

The Functional Art An Introduction To Information Graphics And Visualization Alberto Cairo

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Visualizing Data Patterns with Micromaps - Daniel B. Carr 2010-04-29

After more than 15 years of development drawing on research in cognitive psychology, statistical graphics, computer science, and cartography, micromap designs are becoming part of mainstream statistical visualizations. Bringing together the research of two leaders in this field, *Visualizing Data Patterns with Micromaps* presents the many design variations and applications of micromaps, which link statistical information to an organized set of small maps. This full-color book helps readers simultaneously explore the statistical and geographic patterns in their data. After illustrating the three main types of micromaps, the authors summarize the research behind the design of visualization tools that support exploration and communication of spatial data patterns. They then explain how these research findings can be applied to micromap designs in general and detail the specifics involved with linked, conditioned, and comparative micromap designs. To compare and contrast their purposes, limitations, and strengths, the final chapter applies all three of these techniques to the same demographic data for Louisiana before and after Hurricanes Katrina and Rita. Supplementary website Offering numerous ancillary features, the book's website at <http://mason.gmu.edu/~dcarr/Micromaps/> provides many boundary files and real data sets that address topics, such species biodiversity and alcoholism. One complete folder of data examples presents cancer statistics, risk factors, and demographic data. The site includes CCmaps, the dynamic implementation of conditioned micromaps written in Java, as well as a link to a generalized micromaps program. It also contains R functions and scripts for linked and comparative micromaps, enabling re-creation of all the corresponding examples in the book.

The Book of Everything - Lonely Planet 2014-08-01

Want to know how to wear a kilt, kiss a stranger, prevent a hangover, get out of a sinking car, eat a lobster, greet an alien, predict the weather, play croquet and much, much more? *The Book of Everthing* has it all. Open the book! Dive in! We guaranteeyou'll learn something new.

Data Points - Nathan Yau 2013-03-25

A fresh look at visualization from the author of *Visualize This* Whether it's statistical charts, geographic maps, or the snappy graphical statistics you see on your favorite news sites, the art of data graphics or visualization is fast becoming a movement of its own. In *Data Points: Visualization That Means Something*, author Nathan Yau presents an intriguing complement to his bestseller *Visualize This*, this time focusing on the graphics side of data analysis. Using examples from art, design, business, statistics, cartography, and online media, he explores both standard-and not so standard-concepts and ideas about illustrating data. Shares intriguing ideas from Nathan Yau, author of *Visualize This* and creator of flowingdata.com, with over 66,000 subscribers Focuses on visualization, data graphics that help viewers see trends and patterns they might not otherwise see in a table Includes examples from the author's own illustrations, as well as from professionals in statistics, art, design, business, computer science, cartography, and more Examines standard rules across all visualization applications, then explores when and where you can break those rules Create visualizations that register at all levels, with *Data Points: Visualization That Means Something*.

Information Visualization - Colin Ware 2013

Information Visualization: Perception for Design is a comprehensive guide to what the science of human perception tells us about how we should display information. The human brain is a super-computer for finding patterns in information. Our understanding of visual data and visual information is greatly enhanced

or impeded by the way information is presented. It is essential that visual data be designed in such a way that key information and important patterns will stand out. It is only by understanding how perception works that the best visualizations can be created. Colin Ware outlines the key principles for a wide range of applications and designs, providing designers with the tools to create visualizations of improved clarity, utility and persuasiveness. The book continues to be the key resource for practical design guidelines, based on perception, which can be applied by practitioners, students and researchers alike. Complete update of the recognized source in industry, research, and academic for applicable guidance on information visualizing. Includes the latest research and state of the art information on multimedia presentation. More than 160 explicit design guidelines based on vision science. A new final chapter that explains the process of visual thinking and how visualizations help us to think about problems. Packed with over 400 informative full color illustrations, which are key to understanding of the subject.

The Art of Insubordination - Todd B. Kashdan 2022-02-15

A highly practical and researched-based toolbox for anyone who wants to create a world with more justice, creativity, and courage. For too long, the term insubordination has evoked negative feelings and mental images. But for ideas to evolve and societies to progress, it's vital to cultivate rebels who are committed to challenging conventional wisdom and improving on it. Change never comes easily. And most would-be rebels lack the skills to overcome hostile audiences who cling desperately to the way things are. Based on cutting-edge research, *The Art of Insubordination* is the essential guide for anyone seeking to be heard, make change, and rebel against an unhealthy status quo. Learn how to

- Resist the allure of complacency
- Discover the value of being around people who stop conforming and start deviating.
- Produce messages that influence the majority-- when in the minority.
- Build mighty alliances
- Manage the discomfort when trying to rebel
- Champion ideas that run counter to traditional thinking
- Unlock the benefits of being in a group of diverse people holding divergent views
- Cultivate curiosity, courage, and independent, critical thinking in youth

Filled with engaging stories about dissenters in the trenches as well as science that will transform your thinking. *The Art of Insubordination* is for anyone who seeks more justice, courage, and creativity in the world.

Designing Embedded Hardware - John Catsoulis 2002

Intelligent readers who want to build their own embedded computer systems-- installed in everything from cell phones to cars to handheld organizers to refrigerators-- will find this book to be the most in-depth, practical, and up-to-date guide on the market. *Designing Embedded Hardware* carefully steers between the practical and philosophical aspects, so developers can both create their own devices and gadgets and customize and extend off-the-shelf systems. There are hundreds of books to choose from if you need to learn programming, but only a few are available if you want to learn to create hardware. *Designing Embedded Hardware* provides software and hardware engineers with no prior experience in embedded systems with the necessary conceptual and design building blocks to understand the architectures of embedded systems. Written to provide the depth of coverage and real-world examples developers need, *Designing Embedded Hardware* also provides a road-map to the pitfalls and traps to avoid in designing embedded systems. *Designing Embedded Hardware* covers such essential topics as: The principles of developing computer hardware Core hardware designs Assembly language concepts Parallel I/O Analog-digital conversion Timers (internal and external) UART Serial Peripheral Interface Inter-Integrated Circuit

Bus Controller Area Network (CAN) Data Converter Interface (DCI) Low-power operation This invaluable and eminently useful book gives you the practical tools and skills to develop, build, and program your own application-specific computers.

Visual Thinking for Information Design - Colin Ware 2021-03-26

Visual Thinking for Information Design, Second Edition brings the science of perception to the art of design. The book takes what we now know about perception, cognition and attention and transforms it into concrete advice that students and designers can directly apply. It demonstrates how designs can be considered as tools for cognition and extensions of the viewer's brain in much the same way that a hammer is an extension of the user's hand. The book includes hundreds of examples, many in the form of integrated text and full-color diagrams. Renamed from the first edition, Visual Thinking for Design, to more accurately reflect its focus on infographics, this timely revision has been updated throughout and includes more content on pattern perception, the addition of new material illustrating color assimilation, and a new chapter devoted to communicating ideas through images. Presents visual thinking as a complex process that can be supported in every stage using specific design techniques Provides practical, task-oriented information for designers and software developers charged with design responsibilities Includes hundreds of examples, many in the form of integrated text and full-color diagrams Steeped in the principles of "active vision, which views graphic designs as cognitive tools Features a new chapter titled Communicating Ideas with Images that focuses on a new emerging theory of human cognition and how that theory, which deals with the construction and refinement of predictive mental models in the mind, provides a solid foundation for reasoning about what should go into a presentation

Visual Insights - Katy Borner 2014-01-24

A guide to the basics of information visualization that teaches nonprogrammers how to use advanced data mining and visualization techniques to design insightful visualizations. In the age of Big Data, the tools of information visualization offer us a microscope to help us make sense of the avalanche of data available on every subject. This book offers a gentle introduction to the design of insightful information visualizations. It is the only book on the subject that teaches nonprogrammers how to use open code and open data to design insightful visualizations. Readers will learn to apply advanced data mining and visualization techniques to make sense of temporal, geospatial, topical, and network data. The book, developed for use in an information visualization MOOC, covers data analysis algorithms that enable extraction of patterns and trends in data, with chapters devoted to "when" (temporal data), "where" (geospatial data), "what" (topical data), and "with whom" (networks and trees); and to systems that drive research and development. Examples of projects undertaken for clients include an interactive visualization of the success of game player activity in World of Warcraft; a visualization of 311 number adoption that shows the diffusion of non-emergency calls in the United States; a return on investment study for two decades of HIV/AIDS research funding by NIAID; and a map showing the impact of the HiveNYC Learning Network. Visual Insights will be an essential resource on basic information visualization techniques for scholars in many fields, students, designers, or anyone who works with data.

Data Visualization Handbook - Juuso Koppern 2019-04-01

The data visualization handbook is a practical guide to creating compelling graphics to explain or explore data. It is primarily aimed for designers, journalists, researchers, analysts, and other professionals who want to learn the basics of visualization, but also includes plenty of material for people with intermediate level visualization skills.

Fundamentals of Data Visualization - Claus O. Wilke 2019-03-18

Effective visualization is the best way to communicate information from the increasingly large and complex datasets in the natural and social sciences. But with the increasing power of visualization software today, scientists, engineers, and business analysts often have to navigate a bewildering array of visualization choices and options. This practical book takes you through many commonly encountered visualization problems, and it provides guidelines on how to turn large datasets into clear and compelling figures. What visualization type is best for the story you want to tell? How do you make informative figures that are visually pleasing? Author Claus O. Wilke teaches you the elements most critical to successful data visualization. Explore the basic concepts of color as a tool to highlight, distinguish, or represent a value

Understand the importance of redundant coding to ensure you provide key information in multiple ways Use the book's visualizations directory, a graphical guide to commonly used types of data visualizations Get extensive examples of good and bad figures Learn how to use figures in a document or report and how employ them effectively to tell a compelling story

How Charts Lie: Getting Smarter about Visual Information - Alberto Cairo 2019-10-15

A leading data visualization expert explores the negative—and positive—influences that charts have on our perception of truth. We've all heard that a picture is worth a thousand words, but what if we don't understand what we're looking at? Social media has made charts, infographics, and diagrams ubiquitous—and easier to share than ever. We associate charts with science and reason; the flashy visuals are both appealing and persuasive. Pie charts, maps, bar and line graphs, and scatter plots (to name a few) can better inform us, revealing patterns and trends hidden behind the numbers we encounter in our lives. In short, good charts make us smarter—if we know how to read them. However, they can also lead us astray. Charts lie in a variety of ways—displaying incomplete or inaccurate data, suggesting misleading patterns, and concealing uncertainty—or are frequently misunderstood, such as the confusing cone of uncertainty maps shown on TV every hurricane season. To make matters worse, many of us are ill-equipped to interpret the visuals that politicians, journalists, advertisers, and even our employers present each day, enabling bad actors to easily manipulate them to promote their own agendas. In How Charts Lie, data visualization expert Alberto Cairo teaches us to not only spot the lies in deceptive visuals, but also to take advantage of good ones to understand complex stories. Public conversations are increasingly propelled by numbers, and to make sense of them we must be able to decode and use visual information. By examining contemporary examples ranging from election-result infographics to global GDP maps and box-office record charts, How Charts Lie demystifies an essential new literacy, one that will make us better equipped to navigate our data-driven world.

An Introduction to the Event-Related Potential Technique, second edition - Steven J. Luck 2014-05-30

An essential guide to designing, conducting, and analyzing event-related potential (ERP) experiments, completely updated for this edition. The event-related potential (ERP) technique, in which neural responses to specific events are extracted from the EEG, provides a powerful noninvasive tool for exploring the human brain. This volume describes practical methods for ERP research along with the underlying theoretical rationale. It offers researchers and students an essential guide to designing, conducting, and analyzing ERP experiments. This second edition has been completely updated, with additional material, new chapters, and more accessible explanations. Freely available supplementary material, including several online-only chapters, offer expanded or advanced treatment of selected topics. The first half of the book presents essential background information, describing the origins of ERPs, the nature of ERP components, and the design of ERP experiments. The second half of the book offers a detailed treatment of the main steps involved in conducting ERP experiments, covering such topics as recording the EEG, filtering the EEG and ERP waveforms, and quantifying amplitudes and latencies. Throughout, the emphasis is on rigorous experimental design and relatively simple analyses. New material in the second edition includes entire chapters devoted to components, artifacts, measuring amplitudes and latencies, and statistical analysis; updated coverage of recording technologies; concrete examples of experimental design; and many more figures. Online chapters cover such topics as overlap, localization, writing and reviewing ERP papers, and setting up and running an ERP lab.

Introduction to Art - Rita Tekippe 2016-09-30

Introduction to Art: Design, Context, and Meaning offers a comprehensive introduction to the world of Art. Authored by four USG faculty members with advance degrees in the arts, this textbook offers up-to-date original scholarship. It includes over 400 high-quality images illustrating the history of art, its technical applications, and its many uses. Combining the best elements of both a traditional textbook and a reader, it introduces such issues in art as its meaning and purpose; its meaning and purpose; its structure, material, and form; and its diverse effects on our lives. Its digital nature allows students to follow links to applicable sources and videos, expanding the students' educational experiences beyond the textbook. Introduction to Art: Design, Context, and Meaning provides a new and free alternative to traditional textbooks, making it an invaluable resource in our modern age of technology and advancement.

Introduction to Information Retrieval - Christopher D. Manning 2008-07-07

Class-tested and coherent, this textbook teaches classical and web information retrieval, including web search and the related areas of text classification and text clustering from basic concepts. It gives an up-to-date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents; methods for evaluating systems; and an introduction to the use of machine learning methods on text collections. All the important ideas are explained using examples and figures, making it perfect for introductory courses in information retrieval for advanced undergraduates and graduate students in computer science. Based on feedback from extensive classroom experience, the book has been carefully structured in order to make teaching more natural and effective. Slides and additional exercises (with solutions for lecturers) are also available through the book's supporting website to help course instructors prepare their lectures.

Visual Complexity - Manuel Lima 2013-09-10

Manuel Lima's smash hit *Visual Complexity* is now available in paperback. This groundbreaking 2011 book—the first to combine a thorough history of information visualization with a detailed look at today's most innovative applications—clearly illustrates why making meaningful connections inside complex data networks has emerged as one of the biggest challenges in twenty-first-century design. From diagramming networks of friends on Facebook to depicting interactions among proteins in a human cell, *Visual Complexity* presents one hundred of the most interesting examples of information visualization by the field's leading practitioners.

The Truthful Art - Alberto Cairo 2016-02-08

No matter what your actual job title, you are—or soon will be—a data worker. Every day, at work, home, and school, we are bombarded with vast amounts of free data collected and shared by everyone and everything from our co-workers to our calorie counters. In this highly anticipated follow-up to *The Functional Art*—Alberto Cairo's foundational guide to understanding information graphics and visualization—the respected data visualization professor explains in clear terms how to work with data, discover the stories hidden within, and share those stories with the world in the form of charts, maps, and infographics. In *The Truthful Art*, Cairo transforms elementary principles of data and scientific reasoning into tools that you can use in daily life to interpret data sets and extract stories from them. *The Truthful Art* explains:

- The role infographics and data visualization play in our world
- Basic principles of data and scientific reasoning that anyone can master
- How to become a better critical thinker
- Step-by-step processes that will help you evaluate any data visualization (including your own)
- How to create and use effective charts, graphs, and data maps to explain data to any audience

The Truthful Art is also packed with inspirational and educational real-world examples of data visualizations from such leading publications as *The New York Times*, *The Wall Street Journal*, *Estado de São Paulo* (Brazil), *Berliner Morgenpost* (Germany), and many more.

Data Visualisation - Andy Kirk 2019-07-08

One of the "six best books for data geeks" - *Financial Times* With over 200 images and extensive how-to and how-not-to examples, this new edition has everything students and scholars need to understand and create effective data visualisations. Combining 'how to think' instruction with a 'how to produce' mentality, this book takes readers step-by-step through analysing, designing, and curating information into useful, impactful tools of communication. With this book and its extensive collection of online support, readers can:

- Decide what visualisations work best for their data and their audience using the chart gallery
- See data visualisation in action and learn the tools to try it themselves
- Follow online checklists, tutorials, and exercises to build skills and confidence
- Get advice from the UK's leading data visualisation trainer on everything from getting started to honing the craft.

Explore more resources about data visualisation and Andy Kirk.

Materials and Design - Michael F. Ashby 2010

Materials are the stuff of design. From the very beginning of human history, materials have been taken from the natural world and shaped, modified, and adapted for everything from primitive tools to modern electronics. This renowned book by noted materials engineering author Mike Ashby and Industrial designer, Kara Johnson, explores the role of materials and materials processing in product design, with a

particular emphasis on creating both desired aesthetics and functionality. The new edition will feature even more of the highly useful "materials profiles," that give critical design, processing, performance and applications criteria for each material in question. The reader will find information ranging from the generic and commercial names of each material, its physical and mechanical properties, its chemical properties, its common uses, how it is typically made and processed, and even its average price. And with improved photographs and drawings, the reader will be taken even more closely to the way real design is done by real designers, selecting the optimum materials for a successful product. * The best guide ever published on the role of materials, past and present, in product development, by noted materials authority Mike Ashby and professional designer Kara Johnson—now with even better photos and drawings on the Design Process * Significant new section on the use of re-cycled materials in products, and the importance of sustainable design for manufactured goods and services * Enhanced materials profiles, with addition of new materials types like nanomaterials, advanced plastics and bio-based materials

How Maps Work - Alan M. MacEachren 2004-06-21

Now available in paperback for the first time, this classic work presents a cognitive-semiotic framework for understanding how maps work as powerful, abstract, and synthetic spatial representations. Explored are the ways in which the many representational choices inherent in mapping interact with information processing and knowledge construction, and how the resulting insights can be used to make informed symbolization and design decisions. A new preface to the paperback edition situates the book within the context of contemporary technologies. As the nature of maps continues to evolve, Alan MacEachren emphasizes the ongoing need to think systematically about the ways people interact with and use spatial information.

How to Study Art Worlds - Hans van Maanen 2009

Hans van Maanen is professor of art and society at the Department of Arts, Culture & Media Studies of the University of Groningen, the Netherlands.

Cool Infographics - Randy Krum 2013-10-18

Make information memorable with creative visual design techniques Research shows that visual information is more quickly and easily understood, and much more likely to be remembered. This innovative book presents the design process and the best software tools for creating infographics that communicate. Including a special section on how to construct the increasingly popular infographic resume, the book offers graphic designers, marketers, and business professionals vital information on the most effective ways to present data. Explains why infographics and data visualizations work Shares the tools and techniques for creating great infographics Covers online infographics used for marketing, including social media and search engine optimization (SEO) Shows how to market your skills with a visual, infographic resume Explores the many internal business uses of infographics, including board meeting presentations, annual reports, consumer research statistics, marketing strategies, business plans, and visual explanations of products and services to your customers With *Cool Infographics*, you'll learn to create infographics to successfully reach your target audience and tell clear stories with your data.

Visual Journalism - Javier Errea 2017-09-25

As the world grows more complex, some of the best stories are told through visuals - infographics. From election results to catastrophes to wars to scientific discoveries: the stream of data we are exposed to daily becomes ever more complicated. Infographics help make sense of it, transforming difficult to grasp facts and figures into accessible visualizations. Print media are increasingly making successful use of them. *Visual Journalism* reveals the masters of this discipline and their finest works. The portraits of studios and individuals within this compendium illustrate how the world of infographics continues to evolve as it informs data and graphic trends. A visual revolution showcases the myriad possibilities of non-verbal communication.

Information Theory, Inference and Learning Algorithms - David J. C. MacKay 2003-09-25

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Coding Art - Yu Zhang 2021-01-07

Finally, a book on creative programming, written directly for artists and designers! Rather than following a computer science curriculum, this book is aimed at creatives who are working in the intersection of design,

art, and education. In this book you'll learn to apply computation into the creative process by following a four-step process, and through this, land in the cross section of coding and art, with a focus on practical examples and relevant work structures. You'll follow a real-world use case of computation art and see how it relates back to the four key pillars, and addresses potential pitfalls and challenges in the creative process. All code examples are presented in a fully integrated Processing example library, making it easy for readers to get started. This unique and finely balanced approach between skill acquisition and the creative process and development makes Coding Art a functional reference book for both creative programming and the creative process for professors and students alike. What You'll Learn Review ideas and approaches from creative programming to different professional domains Work with computational tools like the Processing language Understand the skills needed to move from static elements to animation to interaction Use interactivity as input to bring creative concepts closer to refinement and depth Simplify and extend the design of aesthetics, rhythms, and smoothness with data structures Leverage the diversity of art code on other platforms like the web or mobile applications Understand the end-to-end process of computation art through real world use cases Study best practices, common pitfalls, and challenges of the creative process Who This Book Is For Those looking to see what computation and data can do for their creative expression; learners who want to integrate computation and data into their practices in different perspectives; and those who already know how to program, seeking creativity and inspiration in the context of computation and data.

Readings in Information Visualization - Mackinlay Card 1999-01-25

This groundbreaking book defines the emerging field of information visualization and offers the first-ever collection of the classic papers of the discipline, with introductions and analytical discussions of each topic and paper. The authors' intention is to present papers that focus on the use of visualization to discover relationships, using interactive graphics to amplify thought. This book is intended for research professionals in academia and industry; new graduate students and professors who want to begin work in this burgeoning field; professionals involved in financial data analysis, statistics, and information design; scientific data managers; and professionals involved in medical, bioinformatics, and other areas. Features Full-color reproduction throughout Author power team - an exciting and timely collaboration between the field's pioneering, most-respected names The only book on Information Visualization with the depth necessary for use as a text or as a reference for the information professional Text includes the classic source papers as well as a collection of cutting edge work

Graph Design for the Eye and Mind - Stephen Michael Kosslyn 2006

Addresses the problems that arise when we attempt to convey information with visual displays such as graphs by presenting psychological principles for constructing effective graphs. This work is useful for those who use visual displays to convey information in the sciences, humanities, and business such as finance, marketing, and advertising.

The Big Book of Dashboards - Steve Wexler 2017-04-24

The definitive reference book with real-world solutions you won't find anywhere else The Big Book of Dashboards presents a comprehensive reference for those tasked with building or overseeing the development of business dashboards. Comprising dozens of examples that address different industries and departments (healthcare, transportation, finance, human resources, marketing, customer service, sports, etc.) and different platforms (print, desktop, tablet, smartphone, and conference room display) The Big Book of Dashboards is the only book that matches great dashboards with real-world business scenarios. By organizing the book based on these scenarios and offering practical and effective visualization examples, The Big Book of Dashboards will be the trusted resource that you open when you need to build an effective business dashboard. In addition to the scenarios there's an entire section of the book that is devoted to addressing many practical and psychological factors you will encounter in your work. It's great to have theory and evidenced-based research at your disposal, but what will you do when somebody asks you to make your dashboard 'cooler' by adding packed bubbles and donut charts? The expert authors have a combined 30-plus years of hands-on experience helping people in hundreds of organizations build effective visualizations. They have fought many 'best practices' battles and having endured bring an uncommon empathy to help you, the reader of this book, survive and thrive in the data visualization world. A well-

designed dashboard can point out risks, opportunities, and more; but common challenges and misconceptions can make your dashboard useless at best, and misleading at worst. The Big Book of Dashboards gives you the tools, guidance, and models you need to produce great dashboards that inform, enlighten, and engage.

Atlas of Knowledge - Katy Börner 2015-03-20

The power of mapping: principles for visualizing knowledge, illustrated by many stunning large-scale, full-color maps. Maps of physical spaces locate us in the world and help us navigate unfamiliar routes. Maps of topical spaces help us visualize the extent and structure of our collective knowledge; they reveal bursts of activity, pathways of ideas, and borders that beg to be crossed. This book, from the author of Atlas of Science, describes the power of topical maps, providing readers with principles for visualizing knowledge and offering as examples forty large-scale and more than 100 small-scale full-color maps. Today, data literacy is becoming as important as language literacy. Well-designed visualizations can rescue us from a sea of data, helping us to make sense of information, connect ideas, and make better decisions in real time. In Atlas of Knowledge, leading visualization expert Katy Börner makes the case for a systems science approach to science and technology studies and explains different types and levels of analysis. Drawing on fifteen years of teaching and tool development, she introduces a theoretical framework meant to guide readers through user and task analysis; data preparation, analysis, and visualization; visualization deployment; and the interpretation of science maps. To exemplify the framework, the Atlas features striking and enlightening new maps from the popular "Places & Spaces: Mapping Science" exhibit that range from "Key Events in the Development of the Video Tape Recorder" to "Mobile Landscapes: Location Data from Cell Phones for Urban Analysis" to "Literary Empires: Mapping Temporal and Spatial Settings of Victorian Poetry" to "Seeing Standards: A Visualization of the Metadata Universe." She also discusses the possible effect of science maps on the practice of science.

Design for Information - Isabel Meirelles 2013-10-01

The visualization process doesn't happen in a vacuum; it is grounded in principles and methodologies of design, cognition, perception, and human-computer-interaction that are combined to one's personal knowledge and creative experiences. Design for Information critically examines other design solutions—current and historic—helping you gain a larger understanding of how to solve specific problems. This book is designed to help you foster the development of a repertoire of existing methods and concepts to help you overcome design problems. Learn the ins and outs of data visualization with this informative book that provides you with a series of current visualization case studies. The visualizations discussed are analyzed for their design principles and methods, giving you valuable critical and analytical tools to further develop your design process. The case study format of this book is perfect for discussing the histories, theories and best practices in the field through real-world, effective visualizations. The selection represents a fraction of effective visualizations that we encounter in this burgeoning field, allowing you the opportunity to extend your study to other solutions in your specific field(s) of practice. This book is also helpful to students in other disciplines who are involved with visualizing information, such as those in the digital humanities and most of the sciences.

Wordless Diagrams - Nigel Holmes 2005-04-11

The former graphics director of TIME magazine offers a unique look at everyday activities, depicting them through clear and precise step-by-step pictures that shed fascinating new light on common actions. 50,000 first printing.

Info We Trust - RJ Andrews 2019-01-03

How do we create new ways of looking at the world? Join award-winning data storyteller RJ Andrews as he pushes beyond the usual how-to, and takes you on an adventure into the rich art of informing. Creating Info We Trust is a craft that puts the world into forms that are strong and true. It begins with maps, diagrams, and charts—but must push further than dry defaults to be truly effective. How do we attract attention? How can we offer audiences valuable experiences worth their time? How can we help people access complexity? Dark and mysterious, but full of potential, data is the raw material from which new understanding can emerge. Become a hero of the information age as you learn how to dip into the chaos of data and emerge with new understanding that can entertain, improve, and inspire. Whether you call the

craft data storytelling, data visualization, data journalism, dashboard design, or infographic creation — what matters is that you are courageously confronting the chaos of it all in order to improve how people see the world. Info We Trust is written for everyone who straddles the domains of data and people: data visualization professionals, analysts, and all who are enthusiastic for seeing the world in new ways. This book draws from the entirety of human experience, quantitative and poetic. It teaches advanced techniques, such as visual metaphor and data transformations, in order to create more human presentations of data. It also shows how we can learn from print advertising, engineering, museum curation, and mythology archetypes. This human-centered approach works with machines to design information for people. Advance your understanding beyond by learning from a broad tradition of putting things “in formation” to create new and wonderful ways of opening our eyes to the world. Info We Trust takes a thoroughly original point of attack on the art of informing. It builds on decades of best practices and adds the creative enthusiasm of a world-class data storyteller. Info We Trust is lavishly illustrated with hundreds of original compositions designed to illuminate the craft, delight the reader, and inspire a generation of data storytellers.

The Functional Art - Alberto Cairo 2012

"In this introductory video course on information graphics, Alberto Cairo goes into greater detail with even more visual examples of how to create effective information graphics that function as practical tools for aiding perception. You'll learn how to: incorporate basic design principles in your visualizations, create simple interfaces for interactive graphics, and choose the appropriate type of graphic forms for your data. Cairo also deconstructs successful information graphics from The New York Times and National Geographic magazine with sketches and images not shown in the book."--Resource description page.

Storytelling with Data - Cole Nussbaumer Knaflic 2019-10-22

Influence action through data! This is not a book. It is a one-of-a-kind immersive learning experience through which you can become—or teach others to be—a powerful data storyteller. Let's practice! helps you build confidence and credibility to create graphs and visualizations that make sense and weave them into action-inspiring stories. Expanding upon best seller storytelling with data's foundational lessons, Let's practice! delivers fresh content, a plethora of new examples, and over 100 hands-on exercises. Author and data storytelling maven Cole Nussbaumer Knaflic guides you along the path to hone core skills and become a well-practiced data communicator. Each chapter includes: ● Practice with Cole: exercises based on real-world examples first posed for you to consider and solve, followed by detailed step-by-step illustration and explanation ● Practice on your own: thought-provoking questions and even more exercises to be assigned or worked through individually, without prescribed solutions ● Practice at work: practical guidance and hands-on exercises for applying storytelling with data lessons on the job, including instruction on when and how to solicit useful feedback and refine for greater impact The lessons and exercises found within this comprehensive guide will empower you to master—or develop in others—data storytelling skills and transition your work from acceptable to exceptional. By investing in these skills for ourselves and our teams, we can all tell inspiring and influential data stories!

Introduction to Functional Data Analysis - Piotr Kokoszka 2017-09-27

Introduction to Functional Data Analysis provides a concise textbook introduction to the field. It explains how to analyze functional data, both at exploratory and inferential levels. It also provides a systematic and accessible exposition of the methodology and the required mathematical framework. The book can be used as textbook for a semester-long course on FDA for advanced undergraduate or MS statistics majors, as well as for MS and PhD students in other disciplines, including applied mathematics, environmental science, public health, medical research, geophysical sciences and economics. It can also be used for self-study and as a reference for researchers in those fields who wish to acquire solid understanding of FDA methodology and practical guidance for its implementation. Each chapter contains plentiful examples of relevant R code and theoretical and data analytic problems. The material of the book can be roughly divided into four parts of approximately equal length: 1) basic concepts and techniques of FDA, 2) functional regression models, 3) sparse and dependent functional data, and 4) introduction to the Hilbert space framework of FDA. The book assumes advanced undergraduate background in calculus, linear algebra, distributional probability theory, foundations of statistical inference, and some familiarity with R programming. Other required statistics

background is provided in scalar settings before the related functional concepts are developed. Most chapters end with references to more advanced research for those who wish to gain a more in-depth understanding of a specific topic.

The Functional Art - Alberto Cairo 2013

Presents an introduction of information graphics and visualization, covering such topics as using color and type, how brains perceive and remember information, and the creative process behind information graphics.

Better Data Visualizations - Jonathan Schwabish 2021-02-09

Now more than ever, content must be visual if it is to travel far. Readers everywhere are overwhelmed with a flow of data, news, and text. Visuals can cut through the noise and make it easier for readers to recognize and recall information. Yet many researchers were never taught how to present their work visually. This book details essential strategies to create more effective data visualizations. Jonathan Schwabish walks readers through the steps of creating better graphs and how to move beyond simple line, bar, and pie charts. Through more than five hundred examples, he demonstrates the do's and don'ts of data visualization, the principles of visual perception, and how to make subjective style decisions around a chart's design. Schwabish surveys more than eighty visualization types, from histograms to horizon charts, ridgeline plots to choropleth maps, and explains how each has its place in the visual toolkit. It might seem intimidating, but everyone can learn how to create compelling, effective data visualizations. This book will guide you as you define your audience and goals, choose the graph that best fits for your data, and clearly communicate your message.

Visualize This - Nathan Yau 2011-06-13

Practical data design tips from a data visualization expert of the modern age Data doesn't decrease; it is ever-increasing and can be overwhelming to organize in a way that makes sense to its intended audience. Wouldn't it be wonderful if we could actually visualize data in such a way that we could maximize its potential and tell a story in a clear, concise manner? Thanks to the creative genius of Nathan Yau, we can. With this full-color book, data visualization guru and author Nathan Yau uses step-by-step tutorials to show you how to visualize and tell stories with data. He explains how to gather, parse, and format data and then design high quality graphics that help you explore and present patterns, outliers, and relationships. Presents a unique approach to visualizing and telling stories with data, from a data visualization expert and the creator of flowingdata.com, Nathan Yau Offers step-by-step tutorials and practical design tips for creating statistical graphics, geographical maps, and information design to find meaning in the numbers Details tools that can be used to visualize data-native graphics for the Web, such as ActionScript, Flash libraries, PHP, and JavaScript and tools to design graphics for print, such as Adobe Illustrator Contains numerous examples and descriptions of patterns and outliers and explains how to show them Visualize This demonstrates how to explain data visually so that you can present your information in a way that is easy to understand and appealing.

Storytelling with Data - Cole Nussbaumer Knaflic 2015-10-09

Don't simply show your data—tell a story with it! Storytelling with Data teaches you the fundamentals of data visualization and how to communicate effectively with data. You'll discover the power of storytelling and the way to make data a pivotal point in your story. The lessons in this illuminative text are grounded in theory, but made accessible through numerous real-world examples—ready for immediate application to your next graph or presentation. Storytelling is not an inherent skill, especially when it comes to data visualization, and the tools at our disposal don't make it any easier. This book demonstrates how to go beyond conventional tools to reach the root of your data, and how to use your data to create an engaging, informative, compelling story. Specifically, you'll learn how to: Understand the importance of context and audience Determine the appropriate type of graph for your situation Recognize and eliminate the clutter clouding your information Direct your audience's attention to the most important parts of your data Think like a designer and utilize concepts of design in data visualization Leverage the power of storytelling to help your message resonate with your audience Together, the lessons in this book will help you turn your data into high impact visual stories that stick with your audience. Rid your world of ineffective graphs, one exploding 3D pie chart at a time. There is a story in your data—Storytelling with Data will give you the

skills and power to tell it!

Visual Language for Designers - Connie Malamed 2011-10

Within every picture is a hidden language that conveys a message, whether it is intended or not. This language is based on the ways people perceive and process visual information. By understanding visual language as the interface between a graphic and a viewer, designers and illustrators can learn to inform with accuracy and power. In a time of unprecedented competition for audience attention and with an increasing demand for complex graphics, *Visual Language for Designers* explains how to achieve quick and effective communications. New in paperback, this book presents ways to design for the strengths of our innate mental capacities and to compensate for our cognitive limitations. *Visual Language for Designers* includes: —How to organize graphics for quick perception —How to direct the eyes to essential information —How to use visual shorthand for efficient communication —How to make abstract ideas concrete —How to best express visual complexity —How to charge a graphic with energy and emotion

The Functional Art - Alberto Cairo 2012-08-22

Unlike any time before in our lives, we have access to vast amounts of free information. With the right tools, we can start to make sense of all this data to see patterns and trends that would otherwise be invisible to us. By transforming numbers into graphical shapes, we allow readers to understand the stories those numbers hide. In this practical introduction to understanding and using information graphics, you'll learn how to use data visualizations as tools to see beyond lists of numbers and variables and achieve new insights into the complex world around us. Regardless of the kind of data you're working with—business, science, politics, sports, or even your own personal finances—this book will show you how to use statistical charts, maps, and explanation diagrams to spot the stories in the data and learn new things from it. You'll also get to peek into the creative process of some of the world's most talented designers and visual journalists, including *Condé Nast Traveler's* John Grimwade, *National Geographic Magazine's* Fernando

Baptista, *The New York Times's* Steve Duenes, *The Washington Post's* Hannah Fairfield, Hans Rosling of the Gapminder Foundation, Stanford's Geoff McGhee, and European superstars Moritz Stefaner, Jan Willem Tulp, Stefanie Posavec, and Gregor Aisch. The book also includes a DVD-ROM containing over 90 minutes of video lessons that expand on core concepts explained within the book and includes even more inspirational information graphics from the world's leading designers. The first book to offer a broad, hands-on introduction to information graphics and visualization, *The Functional Art* reveals: • Why data visualization should be thought of as "functional art" rather than fine art • How to use color, type, and other graphic tools to make your information graphics more effective, not just better looking • The science of how our brains perceive and remember information • Best practices for creating interactive information graphics • A comprehensive look at the creative process behind successful information graphics • An extensive gallery of inspirational work from the world's top designers and visual artists On the DVD-ROM: In this introductory video course on information graphics, Alberto Cairo goes into greater detail with even more visual examples of how to create effective information graphics that function as practical tools for aiding perception. You'll learn how to: incorporate basic design principles in your visualizations, create simple interfaces for interactive graphics, and choose the appropriate type of graphic forms for your data. Cairo also deconstructs successful information graphics from *The New York Times* and *National Geographic* magazine with sketches and images not shown in the book. All of Peachpit's eBooks contain the same content as the print edition. You will find a link in the last few pages of your eBook that directs you to the media files. Helpful tips: If you are able to search the book, search for "Where are the lesson files?" Go to the very last page of the book and scroll backwards. You will need a web-enabled device or computer in order to access the media files that accompany this ebook. Entering the URL supplied into a computer with web access will allow you to get to the files. Depending on your device, it is possible that your display settings will cut off part of the URL. To make sure this is not the case, try reducing your font size and turning your device to a landscape view. This should cause the full URL to appear.