Visual Storytelling With D3 An Introduction To Data Visualization In Javascript Addison Wesley Data And Analytics

"Eric and Russell were early adopters of Cassandra at SimpleReach. In Practical Cassandra, you benefit from their experience in the trenches administering Cassandra, developing against it, and building one of the first CQL drivers. If you are deploying Cassandra soon, or you inherited a Cassandra cluster to tend, spend some time with the deployment, performance tuning, and maintenance chapters… If you are new to Cassandra, I highly recommend the chapters on data modeling and CQL." –From the Foreword by Jonathon Ellis, Apache Cassandra Chair Build and Deploy Massively Scalable, Super-fast Data Management Applications with Apache Cassandra Practical Cassandra is the first hands-on developer's guide to building Cassandra systems and applications that deliver breakthrough speed, scalability, reliability, and performance. Fully up to date, it reflects the latest versions of Cassandra–including Cassandra Query Language (CQL), which dramatically lowers the learning curve for Cassandra developers. Pioneering Cassandra developers and Datastax MVPs Russell Bradberry and Eric Lubow walk you through every step of building a real production application that can store enormous amounts of structured, semi-structured, and unstructured data. Drawing on their exceptional expertise, Bradberry and Lubow share practical insights into issues ranging from querying to deployment, management, maintenance, monitoring, and troubleshooting. The authors cover key issues, from architecture to migration, and guide you through crucial decisions about configuration and data modeling. They provide tested sample code, detailed explanations of how Cassandra works "under the covers," and new case studies from three cutting-edge users: Ooyala, Hailo, and eBay. Coverage includes Understanding Cassandra's approach, architecture, key concepts, and primary use cases– and why it's so blazingly fast Getting Cassandra up and running on single nodes and large clusters Applying the new design patterns, philosophies, and features that make Cassandra such a powerful data store Leveraging CQL to simplify your transition from SQL-based RDBMSes Deploying and provisioning through the cloud or on bare-metal hardware Choosing the right configuration options for each type of workload Tweaking Cassandra to get maximum performance from your hardware, OS, and JVM Mastering Cassandra's essential tools for maintenance and monitoring Efficiently solving the most common problems with Cassandra deployment, operation, and application development
The development of technologies and management of operations is key to sustaining the success of manufacturing businesses, and since the late 1970s, the International Conference on Manufacturing Research (ICMR) has been a major annual event for academics and industrialists engaged in manufacturing research. The conference is renowned as a friendly and inclusive platform that brings together a broad community of researchers who share a common goal. This book presents the proceedings of ICMR2021, the 18th International Conference on Manufacturing Research, incorporating the 35th National Conference on Manufacturing Research, and held in Derby, UK, from 7 to 10 September 2021. The theme of the ICMR2021 conference is digital manufacturing. Within the context of Industrial 4.0, ICMR2021 provided a

platform for researchers, academics and industrialists to share their vision, knowledge and experience, and to discuss emerging trends and new challenges in the field. The 60 papers included in the book are divided into 10 parts, each covering a different area of manufacturing research. These are: digital manufacturing, smart manufacturing; additive manufacturing; robotics and industrial automation; composite manufacturing; machining processes; product design and development; information and knowledge management; lean and quality management; and decision support and production optimization. The book will be of interest to all those involved in developing and managing new techniques in manufacturing industry.

The implementation of effective decision making protocols is crucial in any organizational environment in modern society. Emerging advancements in technology and analytics have optimized uses and applications of decision making systems. Decision Management: Concepts, Methodologies, Tools, and Applications is a compendium of the latest academic material on the control, support, usage, and strategies for implementing efficient decision making systems across a variety of industries and fields. Featuring comprehensive coverage on numerous perspectives, such as data visualization, pattern analysis, and predictive analytics, this multi-volume book is an essential reference source for researchers, academics, professionals, managers, students, and practitioners interested in the maintenance and optimization of decision management processes.

The era of Big Data as arrived, and most organizations are woefully unprepared. Slowly, many are discovering that stalwarts like Excel spreadsheets, KPIs, standard reports, and even traditional business intelligence tools aren't sufficient. These old standbys can't begin to handle today's increasing streams, volumes, and types of data. Amidst all of the chaos, though, a new type of organization is emerging. In The Visual Organization, award-winning author and technology expert Phil Simon looks at how an increasingly number of organizations are embracing new dataviz tools and, more important, a new mind-set based upon data discovery and exploration. Simon adroitly shows how Amazon, Apple, Facebook, Google, Twitter, and other tech heavyweights use powerful data visualization tools to garner fascinating insights into their businesses. But make no mistake: these companies are hardly alone. Organizations of all types, industries, sizes are representing their data in new and amazing ways. As a result, they are asking better questions and making better business decisions. Rife with real-world examples and case studies, The Visual Organization is a full-color tour-de-force. Science Journalism: An Introduction gives wide-ranging guidance on producing journalistic content about different areas of scientific research. It provides a step-by-step guide to mastering the practical skills necessary for covering scientific stories and explaining the business behind the industry. Martin W. Angler, an experienced science and technology journalist, covers the main stages involved in getting an article written and published; from choosing an idea, structuring your pitch, researching and interviewing, to writing effectively for magazines, newspapers and online publications. There are chapters dedicated to investigative reporting, handling scientific data and explaining scientific practice and research findings to a non-specialist audience. Coverage in the chapters is supported by reading lists, review questions and practical exercises. The book also includes extensive interviews with established science journalists, scholars and scientists that provide tips on building a career in science

journalism, address what makes a good reporter and discuss the current issues they face professionally. The book concludes by laying out the numerous available routes into science journalism, such as relevant writing programs, fellowships, awards and successful online science magazines. For students of journalism and professional journalists at all levels, this book offers an invaluable overview of contemporary science journalism with an emphasis on professional journalistic practice and success in the digital age.

This is, quite simply, the best and most popular puzzle book ever published in the Soviet Union. Since its first appearance in 1956 there have been eight editions as well as translations from the original Russian into Ukrainian, Estonian, Lettish, and Lithuanian. Almost a million copies of the Russian version alone have been sold. Part of the reason for the book's success is its marvelously varied assortment of brainteasers ranging from simple "catch" riddles to difficult problems (none, however, requiring advanced mathematics). Many of the puzzles will be new to Western readers, while some familiar problems have been clothed in new forms. Often the puzzles are presented in the form of charming stories that provide non-Russian readers with valuable insights into contemporary Russian life and customs. In addition, Martin Gardner, former editor of the Mathematical Games Department, Scientific American, has clarified and simplified the book to make it as easy as possible for an English-reading public to understand and enjoy. He has been careful, moreover, to retain nearly all the freshness, warmth, and humor of the original. Lavishly illustrated with over 400 clear diagrams and amusing sketches, this inexpensive edition of the first English translation will offer weeks or even months of stimulating entertainment. It belongs in the library of every puzzlist or lover of recreational mathematics.

Data Visualization: A Guide to Visual Storytelling for Libraries is a practical guide to the skills and tools needed to create beautiful and meaningful visual stories through data visualization. Learn how to sift through complex datasets to better understand a variety of metrics, such as trends in user behavior and electronic resource usage, return on investment (ROI) and impact metrics, and data about library collections and repositories. Sections include: ·Identifying and interpreting datasets for visualization ·Tools and technologies for creating meaningful visualizations ·Case studies in data visualization and dashboards Data Visualization also features a 20-page color insert showcasing a wide variety of visualizations generated using an array of data visualization technologies and programming languages that can serve as inspiration for creating your own visualizations. Understanding and communicating trends from your organization's data is essential. Whether you are looking to make more informed decisions by visualizing organizational data, or to tell the story of your library's impact on your community, this book will give you the tools to make it happen.

Transform your marketing efforts through the power of visualcontent In today's fast-paced environment, you must communicate yourmessage in a concise and engaging way that sets it apart from thenoise. Visual content—such as infographics and datavisualization—can accomplish this. With DIY functionality,Infographics: The Power of Visual Storytelling will teachyou how to find stories in your data, and how to visuallycommunicate and share them with your audience for maximumimpact. Infographics will show you the vast potential to usingthe communication medium as a marketing tool by creatinginformative and shareable infographic content. Learn how to

explain an object, idea, or process using strongillustration that captures interest and provides instantclarity Discover how to unlock interesting stories (in previouslyburied or boring data) and turn them into visual communicationsthat will help build brands and increase sales Use the power of visual content to communicate with and engageyour audience, capture attention, and expand your market.

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' 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.

When you combine the sheer scale and range of digital information now available with a journalist's "nose for news" and her ability to tell a compelling story, a new world of possibility opens up. With The Data Journalism Handbook, you'll explore the potential, limits, and applied uses of this new and fascinating field. This valuable handbook has attracted scores of contributors since the European Journalism Centre and the Open Knowledge Foundation launched the project at MozFest 2011. Through a collection of tips and techniques from

leading journalists, professors, software developers, and data analysts, you'll learn how data can be either the source of data journalism or a tool with which the story is told—or both. Examine the use of data journalism at the BBC, the Chicago Tribune, the Guardian, and other news organizations Explore in-depth case studies on elections, riots, school performance, and corruption Learn how to find data from the Web, through freedom of information laws, and by "crowd sourcing" Extract information from raw data with tips for working with numbers and statistics and using data visualization Deliver data through infographics, news apps, open data platforms, and download links

The digital age has presented an exponential growth in the amount of data available to individuals looking to draw conclusions based on given or collected information across industries. Challenges associated with the analysis, security, sharing, storage, and visualization of large and complex data sets continue to plague data scientists and analysts alike as traditional data processing applications struggle to adequately manage big data. The Handbook of Research on Big Data Storage and Visualization Techniques is a critical scholarly resource that explores big data analytics and technologies and their role in developing a broad understanding of issues pertaining to the use of big data in multidisciplinary fields. Featuring coverage on a broad range of topics, such as architecture patterns, programing systems, and computational energy, this publication is geared towards professionals, researchers, and students seeking current research and application topics on the subject.

KNOWledge SUCCESSion is intended for executives and developing professionals who face the challenges of delivering business benefits for today, while building the capabilities required for an increasingly changing future. The book is structured to build from foundational requirements toward connecting the highly interdependent aspects of success in an emerging complex world. A wide range of concepts are brought together in a logical framework to enable readers of different disciplines to understand how they either create barriers or can be harvested to generate synergistic opportunities. The insights are robust as and pragmatic to help leaders create an environment in which their teams develop the knowledge and capabilities for sustained strategic success. This book also has extended learning for postgraduate students of business and project management in either an informal or a formal learning context. All successful medium to large organizations now need to have active management of projects and the ability to develop knowledge and capability to drive innovation and maintain relevance. There are detailed books on how to manage projects, texts of knowledge management, and volumes on innovation and change, but there is no one book that brings all these interdependent aspects of success together within the context of projects. Learn How to Design Effective Visualization SystemsVisualization Analysis and Design provides a systematic, comprehensive framework for thinking about visualization in terms of principles and design choices. The book features a unified approach encompassing information visualization techniques for abstract data, scientific visualization techniques For self-service data preparation, Tableau Prep is relatively easy to use—as long as you know how to clean and organize your datasets. Carl Allchin, from The Information Lab in London, gets you up to speed on Tableau Prep through a series of practical lessons that include methods for preparing, cleaning, automating, organizing, and outputting your datasets. Based on Allchin's popular blog, Preppin' Data, this practical guide takes you step-by-step through Tableau Prep's fundamentals. Self-service data preparation reduces the time it takes to complete data projects and improves the quality of your analyses. Discover how Tableau Prep helps you access your data and turn it into valuable information. Know what to look for when you prepare data Learn which Tableau Prep functions to use when working with data fields Analyze the shape and profile of your dataset Output data for analysis and learn how Tableau Prep automates your workflow Learn how to clean your dataset using Tableau Prep functions Explore ways to use Tableau Prep techniques in real-world scenarios Make your data available

to others by managing and documenting the output

How do you take your data analysis skills beyond Excel to the next level? By learning just enough Python to get stuff done. This hands-on guide shows non-programmers like you how to process information that's initially too messy or difficult to access. You don't need to know a thing about the Python programming language to get started. Through various step-by-step exercises, you'll learn how to acquire, clean, analyze, and present data efficiently. You'll also discover how to automate your data process, schedule file- editing and clean-up tasks, process larger datasets, and create compelling stories with data you obtain. Quickly learn basic Python syntax, data types, and language concepts Work with both machine-readable and human-consumable data Scrape websites and APIs to find a bounty of useful information Clean and format data to eliminate duplicates and errors in your datasets Learn when to standardize data and when to test and script data cleanup Explore and analyze your datasets with new Python libraries and techniques Use Python solutions to automate your entire data-wrangling process The cutaway illustrations in this book allow our eyes to see what usually remains hidden. They open up houses, bodies, and objects, and allow the individual parts to comprehensively explain the whole. Looking at the outside of things such as architecture, anatomy, or vehicles does not usually reveal much about their internal structures and functions. To learn more, we need to see inside them. Look Inside features infographics that cut up or take apart their subjects and make them transparent. The resulting cross sections and interior views present precise detail in multiple layers. Look Inside starts with a discussion of Arnhem Land, the earliest known cutaway illustrations, showing that even 28,000 years ago, humans had a fascination with how things internally work: the processes that are hidden from the human eye. Including work from both centuries past and the cutting-edge present, Look Inside is an unparalleled compendium of cutaway techniques and their wide-ranging applications. Works from Jewish-German physician Fritz Kahn's imagine the human body as a mechanized factory; Kahn's visual metaphors show conveyor belts and offices instead of veins and valves. Exploded images of classic sports cars allows Fabian Oefner to show every piece of the automotive puzzle from the body shell to individual tiny screws. Richard Orr's scientific pieces represent the natural world and continue in the genre's traditional thread of handmade illustrations; whether a beaver lodge or an arctic circle landscape, Orr presents a vivid natural world or layers and scientific hierarchies. The luxurious collection within Look Inside was curated by renowned information designers and creative directors, Samuel and Juan Velasco. The Velasco brothers have provided invaluable and inspirational insight in the history and theory of cutaway illustrations and visual storytelling.

You have a mound of data front of you and a suite of computation tools at your disposal. Which parts of the data actually matter? Where is the insight hiding? If you're a data scientist trying to navigate the murky space between data and insight, this practical book shows you how to make sense of your data through high-level questions, well-defined data analysis tasks, and visualizations to clarify understanding and gain insights along the way. When incorporated into the process early and often, iterative visualization can help you refine the questions you ask of your data. Authors Danyel Fisher and Miriah Meyer provide detailed case studies that demonstrate how this process can evolve in the real world. You'll learn: The data counseling process for moving from general to more precise questions about your data, and arriving at a working visualization The role that visual representations play in data discovery Common visualization types by the tasks they fulfill and the data they use Visualization techniques that use multiple views and interaction to support analysis of large, complex data sets

You've got data to communicate. But what kind of visualization do you choose, how do

you build it, and how do you ensure that it's up to the demands of the Web? In Data Visualization with JavaScript, you'll learn how to use JavaScript, HTML, and CSS to build the most practical visualizations for your data. Step-by-step examples walk you through creating, integrating, and debugging different types of visualizations and will have you building basic visualizations, like bar, line, and scatter graphs, in no time. Then you'll move on to more advanced topics, including how to: Create tree maps, heat maps, network graphs, word clouds, and timelines Map geographic data, and build sparklines and composite charts Add interactivity and retrieve data with AJAX Manage data in the browser and build data-driven web applications Harness the power of the Flotr2, Flot, Chronoline.js, D3.js, Underscore.js, and Backbone.js libraries If you already know your way around building a web page but aren't quite sure how to build a good visualization, Data Visualization with JavaScript will help you get your feet wet without throwing you into the deep end. Before you know it, you'll be well on your way to creating simple, powerful data visualizations.

Within the growing world of social media and computer technology, it is important to facilitate collaborative knowledge building through the utilization of visual literacy, decision-making, abstract thinking, and creativity in the application of scientific teaching. Visual Approaches to Cognitive Education With Technology Integration is a critical scholarly resource that presents discussions on cognitive education pertaining to particular scientific fields, music, digital art, programming, computer graphics, and new media. Highlighting relevant topics such as educational visualization, art and technology integration, online learning, and multimedia technology, this book is geared towards educators, students, and researchers seeking current research on the integration of new visual education methods and technologies.

An exceptionally illustrated fiction for millions of Blizzard fans, Diablo III: Book of Cain is the source book for Blizzard Entertainment's Diablo franchise and the best-selling Diablo III game, as told by the games' core narrator, Deckard Cain. In Blizzard Entertainment's Diablo® and Diablo II, the recurring character of Deckard Cain delivered quests, accompanied the brave adventurer, and, as the last of the Horadrim, provided a link to the greater history of the world of Sanctuary. Ever mysterious during these appearances, Cain hinted at a larger story, providing snippets of it in his notebook. Diablo III: Book of Cain is Cain's formal record of this greater tale—a dissertation on the lore of the Diablo universe, told by one who has witnessed and participated in some of the epic events that make up the eternal conflict between the High Heavens and the Burning Hells. Designed as an "in-world" artifact from the Diablo universe, Diablo III: Book of Cain includes Cain's revealing meditations, as well as dozens of sketches and color artworks depicting the angelic and demonic beings who wage constant war with one another.

VISUAL STORYTELLING: VIDEOGRAPHY AND POST PRODUCTION IN THE DIGITAL AGE SECOND EDITION combines a thorough exploration of essential storytelling concepts with detailed instruction in practical technical skills. Without limiting its focus to a particular range of equipment, applications, or technology, this engaging text covers the key concepts, aesthetics, and techniques of single-camera field production and post production, and includes real-life stories and suggestions from working professionals. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Das Buch vermittelt Konzepte, zeigt aktuelle Trends wie agile Methoden, stellt Anwendungsszenarien für die Modellierung und Implementierung von Geschäftsprozessen im Zeitalter der Digitalisierung vor. Das Herausgeberwerk basiert dabei auf Fragestellungen aus der unternehmerischen Praxis. Schwerpunkte sind innovative Analysemethoden, kontextsensitive und wissensintensive Geschäftsprozesse sowie aktuelle Ansätze bei der Umsetzung. Fallstudien runden das Buch ab. Es wendet sich sowohl an Berater und Projektverantwortliche als auch an Studierende und Lehrende.

This book constitutes the refereed proceedings of the 9th International Conference on Design, User Experience, and Usability, DUXU 2020, held as part of the 22nd International Conference on Human-Computer Interaction, HCII 2020, in Copenhagen, Denmark, in July 2020. The conference was held virtually due to the COVID-19 pandemic. From a total of 6326 submissions, a total of 1439 papers and 238 posters has been accepted for publication in the HCII 2020 proceedings. The 40 papers included in this volume were organized in topical sections on UX design methods, tools and guidelines, interaction design and information visualization, and emotional design.

Master D3, Today's Most Powerful Tool for Visualizing Data on the Web Data-driven graphics are everywhere these days, from websites and mobile apps to interactive journalism and high-end presentations. Using D3, you can create graphics that are visually stunning and powerfully effective. Visual Storytelling with D3 is a hands-on, full-color tutorial that teaches you to design charts and data visualizations to tell your story quickly and intuitively, and that shows you how to wield the powerful D3 JavaScript library. Drawing on his extensive experience as a professional graphic artist, writer, and programmer, Ritchie S. King walks you through a complete sample project—from conception through data selection and design. Step by step, you'll build your skills, mastering increasingly sophisticated graphical forms and techniques. If you know a little HTML and CSS, you have all the technical background you'll need to master D3. This tutorial is for web designers creating graphics-driven sites, services, tools, or dashboards; online journalists who want to visualize their content; researchers seeking to communicate their results more intuitively; marketers aiming to deepen their connections with customers; and for any data visualization enthusiast. Coverage includes Identifying a data-driven story and telling it visually Creating and manipulating beautiful graphical elements with SVG Shaping web pages with D3 Structuring data so D3 can easily visualize it Using D3's data joins to connect your data to the graphical elements on a web page Sizing and scaling charts, and adding axes to them Loading and filtering data from external standalone datasets Animating your charts with D3's transitions Adding interactivity to visualizations, including a play button that cycles through different views of your data Finding D3 resources and getting involved in the thriving online D3 community About the Website All of this book's examples are available at ritchiesking.com/book, along with video tutorials, updates, supporting material, and even more examples, as they become available.

Tell Insightful, Actionable Business Stories with Tableau, the World's Leading Data Visualization Tool! Visual Data Storytelling with Tableau brings together knowledge, context, and hands-on skills for telling powerful, actionable data stories with Tableau. This full-color guide shows how to organize data and structure analysis with storytelling in mind, embrace exploration and visual discovery, and articulate findings with rich

data, carefully curated visualizations, and skillfully crafted narrative. You don't need any visualization experience. Each chapter illuminates key aspects of design practice and data visualization, and guides you step-by-step through applying them in Tableau. Through realistic examples and classroom-tested exercises, Professor Lindy Ryan helps you use Tableau to analyze data, visualize it, and help people connect more intuitively and emotionally with it. Whether you're an analyst, executive, student, instructor, or journalist, you won't just master the tools: you'll learn to craft data stories that make an immediate impact--and inspire action. Learn how to: • Craft more powerful stories by blending data science, genre, and visual design • Ask the right questions upfront to plan data collection and analysis • Build storyboards and choose charts based on your message and audience • Direct audience attention to the points that matter most • Showcase your data stories in high-impact presentations • Integrate Tableau storytelling throughout your business communication • Explore case studies that show what to do--and what not to do • Discover visualization best practices, tricks, and hacks you can use with any tool • Includes coverage up through Tableau 10 From tracking down information to symbolising human experiences, this book is your guide to telling more effective, empathetic and evidence-based data stories. Drawing on cross-disciplinary research and first-hand accounts of projects ranging from public health to housing justice, The Data Storytelling Workbook introduces key concepts, challenges and problem-solving strategies in the emerging field of data storytelling. Filled with practical exercises and activities, the workbook offers interactive training materials that can be used for teaching and professional development. By approaching both 'data' and 'storytelling' in a broad sense, the book combines theory and practice around real-world data storytelling scenarios, offering critical reflection alongside practical and creative solutions to challenges in the data storytelling process, from tracking down hard to find information, to the ethics of visualising difficult subjects like death and human rights.
Data Visualization Made Simple is a practical guide to the fundamentals, strategies, and real-world cases for data visualization, an essential skill required in today's information-rich world. With foundations rooted in statistics, psychology, and computer science, data visualization offers practitioners in almost every field a coherent way to share findings from original research, big data, learning analytics, and more. In nine appealing chapters, the book: examines the role of data graphics in decision-making, sharing information, sparking discussions, and inspiring future research; scrutinizes data graphics, deliberates on the messages they convey, and looks at options for design visualization; and includes cases and interviews to provide a contemporary view of how data graphics are used by professionals across industries Both novices and seasoned designers in education, business, and other areas can use this book's effective, linear process to develop data visualization literacy and promote exploratory, inquiry-based approaches to visualization problems.
Author Scott Murray teaches you the fundamental concepts and methods of D3, a JavaScript library that lets you express data visually in a web browser.
This book presents an accessible introduction to data-driven storytelling. Resulting from unique discussions between data visualization researchers and data journalists, it offers an integrated definition of the topic, presents vivid examples and patterns for data storytelling, and calls out key challenges and new opportunities for researchers and

practitioners.

Generate effective results in a variety of visually appealing charts using the plotting packages in Python About This Book Explore various tools and their strengths while building meaningful representations that can make it easier to understand data Packed with computational methods and algorithms in diverse fields of science Written in an easy-to-follow categorical style, this book discusses some niche techniques that will make your code easier to work with and reuse Who This Book Is For If you are a Python developer who performs data visualization and wants to develop existing knowledge about Python to build analytical results and produce some amazing visual display, then this book is for you. A basic knowledge level and understanding of Python libraries is assumed. What You Will Learn Gather, cleanse, access, and map data to a visual framework Recognize which visualization method is applicable and learn best practices for data visualization Get acquainted with reader-driven narratives and author-driven narratives and the principles of perception Understand why Python is an effective tool to be used for numerical computation much like MATLAB, and explore some interesting data structures that come with it Explore with various visualization choices how Python can be very useful in computation in the field of finance and statistics Get to know why Python is the second choice after Java, and is used frequently in the field of machine learning Compare Python with other visualization approaches using Julia and a JavaScript-based framework such as D3.js Discover how Python can be used in conjunction with NoSQL such as Hive to produce results efficiently in a distributed environment In Detail Python has a handful of open source libraries for numerical computations involving optimization, linear algebra, integration, interpolation, and other special functions using array objects, machine learning, data mining, and plotting. Pandas have a productive environment for data analysis. These libraries have a specific purpose and play an important role in the research into diverse domains including economics, finance, biological sciences, social science, health care, and many more. The variety of tools and approaches available within Python community is stunning, and can bolster and enhance visual story experiences. This book offers practical guidance to help you on the journey to effective data visualization. Commencing with a chapter on the data framework, which explains the transformation of data into information and eventually knowledge, this book subsequently covers the complete visualization process using the most popular Python libraries with working examples. You will learn the usage of Numpy, Scipy, IPython, MatPlotLib, Pandas, Patsy, and Scikit-Learn with a focus on generating results that can be visualized in many different ways. Further chapters are aimed at not only showing advanced techniques such as interactive plotting; numerical, graphical linear, and non-linear regression; clustering and classification, but also in helping you understand the aesthetics and best practices of data visualization. The book concludes with interesting examples such as social networks, directed graph examples in real-life, data structures appropriate for these problems, and network analysis. By the end of this book, you will be able to effectively solve a broad set of data analysis problems. Style and approach The approach of this book is not step by step, but rather categorical. The categories are based on fields such as bioinformatics, statistical and machine learning, financial computation, and linear algebra. This approach is beneficial for the community in many different fields of work and also helps you learn how one approach can make sense

across many fields

"This is a book about what the science of perception can tell us about visualization. There is a gold mine of information about how we see to be found in more than a century of work by vision researchers. The purpose of this book is to extract from that large body of research literature those design principles that apply to displaying information effectively"--

In Data Sketches, Nadieh Bremer and Shirley Wu document the deeply creative process behind 24 unique data visualization projects, and they combine this with powerful technical insights which reveal the mindset behind coding creatively. Exploring 12 different themes – from the Olympics to Presidents & Royals and from Movies to Myths & Legends – each pair of visualizations explores different technologies and forms, blurring the boundary between visualization as an exploratory tool and an artform in its own right. This beautiful book provides an intimate, behind-the-scenes account of all 24 projects and shares the authors' personal notes and drafts every step of the way. The book features: Detailed information on data gathering, sketching, and coding data visualizations for the web, with screenshots of works-in-progress and reproductions from the authors' notebooks Never-before-published technical write-ups, with beginner-friendly explanations of core data visualization concepts Practical lessons based on the data and design challenges overcome during each project Full-color pages, showcasing all 24 final data visualizations This book is perfect for anyone interested or working in data visualization and information design, and especially those who want to take their work to the next level and are inspired by unique and compelling data-driven storytelling.

This three volume set LNCS 12779, 12780, and 12781 constitutes the refereed proceedings of the 10th International Conference on Design, User Experience, and Usability, DUXU 2021, held as part of the 23rd International Conference, HCI International 2021, which took place in July 2021. Due to COVID-19 pandemic the conference was held virtually. The total of 1276 papers and 241 posters included in the 39 HCII 2021 proceedings volumes was carefully reviewed and selected from 5222 submissions. The papers of DUXU 2021, Part I, are organized in topical sections named: UX Design Methods and Techniques; Methods and Techniques for UX Research; Visual Languages and Information Visualization; Design Education and Practice.

Explore different perspectives and approaches to create more effective visualizations #MakeoverMonday offers inspiration and a giant dose of perspective for those who communicate data. Originally a small project in the data visualization community, #MakeoverMonday features a weekly chart or graph and a dataset that community members reimagine in order to make it more effective. The results have been astounding; hundreds of people have contributed thousands of makeovers, perfectly illustrating the highly variable nature of data visualization. Different takes on the same data showed a wide variation of theme, focus, content, and design, with side-by-side comparisons throwing more- and less-effective techniques into sharp relief. This book is an extension of that project, featuring a variety of makeovers that showcase various

approaches to data communication and a focus on the analytical, design and storytelling skills that have been developed through #MakeoverMonday. Paging through the makeovers ignites immediate inspiration for your own work, provides insight into different perspectives, and highlights the techniques that truly make an impact. Explore the many approaches to visual data communication Think beyond the data and consider audience, stakeholders, and message Design your graphs to be intuitive and more communicative Assess the impact of layout, color, font, chart type, and other design choices Creating visual representation of complex datasets is tricky. There's the mandate to include all relevant data in a clean, readable format that best illustrates what the data is saying—but there is also the designer's impetus to showcase a command of the complexity and create multidimensional visualizations that "look cool." #MakeoverMonday shows you the many ways to walk the line between simple reporting and design artistry to create exactly the visualization the situation requires.

DVD-ROM contains: Interactive modules that illustrate concepts discussed in the text.

Written for statisticians, computer scientists, geographers, research and applied scientists, and others interested in visualizing data, this book presents a unique foundation for producing almost every quantitative graphic found in scientific journals, newspapers, statistical packages, and data visualization systems. It was designed for a distributed computing environment, with special attention given to conserving computer code and system resources. While the tangible result of this work is a Java production graphics library, the text focuses on the deep structures involved in producing quantitative graphics from data. It investigates the rules that underlie pie charts, bar charts, scatterplots, function plots, maps, mosaics, and radar charts. These rules are abstracted from the work of Bertin, Cleveland, Kosslyn, MacEachren, Pinker, Tufte, Tukey, Tobler, and other theorists of quantitative graphics.

As technology evolves and electronic data becomes more complex, digital medical record management and analysis becomes a challenge. In order to discover patterns and make relevant predictions based on large data sets, researchers and medical professionals must find new methods to analyze and extract relevant health information. Big Data Analytics in Bioinformatics and Healthcare merges the fields of biology, technology, and medicine in order to present a comprehensive study on the emerging information processing applications necessary in the field of electronic medical record management. Complete with interdisciplinary research resources, this publication is an essential reference source for researchers, practitioners, and students interested in the fields of biological computation, database management, and health information technology, with a special focus on the methodologies and tools to manage massive and complex electronic information.

The Foundational Hands-On Skills You Need to Dive into Data Science "Freeman and Ross have created the definitive resource for new and aspiring

data scientists to learn foundational programming skills." –From the foreword by Jared Lander, series editor Using data science techniques, you can transform raw data into actionable insights for domains ranging from urban planning to precision medicine. Programming Skills for Data Science brings together all the foundational skills you need to get started, even if you have no programming or data science experience. Leading instructors Michael Freeman and Joel Ross guide you through installing and configuring the tools you need to solve professional-level data science problems, including the widely used R language and Git version-control system. They explain how to wrangle your data into a form where it can be easily used, analyzed, and visualized so others can see the patterns you've uncovered. Step by step, you'll master powerful R programming techniques and troubleshooting skills for probing data in new ways, and at larger scales. Freeman and Ross teach through practical examples and exercises that can be combined into complete data science projects. Everything's focused on real-world application, so you can quickly start analyzing your own data and getting answers you can act upon. Learn to Install your complete data science environment, including R and RStudio Manage projects efficiently, from version tracking to documentation Host, manage, and collaborate on data science projects with GitHub Master R language fundamentals: syntax, programming concepts, and data structures Load, format, explore, and restructure data for successful analysis Interact with databases and web APIs Master key principles for visualizing data accurately and intuitively Produce engaging, interactive visualizations with ggplot and other R packages Transform analyses into sharable documents and sites with R Markdown Create interactive web data science applications with Shiny Collaborate smoothly as part of a data science team Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Sure to spark discussions about library innovation, this collection is a must have for staff interested in technology or involved with strategic planning.

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!

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