkers, craftspeople, and artists interested in the following: Designing in 3D using SketchUp Using the online 3D printing pipeline Animating SketchUp 3D models Becoming familiar with rapid prototyping technology Navigating new 3D and personal fabrication technologies Working with Google Earth and 3D Warehouse with confidence Welcome to the era of 3D printing and personal fabrication!
3D Audio Routledge
Virtual environments (VE) are human-computer interfaces in which the computer creates a sensory-immersing environment that interactively responds to and is controlled by the behaviour of the user. Since these technologies will continue to become more reliable, more resolute and more

affordable, it's important to consider the advantages that VEs may offer to support business processes. The term 'synthetic world' refers to a subset of VEs, having a large virtual landscape and a set of rules that govern the interactions among participants. Currently, the primary motivators for participation in these synthetic worlds appear to be fun and novelty. As the novelty wears off, synthetic worlds will need to demonstrate a favourable value proposition if they are to survive. In particular, non-game-oriented worlds will need to facilitate business processes to a degree that exceeds their substantial costs for development and maintenance. Working Through Synthetic Worlds explores a variety of different tasks that might benefit by being performed within a synthetic world. The editors use a distinctive format for the book, consisting of a set of chapters composed of three parts: ¢ a story or vignette that describes work conducted within a synthetic world based loosely on the question, 'what will work be like in the year 2025?', founded on the expert authors' expectations of plausible future technologies ¢ a scholarly review of the technologies described by the stories and the current theories related to those technologies ¢ a prescription for future research required to bridge the current state-of-the-art with the notional worlds described in the stories. The book will appeal to undergraduate and graduate students, professors, scientists and engineers, managers in high-tech industries and software developers.

3D Printed Science Projects Volume 2 Que Publishing

This new volume explores the exciting and diverse applications of three-dimensional printing in a variety of industries, including food processing, environmental sciences, biotechnology, medical devices, energy storage, civil engineering, the textile and fashion industry, and more. It describes the various 3D printing methods, the commonly used materials, and the pros and cons. It also presents an overview of the historical development and modern-day trends in additive manufacturing, as well as an exploration of the prospects of 3D printing technology in promoting academic education.

Working Through Synthetic Worlds SDC Publications

This book is an introduction to the wide and varied world of 3D printing—an incredible technology used across an ever-growing list of industries. As 3D printing continues to skyrocket in popularity, it’s increasingly important to understand how these machines work and how to apply 3D printing technology to personal and professional interests. More important still, this book highlights how surprisingly easy 3D printers can be to use, even for readers who don’t consider themselves particularly tech-savvy. This book provides a comprehensive overview of 3D printing for first-time users. The text introduces some of the most popular types of 3D printing technology available, as well as some of the most exciting and compelling applications across industry today. The content dives deeply into one of the most popular and widely accessible 3D print technology on the market: fused deposition modeling (FDM) 3D printing. The reader will learn basic FDM 3D printer anatomy, software settings, as well as the tips and tricks to master your own FDM 3D printer. The book provides a firm understanding of what FDM 3D printing excels at, its current limitations, and how to troubleshoot and overcome some of the most common 3D printing problems. The book then provides some ‘STEAM-building’ cross-disciplinary challenges and applications for the reader to complete at home. This book is for novice readers who might be early in their 3D printing journey. For those looking to learn more about introductory 3D printing and curious about how to get started, this is an excellent place to start. By the end of the book, the reader should have all the understanding and tools necessary to start 3D printing with confidence.

An Introduction to 3D Printing Maker Media, Inc.

Helping graphic designers expand their 2D skills into the 3D space The trend in graphic design is towards 3D, with the demand for motion graphics, animation, photorealism, and interactivity rapidly increasing. And with the meteoric rise of iPads, smartphones, and other interactive devices, the design landscape is changing faster than ever.2D digital artists who need a quick and efficient way to join this brave new world will want 3D for Graphic Designers. Readers get hands-on basic training in working in the 3D space, including product design, industrial design and visualization, modeling, animation, lighting, and rendering?all the skills necessary in today's competitive environment. Helps 2D graphic designers gain the skills they need for a competitive job market that increasingly demands the ability to create or work in 3D Covers product design, industrial design and visualization, modeling, animation, lighting, and rendering Prepares you to create designs for iPads and other interactive mobile devices, as well as for print, Web, broadcast, film, HD, video, and more Uses Luxology modo to illustrate 3D concepts, but the author?s techniques and insights will help any artist moving into 3D, no matter what software they use This timely book is just what you need to create compelling and realistic 3D imagery and improve your job skills.

3D Integration for VLSI Systems Penguin

This book looks at the convergent nature of technology and its relationship to the field of photogrammetry and 3D design. This is a facet of a broader discussion of the nature of technology itself and the relationship of technology to art, as well as an examination of the educational process. In the field of technology-influenced design-based education it is natural to push for advanced technology, yet within a larger institution the constraints of budget and adherence to tradition must be accepted. These opposing forces create a natural balance; in some cases constraints lead to greater creativity than freedom ever can – but in other cases the opposite is true. This work offers insights into ways to integrate new technologies into the field of design, and from a broader standpoint it also looks ahead, raising further questions and looking to the near future as to what additional technologies might cause further disruptions to 3D design as well as wonderful creative opportunities.

Mastering 3D Printing Jones & Bartlett Publishers

The only comprehensive SketchUp guide written for builders and contractors SketchUp is a 3D modeling application used in areas ranging from civil and mechanical engineering to motion picture and video game design. Three-dimensional modeling is of obvious value to the building industry—yet resources for transforming architectural designs into reality is surprisingly limited. SketchUp for Builders is the first comprehensive guide designed specifically for builders and contractors, providing step-by-step instructions on incorporating 3D modeling into all phases of the construction process. Author John Brock draws from his 30 years of experience as a custom home designer and builder to provide practical advice on how to understand what you are building before it is built. This valuable guide demonstrates how to eliminate cost overruns, construction delays, and design flaws by integrating SketchUp modeling into your workflow. Emphasizing real-world practicality, this book covers all of the essential components of modeling a 3D construction project, from SketchUp fundamentals and object basics to importing construction drawings and increasing project efficiency with extensions and plugins. All phases of construction are clearly explained, including foundations, walls and floor systems, roof and mechanical systems, and exterior and interior finishes. Supplies a constructability process for efficient and cost-effective build projects Offers step-by-step guidance for creating construction documents, renderings, animations, virtual reality tours, and more Integrates SketchUp into all stages of the construction process Provides access to resources such as web tutorials, blogs, and the online SketchUp community Demonstrates how to generate construction documents with accompanying Layout software SketchUp for Builders: A Comprehensive Guide for Creating 3D Building Models Using SketchUp in an indispensable source of information for contractors and builders, architects, interior designers, landscape architects, construction professionals, and anyone seeking to create 3D models of the design and construction process.

3D Printing John Wiley & Sons

This book is aimed at an audience consisting of two kinds of readers. The first is people who are curious about 3D printing and want more information without necessarily getting deeply into it. For this audience, the first two chapters will be of greatest interest. They provide an overview of 3D print technology. They also serve to take the confusion out of the jargon and make sense out of such shortcuts as SLA, FFM, FFF, FDM, DLP, LOM, SLM, DMLS, SLS, EBM, EBAM, CAD and others. They describe the basic processes, the materials used and the application of the technology in industry, space, medicine, housing, clothing and consumer-oriented products such as jewelry, video game figures, footwear, tools and what must now seem like an infinity of bunnies, eagles and busts of Star Wars and Star Trek figurines in a dazzling array of colors. This book also addresses the needs of people new to the field who require information in a hurry. Chapter 3 serves as a guide to generating a 3D model by reviewing scanning methodology, the various types of software available to create a model and the steps needed to insure a useful printed object from the 3D model. The chapter has numerous references which, together with the information in the text, will help one find quickly any additional information available on the internet. Keywords: 3D Printing, 3D Software, 3D Hardware, Printing Materials, Scanning, 3D Modeling, Jewelry, Medicine, Housing, Space

Level of Detail for 3D Graphics Apress

Here’s what three pioneers in computer graphics and human-computer interaction have to say about this book: “What a tour de force—everything one would want—comprehensive, encyclopedic, and authoritative.” — Jim Foley “At last, a book on this important, emerging area. It will be an indispensable reference for the practitioner, researcher, and student interested in 3D user interfaces.” — Andy van Dam “Finally, the book we need to bridge the dream of 3D graphics with the user-centered reality of interface design. A thoughtful and practical guide for researchers and product developers. Thorough review, great examples.” — Ben Shneiderman As 3D technology becomes available for a wide range of applications, its successful deployment will require well-designed user interfaces (UIs). Specifically, software and hardware developers will need to understand the interaction principles and techniques peculiar to a 3D environment. This understanding, of course, builds on usability experience with 2D UIs. But it also involves new and unique challenges and opportunities. Discussing all relevant aspects of interaction, enhanced by instructive examples and guidelines, 3D User Interfaces comprises a single source for the latest theory and practice of 3D UIs. Many people already have seen 3D UIs in computer-aided design, radiation therapy, surgical simulation, data visualization, and virtual-reality entertainment. The next generation of computer games, mobile devices, and desktop applications also will feature 3D interaction. The authors of this book, each at the forefront of research and development in the young and dynamic field of 3D UIs, show how to produce usable 3D applications that deliver on their enormous promise. Coverage includes: The psychology and human factors of various 3D interaction tasks Different approaches for evaluating 3D UIs Results from empirical studies of 3D interaction techniques Principles for choosing appropriate input and output devices for 3D systems Details and tips on implementing common 3D interaction techniques Guidelines for selecting the most effective interaction techniques for common 3D tasks Case studies of 3D UIs in real-world applications To help you keep pace with this fast-evolving field, the book’s Web site, www.3dui.org, will offer information and links to the latest 3D UI research and applications.

3D Television (3DTV) Technology, Systems, and Deployment CRC Press

An accessible introduction to 3D printing that outlines the additive manufacturing process, industrial and household markets, and emerging uses. The use of 3D printing—digitally controlled additive manufacturing—is growing rapidly. Consumer models of 3D printers allow people to fabricate small plastic objects, from cabinet knobs to wedding cake toppers. Industrial uses are becoming widespread, as businesses use the technology to fabricate prototypes, spare parts, custom-fitted prosthetics, and other plastic or metal items, often at lower cost and with greater efficiency than standard manufacturing. In this volume in the MIT Press Essential Knowledge series, John Jordan offers an accessible introduction to 3D printing, describing the printing process, industrial and household markets, and emerging uses. Jordan outlines the stages of 3D printing, from idea to software model to a printable file that slices the planned object into printable layers to the finished object itself. He describes additive technologies, consumer 3D printing in homes and schools, mass customization (which can create tens of millions of unique items), and industrial uses. Jordan explains that although 3D printers have not become the ubiquitous home appliance once predicted, they are making inroads into mass markets; and he discusses the business factors that may hinder industry adoption of 3D printing technologies. He considers the possible unintended consequences of 3D printing on jobs, as companies scramble to find employees with an uncommon skill set; on business models and supply chains, as manufacturing is decentralized; and on patent law, as machines can be programmed to copy protected property. Finally, Jordan looks at new and emerging uses, including bioprinting, building construction, and micromachines.

3D Printing CRC Press

The book is written in a casual, conversational style. It is easily accessible to those who have no prior knowledge in 3D printing, yet the book's message is solidly practical, technically accurate, and consumer-relevant. The chapters include contemporary, real-life learning exercises and insights for how to buy, use and maintain 3D printers. It also covers free 3D modeling software, as well as 3D printing services for those who don't want to immediately invest in the purchase of a 3D printer. Particular focus is placed on free and paid resources, the various choices available in 3D printing, and tutorials and troubleshooting guides.

Design First for 3D Artists Springer Nature

Learn physics, engineering, and geology concepts usually seen in high school and college in an easy, accessible style. This second volume addresses these topics for advanced science fair participants or those who just like reading about and understanding science. 3D Printed Science Project Volume

2 describes eight open-source 3D printable models, as well as creative activities using the resulting 3D printed pieces. The files are designed to print as easily as possible, and the authors give tips for printing them on open source printers. As 3D printers become more and more common and affordable, hobbyists, teachers, parents, and students stall out once they've printed some toys and a few household items. To get beyond this, most people benefit from a “starter set” of objects as a beginning point in their explorations, partially just to see what is possible. This book tells you the solid science stories that these models offer, and provides them in open-source repositories. What You Will Learn Create (and present the science behind) 3D printed models Review innovative ideas for tactile ways to learn concepts in engineering, geology and physics Learn what makes a models easy or hard to 3D print Who This Book Is For The technology- squeamish teacher and parents who want their kids to learn something from their 3D printer but don’t know how, as well as high schoolers and undergraduates.

Getting Started with 3D Printing Taylor & Francis

Working on a project for most 3D artists means hitting the keyboard first without ever touching a pencil. But in the world of animation, the pencil is revered as the most powerful tool in the animation process, because it directly addresses the design aesthetic of an animated project. Production design is the process by which an artist establishes the tone for a particular film by offering a unique aesthetic vision that is in support of the story. As a 3D artist, to overlook design is to overlook the fundamental process that greatly influences not only the film itself but also your contributions as a professional. To combine the disciplines of traditional design and 3D animation is a choice that only you can make. The result of this choice is a broader artistic skill set that increases your creativity and consequently increases your worth as a professional. Plain and simple, Design First for 3D Artists is going to teach you easy-to-use design techniques that will make you a better designer and increase your worth as a 3D artist.

3D Printing Projects Apress

In the early days of the Web a need was recognized for a language to display 3D objects through a browser. An HTML-like language, VRML, was proposed in 1994 and became the standard for describing interactive 3D objects and worlds on the Web. 3D Web courses were started, several best-selling books were published, and VRML continues to be used today. However VRML, because it was based on HTML, is a stodgy language that is not easy to incorporate with other applications and has been difficult to add features to. Meanwhile, applications for interactive 3D graphics have been exploding in areas such as medicine, science, industry, and entertainment. There is a strong need for a set of modern Web-based technologies, applied within a standard extensible framework, to enable a new generation of modeling & simulation applications to emerge, develop, and interoperate. X3D is the next generation open standard for 3D on the web. It is the result of several years of development by the Web 3D Consortium's X3D Task Group. Instead of a large monolithic specification (like VRML), which requires full adoption for compliance, X3D is a component-based architecture that can support applications ranging from a simple non-interactive animation to the latest streaming or rendering applications. X3D replaces VRML, but also provides compatibility with existing VRML content and browsers. Don Brutzman organized the first symposium on VRML and is playing a similar role with X3D; he is a founding member of the consortium. Len Daly is a professional member of the consortium and both Len and Don have been involved with the development of the standard from the start. The first book on the new way to present interactive 3D content over the Web, written by two of the designers of the standard Plentiful illustrations and screen shots in the full color text Companion website with extensive content, including the X3D specification, sample code and applications, content creation tools, and demos of compatible Web browsers

Revit Architecture 2023 for Electrical Workers CRC Press

3D technology is not new; research on 3D started back in early 1960s. But unlike in previous times, 3D technology has now rapidly entered our daily life from cinema to office to home. Using 3D for education is a new yet challenging task. This book will present several innovative efforts using 3D for immersive and interactive learning covering a wide spectrum of education including gifted program, normal (technical) stream, and special needs education. The book will also share experience on curriculum-based 3D learning in classroom setting and co-curriculum-based 3D student research projects. The book is organized as follows. Chapter 1 introduces the fundamentals of 3D educational technology and their applications in immersive and interactive learning. Chapter 2 discusses the use of virtual reality in teaching and learning of Molecular Biology. Chapter 3 presents the daVinci Lab @ River Valley High School. Chapter 4 describes the 3D education development process. Chapter 5 studies the adaption 3D system for learning gains in lower secondary normal (technical) stream. Chapter 6 investigates the effects of virtual reality technology on spatial visualization skills. Chapter 7 showcases a sabbatical program for students to use 3D for Science, Technology, Engineering and Mathematics (STEM) learning. Chapter 8 shares the use of 3D virtual pink dolphin to assist special education. The foreword of this book is written by Dr Cheah Horn Mun, Director, Education Technology Division, Ministry of Education, Singapore.

Integrating 3D Modeling, Photogrammetry and Design Sybex

Finally! The book electrical workers have been waiting for, an introduction to Autodesk Revit written just for you! Featuring exercises based on real work situations, Revit Architecture 2023 for Electrical Workers will help get you up to speed quickly on developing your own construction documents. The author developed and coordinated this book with a local chapter of electrical workers to ensure it would meet the needs of electrical journeymen. This textbook shows you how to work with Revit documents provided by outside contractors and architects. Using this textbook, you will be able to learn enough skills in Revit to be fully functional in less than a week. The textbook can be used in a training class or by someone teaching themselves in their own home or office. If you can open a file and use a mouse, you can learn Revit. You don't need a college degree to use Revit software. There is no other Revit book out there that covers so much material specifically for electricians and electrical engineers. Knowing Autodesk Revit software is a valuable skill that will help you earn more money, increase your value as an employee, and collaborate better with other team members. This textbook was written by Elise Moss, an Autodesk Certified Instructor. Elise has experience training machinists, electricians, and equipment installers. She knows how to break down software content to make it easy to understand and learn quickly.

3D User Interfaces CRC Press

Beginning Design for 3D Printing is the full color go-to-guide for creating just about anything on a 3D printer. This book will demystify the design process for 3D printing, providing the proper workflows for those new to 3D printing, eager artists, seasoned engineers, 3D printing entrepreneurs, and first-time owners of 3D printers to ensure original ideas can be 3D printed. Beginning Design for 3D Printing explores a variety of 3D printing projects. Focus is on the use of freely available 3D design applications with step-by-step techniques that will demonstrate how to create a wide variety of 3D printable objects and illustrate the differences between splines, polygons, and solids. Users will get a deep understanding of a wide range modeling applications. They'll learn the differences between organic modeling tools, hard edge modeling, and precision, CAD-based techniques used to make 3D printable designs, practical products, and personalized works of art. Whether you are a student on a budget or a company exploring R & D options for 3D printing, Beginning Design for 3D Printing will provide the right tools and techniques to ensure 3D printing success.

Exploring 3D CreateSpace

The vanguard of the 3D film and TV industry explains why 3D stereo techniques should become a staple visual storytelling tool, on par with lighting, set design, or sound. Words of wisdom from Jeffrey Katzenberg, Martin Scorsese, Dean DeBlois, Baz Luhrmann, Jon Landau, Barrie M. Osborne, Wim Wenders, and more, provide you with unparalleled insight into the leading minds in 3D. Not only is effective use of 3D in movies thoroughly covered, but also included is a chapter on live events, with insight from the people bringing us the FIFA World Cup in 3D, and those pushing the boundaries of 3D TV documentaries Including full-color imagery from many of your favorite 3D films released thus far, Exploring 3D provides a window into how those dazzling movies were created, and insight into what the future may hold.