Interactive Data Visualization Foundations Techniques And Applications Digital

This book provides step-by-step instructions on how to analyze text generated from in-depth interviews and focus groups, relating predominantly to applied qualitative studies. The book covers all aspects of the qualitative data analysis process, employing a phenomenological approach which has a primary aim of describing the experiences and perceptions of research participants. Similar to Grounded Theory, the authors' approach is inductive, content-driven, and searches for themes within textual data.

This is the age of data. There are more innovations and more opportunities for interesting work with data than ever before, but there is also an overwhelming amount of quantitative information being published every day. Data visualisation has become big business, because communication is the difference between success and failure, no matter how clever the analysis may have been. The ability to visualize data is now a skill in demand across business, government, NGOs and academia. Data Visualization: Charts, Maps, and Interactive Graphics gives an overview of a wide range of techniques and challenges, while staying accessible to anyone interested in working with and understanding data. Features: Focusses on concepts and ways of thinking about data rather than algebra or computer code. Features 17 short chapters that can be read in one sitting. Includes chapters on big data, statistical and machine learning models, visual perception, high-dimensional data, and maps and geographic data. Contains more than 125 visualizations, most created by the author. Supported by a website with all code for creating the visualizations, further reading, datasets and practical advice on crafting the images. Whether you are a student considering a career in data science, an analyst who wants to learn more about visualization, or the manager of a team working with data, this book will introduce you to a broad range of data visualization methods. Cover image: Landscape of Change uses data about sea level rise, glacier volume decline, increasing global temperatures, and the increasing use of fossil fuels. These data lines compose a landscape shaped by the changing climate, a world in which we are now living. Copyright © Jill Pelto (jillpelto.com).

Visualizing with Text uncovers the rich palette of text elements usable in visualizations from simple labels through to documents. Using a multidisciplinary research effort spanning across fields including visualization, typography, and cartography, it builds a solid foundation for the design space of text in visualization. The book illustrates many new kinds of visualizations, including microtext lines, skim formatting, and typographic sets that solve some of the shortcomings of well-known visualization techniques. Key features: More than 240 illustrations to aid inspiration of new visualizations Eight new approaches to data visualization leveraging text Quick reference guide for visualization with text Builds a solid foundation extending current visualization theory Bridges between visualization, typography, text analytics, and natural language processing The author website, including teaching exercises and interactive demos and code, can be found here. Designers, developers, and academics can use this book as a reference and inspiration for new approaches to visualization in any application that uses text.

An Updated Guide to the Visualization of Data for Designers, Users, and Researchers Interactive Data Visualization: Foundations, Techniques, and Applications, Second Edition provides all the theory, details, and tools necessary to build visualizations and systems involving the visualization of data. In color throughout, it explains basic terminology and concepts, algorithmic and software engineering issues, and commonly used techniques and high-level algorithms. Full source code is provided for completing implementations. New to the Second Edition New related readings, exercises, and programming projects Better quality figures and numerous new figures New chapter on techniques for time-oriented data This popular book continues to explore the fundamental components of the visualization process, from the data to the human viewer. For developers, the book offers guidance on designing effective visualizations using methods derived from human perception, graphical design, art, and usability analysis. For practitioners, it shows how various public and commercial visualization systems are used to solve specific problems in diverse domains. For researchers, the text describes emerging technology and hot topics in development at academic and industrial centers today. Each chapter presents several types of exercises, including review questions and problems that motivate readers to build on the material covered and design alternate approaches to solving a problem. In addition, programming projects encourage readers to perform a range of tasks, from the simple implementation of algorithms to the extension of algorithms and programming techniques. Web Resource A supplementary website includes downloadable software tools and example data sets, enabling hands-on experience with the techniques covered in the text. The site also offers links to useful data repositories and data file formats, an up-to-date listing of software packages and vendors, and instructional tools, such as reading lists, lecture slides, and demonstration programs.

Insights into Becoming Visual

Research Methods in Education

Post-WIMP Interaction for Information Visualization

An Introduction to Designing with

Perception for Design

An Introduction to the Histories, Theories, and Best Practices Behind Effective Information Visualizations

Visualizing the data is an essential part of any data analysis. Modern computing developments have led to big improvements in graphic capabilities and there are many new possibilities for data displays. This book gives an overview of modern data visualization methods, both in theory and practice. It details modern graphical tools such as mosaic plots, parallel coordinate plots, and linked views. Coverage also examines graphical methodology for particular areas of statistics, for example Bayesian analysis, genomic data and cluster analysis, as well software for graphics.

Interactive Data VisualizationFoundations, Techniques, and Applications, Second EditionCRC Press

Written for students, professionals, and social scientists with little or no knowledge of data visualization principles, Data Visualization & Presentation With Microsoft Office by Valerie M. Sue and Matthew T. Griffin presents step-by-step instructions for clearly and effectively presenting data using MS Office programs. Throughout the book, the focus is on turning raw, quantitative data into attractive, well-designed charts and tables that tell an accurate narrative about underlying information. Helpful illustrations, expert tips for solving common issues, and discussions about working efficiently are included to equip readers with the tools they need to engage their audience using a visual format.

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.

Learning Tableau 2020

A journey of imagination, exploration, and beautiful data visualizations

Data Visualization & Presentation With Microsoft Office

Using Vision to Think

Symposium on Human Interface 2011, Held as Part of HCI International 2011, Orlando, FL, USA, July 9-14, 2011. Proceedings

Visualizing with Text

Practitioners, developers, teachers, and students, as well as those interested in gaining some exposure to the field, will get an in-depth understanding of visualization techniques and are provided with sufficient information, often with full source code, to complete an implementation; those with more modest aspirations can focus on the concepts, theory, and high-level alogrithm details. --Book Jacket.

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

In the age of big data, being able to make sense of data is an important key to success. Interactive Visual Data Analysis advocates the synthesis of visualization, interaction, and automatic computation to facilitate insight generation and knowledge crystallization from large and complex data. The book provides a systematic and comprehensive overview of visual, interactive, and analytical methods. It introduces criteria for designing interactive visual data analysis solutions, discusses factors influencing the design, and examines the involved processes. The reader is made familiar with the basics of visual encoding and gets to know numerous visualization techniques for multivariate data, temporal data, geo-spatial data, and graph data. A dedicated chapter introduces general concepts for interacting with visualizations and illustrates how modern interaction technology can facilitate the visual data analysis in many ways. Addressing today’s large and complex data, the book covers relevant automatic analytical computations to support the visual data analysis. The book also sheds light on advanced concepts for visualization in multi-display environments, user guidance during the data analysis, and progressive visual data analysis. The authors present a top-down perspective on interactive visual data analysis with a focus on concise and clean terminology. Many real-world examples and rich illustrations make the book accessible to a broad interdisciplinary audience from students, to experts in the field, to practitioners in data-intensive application domains. Features: Dedicated to the synthesis of visual, interactive, and analysis methods Systematic top-down view on visualization, interaction, and automatic analysis Broad coverage of fundamental and advanced visualization techniques Comprehensive chapter on interacting with visual representations Extensive integration of automatic computational methods Accessible portrayal of cutting-edge visual analytics technology Foreword by Jack van Wijk For more information, you can also visit the author website, where the book's figures are made available under the CC BY Open Access license.

This book presents efficient visualization techniques, a prerequisite for the interactive exploration of complex data sets. High performance is demonstrated as a process of devising algorithms for the fast graphics processing units (GPUs) of modern graphics hardware. Coverage includes parallelization on cluster computers with several GPUs, adaptive rendering methods, and non-photorealistic rendering techniques for visualization.

Data Visualisation

GPU-Based Interactive Visualization Techniques

Interpretive and Critical Approaches

Human-Centered Issues and Perspectives

Data Visualization

Data Analytics and Visualization in Quality Analysis using Tableau

Create and publish your own interactive data visualization projects on the web—even if you have little or no experience with data visualization or web development. It’s inspiring and fun with this friendly, accessible, and practical hands-on introduction. This fully updated and expanded second edition takes you through the fundamental concepts and methods of D3, the most powe library for expressing data visually in a web browser. Ideal for designers with no coding experience, reporters exploring data journalism, and anyone who wants to visualize and share data, this step-by-step guide will also help you expand your web programming skills by teaching you the basics of HTML, CSS, JavaScript, and SVG. Learn D3 4.x—the latest D3 version—with dow over 140 examples Create bar charts, scatter plots, pie charts, stacked bar charts, and force-directed graphs Use smooth, animated transitions to show changes in your data Introduce interactivity to help users explore your data Create custom geographic maps with panning, zooming, labels, and tooltips Walk through the creation of a complete visualization project, from start to inspiring case studies with nine accomplished designers talking about their D3-based projects

Thousands of enterprises worldwide use Tableau as the solution for their data issues, big and small. With this updated edition, you will develop a firm grip on data visualization using Tableau 2020 and master all of the core features that enable you to explore, prepare, fix, and present data quickly and easily.

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 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, 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 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.

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.

The Infographic

Design for Information

Interactive Data Visualization for the Web

Information Visualization

Interactive Information Visualization to Explore and Query Electronic Health Records

Applied Thematic Analysis

Mobile Data Visualization is the first book to provide an overview of how to e-ffectively visualize, analyze, and communicate data on mobile devices. This accessible book is a valuable and rich resource for visualization designers, practitioners, researchers, and students alike.

Foundations of Qualitative Research introduces key theoretical and epistemological concepts replete with historical and current real-world examples. Author Jerry W. Willis provides an invaluable resource to guide the critical and qualitative inquiry process written in an accessible and non-intimidating style that brings these otherwise difficult concepts to life.

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 is the first book that focuses entirely on the fundamental questions in visualization. Unlike other existing books in the field, it contains discussions that go far beyond individual visual representations and individual visualization algorithms. It offers a collection of investigative discourses that probe these questions from different perspectives, including concepts that help frame these questions and their potential answers, mathematical methods that underpin the scientific reasoning of these questions, empirical methods that facilitate the validation and falsification of potential answers, and case studies that stimulate hypotheses about potential answers while providing practical evidence for such hypotheses. Readers are not instructed to follow a specific theory, but their attention is brought to a broad range of schools of thoughts and different ways of investigating fundamental questions. As such, the book represents the by now most significant collective effort for gathering a large collection of discourses on the foundation of data visualization. Data visualization is a relatively young scientific discipline. Over the last three decades, a large collection of computer-supported visualization techniques have been developed, and the merits and benefits of using these techniques have been evidenced by numerous applications in practice. These technical advancements have given rise to the scientific curiosity about some fundamental questions such as why and how visualization works, when it is useful or effective and when it is not, what are the primary factors affecting its usefulness and effectiveness, and so on. This book signifies timely and exciting opportunities to answer such fundamental questions by building on the wealth of knowledge and experience accumulated in developing and deploying visualization technology in practice.

Data-Driven Storytelling

Foundations, Techniques, and Applications, Second Edition

Eye Tracking and Visualization

Programming Skills for Data Science

Create effective data visualizations, build interactive visual analytics, and transform your organization, 4th Edition

A History of Data Graphics in News and Communications

This book is the outcome of the Dagstuhl Seminar on "Information Visualization -- Human-Centered Issues in Visual Representation, Interaction, and Evaluation" held at Dagstuhl Castle, Germany, from May 28 to June 1, 2007. Information Visualization (InfoVis) is a relatively new research area, which focuses on the use of visualization techniques to help people understand and analyze data. This book documents and extends the findings and discussions of the various sessions in detail. The seven contributions cover the most important topics: There are general reflections on the value of information visualization; evaluating information visualizations; theoretical foundations of information visualization; teaching information visualization. And specific aspects on creation and collaboration: engaging new audiences for information visualization; process and pitfalls in writing information visualization research papers; and visual analytics: definition, process, and challenges.

An exploration of infographics and data visualization as a cultural phenomenon, from eighteenth-century print culture to today's data journalism. Infographics and data visualization are ubiquitous in our everyday media diet, particularly in news—in print newspapers, on television news, and online. It has been argued that infographics are changing what it means to be literate in the twenty-first century—and even that they harmonize uniquely with human cognition. In this first serious exploration of the subject, Murray Dick traces the cultural evolution of the infographic, examining its use in news—and resistance to its use—from eighteenth-century print culture to today's data journalism. He identifies six historical phases of infographics in popular culture: the proto-infographic, the classical, the improving, the commercial, the ideological, and the professional. Dick describes the emergence of infographic forms within a wider history of journalism, culture, and communications, focusing his analysis on the UK. He considers their use in the partisan British journalism of late eighteenth and early nineteenth-century print media; their later deployment as a vehicle for reform and improvement; their mass-market debut in the twentieth century as a means of explanation (and sometimes propaganda); and their use for both ideological and professional purposes in the post–World War II marketized newspaper culture. Finally, he proposes best practices for news infographics and defends infographics and data visualization against a range of criticism. Dick offers not only a history of how the public has experienced and understood the infographic, but also an account of what data visualization can tell us about the past.

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

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.

Foundations of Data Science

Handbook of Data Visualization

A Handbook for Data Driven Design

Foundations of Data Visualization

Interactive Data Visualization

Charts, Maps, and Interactive Graphics

This two-volume set LNCS 6771 and 6772 constitutes the refereed proceedings of the Symposium on Human Interface 2011, held in Orlando, FL, USA in July 2011 in the framework of the 14th International Conference on Human-Computer Interaction, HCII 2011 with 10 other thematically similar conferences. The 137 revised papers presented in the two volumes were carefully reviewed and selected from numerous submissions. The papers accepted for presentation thoroughly cover the thematic area of human interface and the management of information. The 75 papers of this first volume address the following major topics: design and development methods and tools; information and user interfaces design; visualisation techniques and applications; security and privacy; touch and gesture interfaces; adaption and personalisation; and measuring and recognising human behavior.

"*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*"--

NOW IN FULL COLOR! Written by sought-after speaker, designer, and researcher Stephanie D. H. Evergreen, Effective Data Visualization shows readers how to create Excel charts and graphs that best communicate their data findings. This comprehensive how-to guide functions as a set of blueprints—supported by both research and the author’s extensive experience with clients in industries all over the world—for conveying data in an impactful way. Delivered in Evergreen’s humorous and approachable style, the book covers the spectrum of graph types available beyond the default options, how to determine which one most appropriately fits specific data stories, and easy steps for building the chosen graph in Excel. Now in full color with new examples throughout, the Second Edition includes a revamped chapter on qualitative data, nine new quantitative graph types, new shortcuts in Excel, and an entirely new chapter on Sharing Your Data With the World, which provides advice on using dashboards. New from Stephanie Evergreen! The Data Visualization Sketchbook provides advice on getting started with sketching and offers tips, guidance, and completed sample sketches for a number of reporting formats. Bundle Effective Data Visualization, 2e, and The Data Visualization Sketchbook, using ISBN 978-1-5443-7178-8!

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.

Start Writing Code to Wrangle, Analyze, and Visualize Data with R

Foundations, Techniques, and Applications

FlowingData.com Data Visualization Set

Mobile Data Visualization

Data Visualization Made Simple

Effective Data Visualization

This work surveys the state-of-the-art of information visualization systems for exploring and querying Electronic Health Record systems (EHRs). It examines how systems differ in their features and highlights how these differences are related to their design and the medical scenarios that they tackle.

Interaction, a means for people to express their goals and intentions to systems, plays a critical role in information visualization (InfoVis). The importance of interaction grows as the size and complexity of data increases. Well-designed interactions empower people to effectively complete tasks with visualized data and can provide a more fluid and engaging experience. Both industry and the broad human-computer interaction (HCI) research community have made significant advancements in hardware and software technologies that can be leveraged to support novel interaction techniques. Well-designed interactions for visualization systems hold great promise both for empowering people to effectively complete their tasks and for providing more natural and engaging user experiences. With the advancements in hardware and software technology, the visualization research community has made considerable progress on providing novel input and interaction experiences and continues to advance at a fast pace. Thus, it seems timely to look back at what has been achieved so far and contemplate what might be possible in the future. In this monograph, the authors first present a condensed summary of research efforts investigating post-WIMP interaction techniques in visualization systems. They include research from the broader HCI community and several product releases from industry that have influenced visualization interfaces. Furthermore, they reflect on their own projects that investigated post-WIMP InfoVis interaction and systems. The authors discuss the main challenges faced, lessons learned, and reflect on how their perspectives and viewpoints on post-WIMP for InfoVis have evolved over the course of these projects. Finally, they identify several open research directions that will help realize the full potential of post-WIMP interaction for and with InfoVis; expanding the boundaries of InfoVis and reaching a broader audience.

This book provides an introduction to the mathematical and algorithmic foundations of data science, including machine learning, high-dimensional geometry, and analysis of large networks. Topics include the counterintuitive nature of data in high dimensions, important linear algebraic techniques such as singular value decomposition, the theory of random walks and Markov chains, the fundamentals of and important algorithms for machine learning, algorithms and analysis for clustering, probabilistic models for large networks, representation learning including topic modelling and non-negative matrix factorization, wavelets and compressed sensing. Important probabilistic techniques are developed including the law of large numbers, tail inequalities, analysis of random projections, generalization guarantees in machine learning, and moment methods for analysis of phase transitions in large random graphs. Additionally, important structural and complexity measures are discussed such as matrix norms and VC-dimension. This book is suitable for both undergraduate and graduate courses in the design and analysis of algorithms for data.

This text surveys research from the fields of data mining and information visualisation and presents a case for techniques by which information visualisation can be used to uncover real knowledge hidden away in large databases.

Human Interface and the Management of Information. Interacting with Information

SAGE Research Methods Foundations

Foundations of Qualitative Research

Readings in Information Visualization

Data Sketches

Interactive Visual Data Analysis

Research Methods in Education introduces research methods as an integrated set of techniques for investigating questions about the educational world. This lively, innovative text helps students connect technique and substance, appreciate the value of both qualitative and quantitative methodologies, and make ethical research decisions. It weaves actual research "stories" into the presentation of research topics, and it emphasizes validity, authenticity, and practical significance as overarching research goals. The text is divided into three sections: Foundations of Research (5 chapters), Research Design and Data Collection (7 chapters), and Analyzing and Reporting Data (3 chapters). This tripartite conceptual framework honors traditional quantitative approaches while reflecting the growing popularity of qualitative studies, mixed method designs, and school-based techniques. This approach provides a comprehensive, conceptually unified, and well-written introduction to the exciting but complex field of educational research.

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.

Visualize This is a guide on how to visualize and tell stories with data, providing practical design tips complemented with step-by-step tutorials. It begins with a description of the huge growth of data and visualization in industry, news, and gov't and opportunities for those who tell stories with data. Logically it moves on to actual stories in data-statistical ones with trends and human stories. the technical part comes up quickly with how to gather, parse and format data with Python, R, Excel, Google docs, etc and details tools to visualize data-native graphics for the Web like ActionScript, Flash libraries, PHP, JavaScript, CSS, HTML. Every chapter provides an example as well. Patterns over time and kinds of data charts are followed by proportions, chart types and examples. Next, examples and descriptions of outliers and how to show them, different kinds of maps, how to guide your readers and explain the data "in the visualization". The book ends with a value-add appendix on graphical perception. Data Points focuses on the approach to visualization and data. Visualization is a medium that can be used as a tool, art, a way to tell stories, etc., Data Points guides readers through making data approachable through visualization techniques and best practices. The focus is on designing with a purpose in mind. Data Points discusses why recipes (from the rules) work and expands on how readers can make their own recipes. The book is example-driven, featuring work from people in areas of art, design, business, statistics, computer science, cartography, and online media, as well as many of the author's own illustrations. The major sections of the book cover: Visualization as Medium -- In the same way not all movies are documentaries, not all visualization is about optimal visual perception. Data Representation -- There are rules across all visualization applications, such as the use of appropriate shapes to accurately represent values. Design with Purpose -- Rules can be broken though. It all depends on who and what you're designing for. Data Points digs deep into the foundations of data visualization: Understanding Data and Visualization Representing Data Exploring Data Visually Designing for an Audience Visualizing with Clarity Putting Everything Into Practice with Tools and Resources

This book discusses research, methods, and recent developments in the interdisciplinary field that spans research in visualization, eye tracking, human-computer interaction, and psychology. It presents extended versions of papers from the First Workshop on Eye Tracking and Visualization (ETVIS), which was organized as a workshop of the IEEE VIS Conference 2015. Topics include visualization and visual analytics of eye-tracking data, metrics and cognitive models, eye-tracking experiments in the context of visualization interfaces, and eye tracking in 3D and immersive environments. The extended ETVIS papers are complemented by a chapter offering an overview of visualization approaches for analyzing eye-tracking data and a chapter that discusses electrooculography (EOG) as an alternative of acquiring information about eye movements. Covering scientific visualization, information visualization, and visual analytics, this book is a valuable resource for eye-tracking researchers within the visualization community.

The Right Chart for the Right Data

Foundations, Techniques, and Applications. ETVIS 2015

Visualization Analysis and Design

A Guide to Visual Storytelling for Libraries

Information Visualization in Data Mining and Knowledge Discovery

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.

Data Analytics and Visualization in Quality Analysis using Tableau goes beyond the existing quality statistical analysis. It helps quality practitioners perform effective quality control and analysis using Tableau, a user-friendly data analytics and visualization software. It begins with a basic introduction to quality analysis with Tableau including differentiating factors from other platforms. It is followed by a description of features and functions of quality analysis tools followed by step-by-step instructions on how to use Tableau. Further, quality analysis through Tableau based on open source data is explained based on five case studies. Lastly, it systematically describes the implementation of quality analysis through Tableau in an actual workplace via a dashboard example. Features: Describes a step-by-step method of Tableau to effectively apply data visualization techniques in quality analysis Focuses on a visualization approach for practical quality analysis Provides comprehensive coverage of quality analysis topics using state-of-the-art concepts and applications Illustrates pragmatic implementation methodology and instructions applicable to real-world and business cases Include examples of ready-to-use templates of customizable Tableau dashboards This book is aimed at professionals, graduate students and senior undergraduate students in industrial systems and quality engineering, process engineering, systems engineering, quality control, quality assurance and quality analysis.