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KEY=FABRICATION - BRIANNA LILIA

Getting Started with CNC

Personal Digital Fabrication with Shapeoko and Other Computer-Controlled Routers

Maker Media, Inc. *Getting Started with CNC is the definitive introduction to working with affordable desktop and benchtop CNCs, written by the creator of the popular open hardware CNC, the Shapeoko. Accessible 3D printing introduced the masses to computer-controlled additive fabrication. But the flip side of that is subtractive fabrication: instead of adding material to create a shape like a 3D printer does, a CNC starts with a solid piece of material and takes away from it. Although inexpensive 3D printers can make great things with plastic, a CNC can carve highly durable pieces out of a block of aluminum, wood, and other materials. This book covers the fundamentals of designing for--and working with--affordable ($500-$3000) CNCs.*

Build Your Own CNC Machine

Apress *Do you like to build things? Are you ever frustrated at having to compromise your designs to fit whatever parts happen to be available? Would you like to fabricate your own parts? Build Your Own CNC Machine is the book to get you started. CNC expert Patrick Hood-Daniel and best-selling author James Kelly team up to show you how to construct your very own CNC machine. Then they go on to show you how to use it, how to document your designs in computer-aided design (CAD) programs, and how to output your designs as specifications and tool paths that feed into the CNC machine, controlling it as it builds whatever parts your imagination can dream up. Don't be intimidated by abbreviations like CNC and terms like computer-aided design. Patrick and James have chosen a CNC-machine design that is simple to fabricate. You need only basic woodworking skills and a budget of perhaps $500 to $1,000 to spend on the wood, a router, and various other parts that you'll need. With some patience and some follow-through, you'll soon be up and running with a really fun machine that'll unleash your creativity and turn your imagination into physical reality. The authors go on to show you how to test your machine, including configuring the software. Provides links for learning how to design and mill whatever you can dream up The perfect parent/child project that is also suitable for scouting groups, clubs, school shop classes, and other organizations that benefit from projects that foster skills development and teamwork No unusual tools needed beyond a circular saw and what you likely already have in your home toolbox Teaches you to design and mill your very own wooden and aluminum parts, toys, gadgets—whatever you can dream up*

Getting Started with 3D Carving

Five Step-by-Step Projects to Launch You on Your Maker Journey

Maker Media, Inc. *3D printing has been the hot topic in the maker world for years now, but there's another type of desktop manufacturing that's become the go-to choice for anyone who needs durable results fast. Instead of slowly depositing layers of plastic, a 3D carver starts with a solid block of material and carves it away using a rotating metal bit. It's faster than 3D printing, offers a wider choice of materials, and creates durable, permanent parts that look great. This book covers the basics of designing and making things with a 3D carver, and gives you several projects you can build yourself including a guitar, clock, earrings, and even a skateboard.*

Beginner's Guide to CNC Machining in Wood

Understanding the Machines, Tools, and Software, Plus Projects to Make

Fox Chapel Publishing *A tool to empower and educate a new generation of inventors, creators, designers, and fabricators! This comprehensive resource is an accessible, beginner-friendly guide for anyone interested in understanding CNC (Computer Numerical Control) woodworking and the future of these technologies. From the fundamentals of CNC to its machinery, software, tools, materials, and 2-1/2 D carving, Beginner's Guide to CNC Machining for Wood will teach you everything you need to know about your CNC router in a way that's clear, approachable, and easy to comprehend. Also included are step-by-step CNC projects that will allow you to practice various techniques in digital wood joinery and CNC machining. The general principles and instructions detailed are applicable to a wide range of software and CNC machine brands, making this must-have resource a comprehensive and inclusive guide that any woodworker can use! With clear instructions, diagrams, illustrations, software screenshots, and high-quality photography provided throughout, you'll be inspired and equipped with a strong foundation of knowledge to continue along the path of this innovative method of woodworking.*

Design for CNC

Furniture Projects and Fabrication Technique

Maker Media, Inc. *Design, DIY, and computer-controlled fabrication are a powerful combination for making high-quality customized things. Written by the founders of the architecture, design, and research firm Filson and Rohrbacher, this book takes you through the basics of CNC fabrication, the design process, production, and construction of your own furniture designs. Through their AtFAB series of projects, accompanied by an overview of digital techniques and design thinking, this book introduces the knowledge and skills that you'll find widely applicable across all kinds of CNC projects. Not only will you learn how to design, fabricate, and assemble a wide range of projects, you'll have some great furniture to show for it! While 3D printing has been grabbing headlines, high school, college, library, and other public makerspaces have been making things with CNC machines. With a CNC router, you can cut parts from strong, tactile, durable materials like wood. Once you have your design and material, you can set up your job and let it run. When it's done, you can put the project together for an heirloom of your own. While 3D printing can make exciting things with complex designs, CNCs are the digital workhorses that produce large-scale, long-lasting objects.*

CNC Machining Handbook: Building, Programming, and Implementation

McGraw Hill Professional *A Practical Guide to CNC Machining Get a thorough explanation of the entire CNC process from start to finish, including the various machines and their uses and the necessary software and tools. CNC Machining Handbook describes the steps involved in building a CNC machine to custom specifications and successfully implementing it in a real-world application. Helpful photos and illustrations are featured throughout. Whether you're a student, hobbyist, or business owner looking to move from a manual manufacturing process to the accuracy and repeatability of what CNC has to offer, you'll benefit from the in-depth information in this comprehensive resource. CNC Machining Handbook covers: Common types of home and shop-based CNC-controlled applications Linear motion guide systems Transmission systems Stepper and servo motors Controller hardware Cartesian coordinate system CAD (computer-aided drafting) and CAM (computer-aided manufacturing) software Overview of G code language Ready-made CNC systems*

The Newbie's Guide to Cnc Routing

Getting Started with Cnc Machining for Woodworking and Other Crafts

Createspace Independent Publishing Platform *If you've recently purchased a CNC machine for your shop, or are just wanting to learn more about using one for woodworking and other crafts before you take the plunge, this is the book for you. You'll learn the basics behind the sometimes mystifying world of these fantastic machines, how to design your projects, which tools to use, how to painlessly convert your designs into language the CNC can understand, and pick up some tips on getting started in the shop and using your CNC safely. You'll find everything in simple non-technical language, that will move you from Newbie to Novice in easy-to-understand steps.*

Fusion 360 for Makers

Design Your Own Digital Models for 3D Printing and CNC Fabrication

Maker Media, Inc. *Learn how to use Autodesk Fusion 360 to digitally model your own original projects for a 3D printer or a CNC device. Fusion 360 software lets you design, analyze, and print your ideas. Free to students and small businesses alike, it offers solid, surface, organic, direct, and parametric modeling capabilities. Fusion 360 for Makers is written for beginners to 3D modeling software by an experienced teacher. It will get you up and running quickly with the goal of creating models for 3D printing and CNC fabrication. Inside Fusion 360 for Makers, you'll find: Eight easy-to-understand tutorials that provide a solid foundation in Fusion 360 fundamentals DIY projects that are explained with step-by-step instructions and color photos Projects that have been real-world tested, covering the most common problems and solutions Stand-alone projects, allowing you to skip to ones of interest without having to work through all the preceding projects first Design from scratch or edit downloaded designs. Fusion 360 is an appropriate tool for beginners and experienced makers.*

Cnc Router Essentials

The Basics for Mastering the Most Innovative Tool in Your Workshop

Getting Started with MakerBot

"O'Reilly Media, Inc." *Provides information on using the MakerBot printer to creat a wide variety of 3D objects.*

CNC Robotics

Build Your Own Shop Bot

McGraw Hill Professional *Provides step-by-step instructions for designing, constructing, and testing a fully functional CNC robot.*

CNC Milling for Makers

Basics - Techniques - Applications

Rocky Nook, Inc. *Until fairly recently, machining has been a high-cost manufacturing technique available only to large corporations and specialist machine shops. With today's cheaper and more powerful computers, CNC milling and 3D printing technology has become practical, affordable, and accessible to just about anyone.*
p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 11.0px Verdana} p.p2 {margin: 0.0px 0.0px 0.0px 0.0px; font: 11.0px Verdana; min-height: 13.0px}
Tabletop CNC machines are every hobbyist's dream, providing the tools needed to cut and shape materials such as glass, wood, plastics, and aluminum.

In *CNC Milling for Makers*, author Christian Rattat explains how CNC technology works and he walks you through the entire milling process: starting with a blank piece of material, Rattat takes you step by step through to a finished product.

Rattat offers advice on selecting and purchasing the best machine for your own particular needs. He also demonstrates how to assemble a machine from a kit and explains all the steps required to mill your first project. Moving past the basics, Rattat introduces a variety of cutting tools and provides hands-on examples of how to use them to mill a wide variety of materials.

Make: 3D Printing

The Essential Guide to 3D Printers

Maker Media, Inc. *The 3D printing revolution is well upon us, with new machines appearing at an amazing rate. With the abundance of information and options out there, how are makers to choose the 3D printer that's right for them? MAKE is here to help, with our Ultimate Guide to 3D Printing. With articles about techniques, freely available CAD packages, and comparisons of printers that are on the market, this book makes it easy to understand this complex and constantly-shifting topic. Based on articles and projects from MAKE's print and online publications, this book arms you with everything you need to know to understand the exciting but sometimes confusing world of 3D Printing.*

Fab

The Coming Revolution on Your Desktop--from Personal Computers to Personal Fabrication

Basic Books *What if you could someday put the manufacturing power of an automobile plant on your desktop? According to Neil Gershenfeld, the renowned MIT scientist and inventor, the next big thing is personal fabrication-the ability to design and produce your own products, in your own home, with a machine that combines consumer electronics and industrial tools. Personal fabricators are about to revolutionize the world just as personal computers did a generation ago, and Fab shows us how.*

Opening digital fabrication: transforming TechKnowledgies

KIT Scientific Publishing

3D Printing and CNC Fabrication with SketchUp

McGraw Hill Professional *Model and print your own 3D creations using SketchUp! Get up and running fast in the consumer design and fabrication world using the hands-on information in this guide. 3D Printing and CNC Fabrication with SketchUp features step-by-step tutorials of fun and easy DIY projects. Learn how to create your own 3D models, edit downloaded models, make them printable, and bring them to physical life either on your own printer or through an online service bureau. Download and install SketchUp on your Mac or PC Navigate the interface and SketchUp's native design tools Download design and analysis tools from the Extension Warehouse. Edit models downloaded from the 3D Warehouse and Thingiverse. Import and export STL files. Analyze your projects for 3D printability. Set up, use, and maintain a home 3D printer Work with AutoCAD, 123D Make, 123D Meshmixer, and Vetric Cut2D Generate files for CNC cutters*

Tinkercad For Dummies

John Wiley & Sons *Create in 3D with Tinkercad! If you can dream it, you can create it—using Tinkercad. This free tool gives everyone the power to create 3D models, regardless of your level of experience. With the help of Tinkercad For Dummies, you'll have the knowledge you need to plan your designs, the know-how to utilize the platform's drag-and-drop tools to create your design, and the information you need to print or export your designs to use them elsewhere. Tinkercad is for everyone! It's simple enough to be used by kids and students, but robust enough that an adult could use it to create a complex product prototype. With more than 4 million designs posted in the Tinkercad community, the platform is also popular with teachers around the world. Why not join in on the fun? Create your Tinkercad account and join the community Use the drag-and-drop tools to build 3D images Export your designs to have them 3D printed Learn the principles of great 3D design Tinkercad is truly fun for all ages, and this hands-on guide makes it faster and easier to start using it right away!*

Digital Fabrication in Architecture

Laurence King Publishing *With the increasing sophistication of CAD and other design software, there is now a wide array of means for both designing and fabricating architecture and its components. The proliferation of advanced modelling software and hardware has enabled architects and students to conceive and create designs that would be very difficult to do using more traditional methods. The use of CAD technologies in the production of physical models, prototypes and individual elements is increasingly widespread through processes such as CAD/CAM, CNC milling and rapid prototyping. This translation of computer-generated data to physical artefact can also be reversed with devices such as a digitiser, which traces the contours of physical objects directly into the computer. This book focuses on the inspiring possibilities for architecture that can be explored with all the different technologies and techniques available for making complete designs or their components.*

Personal Cnc Routing

A Beginners Practical Guide to Operating a Cnc Router

CreateSpace *The CNC Router is becoming the next must-have piece of workshop equipment. But how does it work? What can I make with it? If I am thinking of buying one, what do I look for? This book takes the beginner through the basic stages of understanding and using the CNC router - the design in CAD, the machining sequence in CAM and the operation of the CNC control system. The easiest way to explain the steps is through practical examples - there are 10 different projects to make in this book, to take the beginner through the basics of CNC Routing.*

Fashion Design for Living

Routledge *Fashion Design for Living explores the positive contribution that the contemporary fashion designer can make within society. The book seeks to reveal new ways of designing and making fashion garments and products that not only enhance and enrich our lives, but also are mindful of social and sustainable issues. This book sets out to question and challenge the dominant, conventional process of fashion design that as a practice has been under-researched. While the fashion designer in industry is primarily concerned with the creation of the new seasonal collection, designed, produced and measured by economically driven factors, society increasingly expects the designer to make a positive contribution to our social, environmental and cultural life. Consequently an emergent set of designers and research-based practitioners are beginning to explore new ways to think about fashion designing. The contributors within this book argue that fashion designing should move beyond developing garments that are just aesthetically pleasing or inexpensive, but also begin to consider and respond to the wearer's experiences, wellbeing, problems, desires and situations, and their engagement with and use of a garment. Fashion Design for Living champions new approaches to fashion practice by uncovering a rich and diverse set of views and reflective experiences which explore the changing role of the fashion designer and inspire fresh, innovative and creative responses to fashion and the world we live in.*

CNC Programming using Fanuc Custom Macro B

McGraw Hill Professional *Master CNC macro programming CNC Programming Using Fanuc Custom Macro B shows you how to implement powerful, advanced CNC macro programming techniques that result in unparalleled accuracy, flexible automation, and enhanced productivity. Step-by-step instructions begin with basic principles and gradually proceed in complexity. Specific descriptions and programming examples follow Fanuc's Custom Macro B language with reference to Fanuc 0i series controls. By the end of the book, you will be able to develop highly efficient programs that exploit the full potential of CNC machines. COVERAGE INCLUDES: Variables and expressions Types of variables--local, global, macro, and system variables Macro functions, including trigonometric, rounding, logical, and conversion functions Branches and loops Subprograms Macro call Complex motion generation Parametric programming Custom canned cycles Probing Communication with external devices Programmable data entry*

Modern Leatherwork for Makers

Traditional Craft Techniques Meet CNC and 3D Printing

Maker Media, Inc. *Take leather crafting into the 21st century with this complete guide that marries traditional skills to the latest CNC and 3D printing technologies. Learn how to start making your own leather creations with traditional tools, and then take them to incredible new levels with digital design techniques. Leatherworking is one of humankind's oldest skills and remains a fun and exciting way to make great-looking wearables, accessories, and cosplay items. 3D printers and even hobbyist-class CNC machines have created fantastic new opportunities for new directions in this popular hobby. The book is perfect for makers new to leatherworking, as well as experienced leatherworkers who want to understand how to integrate new digital fabrication tools into their workbench. Written by an experienced leatherworker and programmer, this is a resource that makers will turn to again and again. Highlights: First comprehensive reference on applying digital design techniques to leatherwork Provides both a reference manual and a project guide Includes traditional techniques like cutting, stamping, tooling and dyeing leather Introduces novices and experienced leatherworkers to cutting-edge digital tools Every project has been real-world tested Opens up exciting new project areas for makers This book provides valuable reference and how-to information for makers interested in leatherworking but who have no prior experience, for experienced leatherworkers who want to extend their knowledge to include new digital tools, and for 3D printing and CNC enthusiasts who want to include a new material in their repertoire. Leatherworking is a hobby that is enjoyed by a wide range of people from middle school through adulthood and can be incorporated into a variety of other kinds of projects, from clothing design and costuming to carrying cases and furniture.*

Designing Reality

How to Survive and Thrive in the Third Digital Revolution

Basic Books *That's the promise, and peril, of the third digital revolution, where anyone will be able to make (almost) anything Two digital revolutions -- computing and communication -- have radically transformed our economy and lives. A third digital revolution is here: fabrication. Today's 3D printers are only the start of a trend, accelerating exponentially, to turn data into objects: Neil Gershenfeld and his collaborators ultimately aim to create a universal replicator straight out of Star Trek. While digital fabrication promises us self-sufficient cities and the ability to make (almost) anything, it could also lead to massive inequality. The first two digital revolutions caught most of the world flat-footed, thanks to Designing Reality that won't be true this time.*

Personal Fabrication

While fabrication technologies have been in use in industry for several decades, expiring patents have recently allowed the technology to spill over to technology-enthusiastic "makers." Personal Fabrication looks at the massive, disruptive changes that are likely to be seen in interactive computing, as well as to computing as a whole. It discusses six main challenges that need to be addressed for this change to take place, and explains researchers in HCI will play a key role in tackling these challenges.

Getting Started with 3D Printing

A Hands-on Guide to the Hardware, Software, and Services Behind the New Manufacturing Revolution

Maker Media, Inc. *Make: Getting Started with 3D Printing is a practical, informative, and inspiring book that guides readers step-by-step through understanding how this new technology will empower them to take full advantage of all it has to offer. The book includes fundamental topics such as a short history of 3D printing, the best hardware and software choices for consumers, hands-on tutorial exercises the reader can practice for free at home, and how to apply 3D printing in the readers' life and profession. For every maker or would-be maker who is interested, or is confused, or who wants to get started in 3D printing today, this book offers methodical information that can be read, digested, and put into practice immediately!*

Cnc Programming for Milling Machines

A Practical Approach

Createspace Independent Publishing Platform *This book covers CNC programming, speeds and feeds, carbide tooling selection and use, workholding, and machine setups. The practical, understandable, step-by-step approach makes learning how to program a CNC machining center (milling machine) a much easier and less frustrating task. All standard M- and G-codes as well as canned cycles are covered. There are many practical examples and fully explained line-by-line programming examples. Each chapter has questions and programming assignments to guide learning. The answers to questions and programming are included in an Appendix. Additional Appendices contain typical M- and G-codes as well as those for Mach3 programming.*

Advanced Customization in Architectural Design and Construction

Springer *This book presents the state of the art in advanced customization within the sector of architectural design and construction, explaining important new technologies that are boosting design, product and process innovation and identifying the challenges to be confronted as we move toward a mass customization construction industry. Advanced machinery and software integration are discussed, as well as an overview of the manufacturing techniques offered through digital methods that are acquiring particular significance within the field of digital architecture. CNC machining, Robotic Fabrication, and Additive Manufacturing processes are all clearly explained, highlighting their ability to produce personalized architectural forms and unique construction components. Cutting-edge case studies in digitally fabricated architectural realizations are described and, looking towards the future, a new model of 100% customized architecture for design and construction is presented. The book is an excellent guide to the profound revolution taking place within the fields of architectural design and construction, characterized by computational tools, advanced fabrication means and custom-made high-performance architecture.*

Building Open Source Hardware

DIY Manufacturing for Hackers and Makers

Addison-Wesley Professional *This is the first hands-on guide to the entire process of designing and manufacturing open source hardware. Drawing on extensive personal experience with DIY, maker, and hardware hacking projects, industry-leading contributors share proven approaches to design, remixing, fabrication, manufacturing, troubleshooting, licensing, documentation, and running an open source hardware business. Part I covers the emergence and evolution of open source hardware, what open source hardware licenses mean, and the growing role of standards in making hardware more open. Part II offers contributors' expert advice on key tasks, ranging from creating derivatives to using source files. Part III turns to production, showing how to manufacture at multiple scales–from personal to commercial. Appendixes provide valuable checklists for design, manufacture, security, and documentation. And to foster even more hands-on learning and experimentation, the low-cost Blinky Buildings open source hardware kit is used as an example throughout. Learn how to Get involved in the open source hardware community–its history and values Develop designs you can successfully prototype and manufacture Walk step by step through making derivatives from existing projects Build open source 3D printers, and remix 3D printable objects Create open source wearables Work with diverse source files, from electronics to other physical materials Fabricate your own designs Move from prototype to commercial manufacturing, and troubleshoot problems Choose a business model and build a profitable open source hardware company Avoid pitfalls associated with trademarks, copyrights, patents, and licensing Write documentation other hardware hackers can use Use open source hardware in education, helping students learn without boundaries*

CNC Trade Secrets

A Guide to CNC Machine Shop Practices

You don't have to know everything about CNC machines in order to makes parts on them. Whether you're a shop owner, machinist, designer, or hobbyist, Harvey shows you useful techniques for holding and machining parts using CNC machines, and provides a potpourri of practical and proven machining tips and tricks.

Being Material

MIT Press *Explorations of the many ways of being material in the digital age. In his oracular 1995 book Being Digital, Nicholas Negroponte predicted that social relations, media, and commerce would move from the realm of "atoms to bits"—that human affairs would be increasingly untethered from the material world. And yet in 2019, an age dominated by the digital, we have not quite left the material world behind. In Being Material, artists and technologists explore the relationship of the digital to the material, demonstrating that processes that seem wholly immaterial function within material constraints. Digital technologies themselves, they remind us, are material things—constituted by atoms of gold, silver, silicon, copper, tin, tungsten, and more. The contributors explore five modes of being material: programmable, wearable, livable, invisible, and audible. Their contributions take the form of reports, manifestos, philosophical essays, and artist portfolios, among other configurations. The book's cover merges the possibilities of paper with those of the digital, featuring a bookmark-like card that, when "seen" by a smartphone, generates graphic arrangements that unlock films, music, and other dynamic content on the book's website. At once artist's book, digitally activated object, and collection of scholarship, this book both demonstrates and chronicles the many ways of being material. Contributors Christina Agapakis, Azra Akšamija, Sandy Alexandre, Dewa Alit, George Barbastathis, Maya Beiser, Marie-Pier Boucher, Benjamin H. Bratton, Hussein Chalayan, Jim Cybulski, Tal Danino, Deborah G. Douglas, Arnold Dreyblatt, M. Amah Edoh, Michelle Tolini Finamore, Team Foldscope and Global Foldscope community, Ben Fry, Victor Gama, Stefan Helmreich, Hyphen-Labs, Leila Kinney, Rebecca Konte, Winona LaDuke, Brendan Landis, Grace Leslie, Bill Maurer, Lucy McRae, Tom Özden-Schilling, Trevor Paglen, Lisa Parks, Nadya Peek, Claire Pentecost, Manu Prakash,Casey Reas, Paweł Romańczuk, Natasha D. Schüll, Nick Shapiro, Skylar Tibbits, Rebecca Uchill, Evan Ziporyn Book Design: E Roon Kang Electronics, interactions, and product designer: Marcelo Coelho*

Guide to CNC Sign Making

Layout and Design, Production Methods, and Finishing Techniques

If you're a CNC hobbyist or crafter who would like to make signs, you've come to the right place. This book will lead you through the sign-making process with simple non-technical language and show you many examples of great signs made by people just like you. Sign making isn't rocket science. You simply need to learn a few practical techniques and design basics to start producing eye-catching signs on your CNC.You'll learn about layout and design basics, font choices, creating and using sign shapes, various sign styles, choosing materials, tool selection, production methods, and finishing techniques.The book is chock full of great ideas, and even if you learn only one, it's worth the price of admission.

Customization 4.0

Proceedings of the 9th World Mass Customization & Personalization Conference (MCPC 2017), Aachen, Germany, November 20th-21st, 2017

Springer *This proceedings volume presents the latest research from the worldwide mass customization & personalization (MCP) community bringing together new thoughts and results from various disciplines within the field. The chapters are based on papers from the MCPC 2017. The book showcases research and practice from authors that see MCP as an opportunity to extend or even revolutionize current business models. The current trends of Industrie 4.0, digital manufacturing, and the rise of smart products allow for a fresh perspective on MCP: Customization 4.0. The book places a new set of values in the centre of the debate: a world with finite resources, global population growth, and exacerbating climate change needs smart thinking to engage the most effective capabilities and resources. It discusses how Customization 4.0 fosters sustainable development and creates shared value for companies, customers, consumers, and the society as a whole. The chapters of this book are contributed by a wide range of specialists, offering cutting-edge research, as well as insightful advances in industrial practice in key areas. The MCPC 2017 has a strong focus on real life MCP applications, and this proceedings volume reflects this. MCP strategies aim to profit from the fact that people are different. Their objective is to turn customer heterogeneities into opportunities, hence addressing "long tail" business models. The objective of MCP is to provide goods and services that best serve individual customers' needs with near mass production efficiency. This proceedings volume highlights the interdisciplinary work of thought leaders, technology developers, and researchers with corporate entrepreneurs putting these strategies into practice. Chapter 24 is open access under a CC BY 4.0 license via link.springer.com.*

Radical Technologies

The Design of Everyday Life

Verso Books *A field manual to the technologies that are transforming our lives Everywhere we turn, a startling new device promises to transfigure our lives. But at what cost? In this urgent and revelatory excavation of our Information Age, leading technology thinker Adam Greenfield forces us to reconsider our relationship with the networked objects, services and spaces that define us. It is time to re-evaluate the Silicon Valley consensus determining the future. We already depend on the smartphone to navigate every aspect of our existence. We're told that innovations—from augmented-reality interfaces and virtual assistants to autonomous delivery drones and self-driving cars—will make life easier, more convenient and more productive. 3D printing promises unprecedented control over the form and distribution of matter, while the blockchain stands to revolutionize everything from the recording and exchange of value to the way we organize the mundane realities of the day to day. And, all the while, fiendishly complex algorithms are operating quietly in the background, reshaping the economy, transforming the fundamental terms of our politics and even redefining what it means to be human. Having successfully colonized everyday life, these radical technologies are now conditioning the choices available to us in the years to come. How do they work? What challenges do they present to us, as individuals and societies? Who benefits from their adoption? In answering these questions, Greenfield's timely guide clarifies the scale and nature of the crisis we now confront —and offers ways to reclaim our stake in the future.*

Building Open Source Hardware

DIY Manufacturing for Hackers and Makers

Pearson Education *A guide to designing and manufacturing open source hardware covers such topics as creating derivatives of existing projects, using source files, moving from prototype to commercial production, and writing documentation for other hardware hackers.*

Digital Vernacular

Architectural Principles, Tools, and Processes

Routledge *Digital Vernacular addresses the why and how of digital fabrication in hundreds of step-by-step color images, illuminating a set of working principles and techniques that join theory with practice. Authors James Stevens and Ralph Nelson reconcile local traditions and innovations with globally accessible methods and digital toolsets. By combining ethics with hardware, the book will root you in the origins of making, ensuring a lasting and relevant reference for your studio practice. The book opens with the origins and principles of the digital vernacular, then outlines digital vernacular tools including computer numerically controlled (CNC) mills, laser cutters, and 3D printers. You'll even learn to create your own digital fabrication tools out of inexpensive materials. The book concludes with the processes of the digital vernacular, including techniques for removing, joining, forming, and adding. A companion website at make-Lab.org hosts additional step-by-step processes and project outcomes.*

Future Cities

ECAADE 2010 : Proceedings of the 28th Conference on Education in Computer Aided Architectural Design in Europe, September 15-18, 2010, Zurich, Switzerland, ETH Zurich

vdf Hochschulverlag AG

TechnoScienceSociety

Technological Reconfigurations of Science and Society

Springer Nature *This book introduces the term of TechnoScienceSociety to focus on the ongoing technological reconfigurations of science and society. It aspires to use the breadth of Science and Technology Studies to perform a critical diagnosis of our contemporary culture. Instead of constructing technology as society's "other", the book sets out to highlight the both complex and ambivalent entanglements of technologies, sciences and socialities. It provides some tentative steps towards a diagnosis of a society in which individuals and organizations address themselves, their pasts, presents, futures, hopes and problems in technoscientific modes. Technosciences redesign matter, life, self and society. However, they do not operate independently: Technoscientific practices are deeply socially and culturally constituted. The diverse contributions highlight the ongoing technological reconfigurations of rationalities, infrastructures, modes of governance, and publics. The book aims to inspire scholars and students to think and analyze contemporary conditions in new ways drawing on, and expanding, the toolkits of Science and Technology Studies.*

Machining For Dummies

John Wiley & Sons *Start a successful career in machining Metalworking is an exciting field that's currently experiencing a shortage of qualified machinists—and there's no time like the present to capitalize on the recent surge in manufacturing and production opportunities. Covering everything from lathe operation to actual CNC programming, Machining For Dummies provides you with everything it takes to make a career for yourself as a skilled machinist. Written by an expert offering real-world advice based on experience in the industry, this hands-on guide begins with basic topics like tools, work holding, and ancillary equipment, then goes into drilling, milling, turning, and other necessary metalworking processes. You'll also learn about robotics and new developments in machining technology that are driving the future of manufacturing and the machining market. Be profitable in today's competitive manufacturing environment Set up and operate a variety of computer-controlled and mechanically controlled machines Produce precision metal parts, instruments, and tools Become a part of an industry that's experiencing steady growth Manufacturing is the backbone of America, and this no-nonsense guide will provide you with valuable information to help you get a foot in the door as a machinist.*

Advances in Human Factors in Training, Education, and Learning Sciences

Proceedings of the AHFE 2019 International Conference on Human Factors in Training, Education, and Learning Sciences, July 24-28, 2019, Washington D.C., USA

Springer *This book focuses on the importance of human factors in optimizing the learning and training process. It reports on the latest research and best practices and discusses key principles of behavioral and cognitive science, which are extremely relevant to the design of instructional content and new technologies to support mobile and multimedia learning, virtual training and web-based learning, among others, as well as performance measurements, social and adaptive learning and many other types of educational technologies, with a special emphasis on those important in the corporate, higher education, and military training contexts. Based on the AHFE 2019 Conference on Human Factors in Training, Education, and Learning Sciences, held on July 24-28, 2019, in Washington D.C., USA, the book offers a timely perspective on the role of human factors in education. It highlights important new ideas and will fosters new discussions on how to optimally design learning experiences.*

Zero to Maker

Learn (Just Enough) to Make (Just About) Anything

Maker Media, Inc. *Are you possessed by the urge to invent, design, and make something that others enjoy, but don't know how to plug into the Maker movement? In this book, you'll follow author David Lang's headfirst dive into the Maker world and how he grew to be a successful entrepreneur. You'll discover how to navigate this new community, and find the best resources for learning the tools and skills you need to be a dynamic maker in your own right. Lang reveals how he became a pro maker after losing his job, and how the experience helped him start OpenROV—a DIY community and product line focused on open source undersea exploration. It all happened once he became an active member of the Maker culture. Ready to take the plunge into the next Industrial Revolution? This guide provides a clear and inspiring roadmap. Take an eye-opening journey from unskilled observer to engaged maker-entrepreneur Enter the Maker community to connect with experts and pick up new skills Use a template for building a maker-based entrepreneurial lifestyle Learn from the organizer of the first-ever Maker Startup Weekend Be prepared for exciting careers of the future*