

Data Visualization With D3 And Angularjs

Use R 4, RStudio, Tidyverse, and Shiny to interrogate and analyze your data, and then use the D3 JavaScript library to format and display that data in an elegant, informative, and interactive way. You will learn how to gather data effectively, and also how to understand the philosophy and implementation of each type of chart, so as to be able to represent the results visually. With the popularity of the R language, the art and practice of creating data visualizations is no longer the preserve of mathematicians, statisticians, or cartographers. As technology leaders, we can gather metrics around what we do and use data visualizations to communicate that information. Pro Data Visualization Using R and JavaScript combines the power of the R language with the simplicity and familiarity of JavaScript to display clear and informative data visualizations. Gathering and analyzing empirical data is the key to truly understanding anything. We can track operational metrics to quantify the health of our products in production. We can track quality metrics of our projects, and even use our data to identify bad code. Visualizing this data allows anyone to read our analysis and easily get a deep understanding of the story the data tells. This book makes the R language approachable, and promotes the idea of data gathering and analysis mostly using web interfaces. What You Will Learn Carry out data visualization using R and JavaScript Use RStudio for data visualization Harness Tidyverse data pipelines Apply D3 and R Notebooks towards your data Work with the R Plumber API generator, Shiny, and more Who This Book Is For Programmers and data scientists/analysts who have some prior experience with R and JavaScript.

Learn how to turn raw data into rich, interactive web visualizations with the powerful combination of Python and JavaScript. With this hands-on guide, author Kyran Dale teaches you how build a basic dataviz toolchain with best-of-breed Python and JavaScript libraries—including Scrapy, Matplotlib, Pandas, Flask, and D3—for crafting engaging, browser-based visualizations. As a working example, throughout the book Dale walks you through transforming Wikipedia’s table-based list of Nobel Prize winners into an interactive visualization. You’ll examine steps along the entire toolchain, from scraping, cleaning, exploring, and delivering data to building the visualization with JavaScript’s D3 library. If you’re ready to create your own web-based data visualizations—and know either Python or JavaScript— this is the book for you. Learn how to manipulate data with Python Understand the commonalities between Python and JavaScript Extract information from websites by using Python’s web-scraping tools, BeautifulSoup and Scrapy Clean and explore data with Python’s Pandas, Matplotlib, and Numpy libraries Serve data and create RESTful web APIs with Python’s Flask framework Create engaging, interactive web visualizations with JavaScript’s D3 library

"Do you want to create stunning data visualizations using D3 and SVG? Then this course is for you; it will teach you about scales by converting your data into visuals that will work on any browser or device. You will learn to add many transitions and animations to your graphs to make them more interesting and appealing to users. This course will also help you build interactive bar charts, scatter plots, and force layouts by manipulating large amounts of data. You will also create choropleth maps and layouts to display visual patterns on geographical locations. By the end of this course, you will have learned how to visualize your data and code more effectively. You will have built your own data models with D3.js much more rapidly and very easily."--Resource description page.

Create attractive web-based data visualizations using the amazing JavaScript library D3.js About This Book • Learn to use the facilities provided by D3.js to create data-driven visualizations • Explore the concepts of D3.js through examples that enable you to quickly create visualizations including charts, network diagrams, and maps • Get practical examples of visualizations using real-world data sets that show you how to use D3.js to visualize and interact with information to glean its underlying meaning Who This Book Is For Whether you are new to data and data visualization, a seasoned data scientist, or a computer graphics specialist, this book will provide you with the skills you need to create web-based and interactive data visualizations. This book assumes some knowledge of coding and in particular, experience coding in JavaScript. What You Will Learn • Install and use D3.js to create HTML elements within the document • Use development tools such as JSBIN and Chrome Developer Tools to create D3.js applications • Retrieve JSON data and use D3.js selections and data binding to create visual elements from data • Create and style graphical elements such as circles, ellipses, rectangles, lines, paths, and text using SVG • Turn your data into bar and scatter charts, and add margins, axes, labels, and legends • Use D3.js generators to perform the magic of creating complex visualizations from data • Add interactivity to your visualizations, including tool-tips, sorting, hover-to-highlight, and grouping and dragging of visuals In Detail This book will take you through all the concepts of D3.js starting with the most basic ones and progressively building on them in each chapter to expand your knowledge of D3.js. Starting with obtaining D3.js and creating simple data bindings to non-graphical HTML elements, you will then master the creation of graphical elements from data. You'll discover how to combine those elements into simple visualizations such as bar, line, and scatter charts, as well as more elaborate visualizations such as network diagrams, Sankey diagrams, maps, and choreopleths. Using practical examples provided, you will quickly get to grips with the features of D3.js and use this learning to create your own spectacular data visualizations with D3.js. Style and approach This book uses a practical, step-by-step approach that builds iteratively, starting with the basic concepts right through to mastery of the technology. Each concept is demonstrated using code examples that are interactively available online (and can also be run locally), and each chapter builds upon the concepts covered in the previous chapter, with succinct explanations of what the code does and how it fits into the bigger picture.

Over 70 recipes to help you create breathtaking data visualizations using the latest features of D3 About This Book • Create modern, stunning data visualizations with the new features introduced in D3 4.0 • Bootstrap D3 quickly with the help of ready-to-go code samples • Solve real-world visualization problems with the help of practical recipes Who This Book Is For If you are a developer familiar with HTML, CSS, and JavaScript, and you wish to get the most out of D3, then this book is for you. This book can also serve as a desktop quick-reference guide for experienced data visualization developers. You'll also find this book useful if you're a D3 user who wants to take advantage of the new features introduced in D3 4.0. You need previous experience of D3. What you will learn • Get a solid understanding of the D3 fundamentals and idioms • Use D3 to load, manipulate, and map data to any kind of visual representation on the web • Create data-driven dynamic visualizations that update as the data does • Leverage the various layouts provided by D3 to create sophisticated, dynamic, and interactive charts and graphics • Create data-driven transitions and animations within your visualizations • Understand and leverage more advanced concepts such as force, touch, and Geo data visualizations In

DetailThis book gives you all the guidance you need to start creating modern data visualizations with D3 4.x that take advantage of the latest capabilities of JavaScript. The book starts with the basic D3 structure and building blocks and quickly moves on to writing idiomatic D3-style JavaScript code. You will learn how to work with selection to target certain visual elements on the page, then will see techniques to represent data both in programming constructs and its visual metaphor. You will learn how map values in your data domain to the visual domain using scales, and use the various shape functions supported by D3 to create SVG shapes in visualizations. Moving on, you'll see how to use and customize various D3 axes and master transition to add bells and whistles to your otherwise dry visualization. You'll also learn to work with charts, layout, and build interactive visualizations. Next you'll work with Force, which is one of the most awe-inspiring techniques you can add to your visualizations, and you'll implement a fully functional Choropleth map (a special purpose colored map) in D3. Finally, you'll learn to unit test data visualization code and test-driven development in a visualization project so you know how to produce high-quality D3 code.

Summary D3.js in Action is a practical tutorial for creating interactive graphics and data-driven applications using D3.js. You'll start with in-depth explanations of D3's out-of-the-box layouts, along with dozens of practical use cases that align with different types of visualizations. Then, you'll explore practical techniques for content creation, animation, and representing dynamic data—including interactive graphics and data streamed live over the web. The final chapters show you how to use D3's rich interaction model as the foundation for a complete web application. In the end, you'll be ready to integrate D3.js into your web development process and transform any site into a more engaging and sophisticated user experience. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology D3.js is a JavaScript library that allows data to be represented graphically on a web page. Because it uses the broadly supported SVG standard, D3 allows you to create scalable graphs for any modern browser. You start with a structure, dataset, or algorithm and programmatically generate static, interactive, or animated images that responsively scale to any screen. About the Book D3.js in Action introduces you to the most powerful web data visualization library available and shows you how to use it to build interactive graphics and data-driven applications. You'll start with dozens of practical use cases that align with different types of charts, networks, and maps using D3's out-of-the-box layouts. Then, you'll explore practical techniques for content design, animation, and representation of dynamic data—including interactive graphics and live streaming data. What's Inside Interacting with vector graphics Expressive data visualization Creating rich mapping applications Prepping your data Complete data-driven web apps in D3 Readers need basic HTML, CSS, and JavaScript skills. No experience with D3 or SVG is required. About the Author Elijah Meeks is a senior data visualization engineer at Netflix. His D3.js portfolio includes work at Stanford University and with well-known companies worldwide. Table of Contents PART 1 D3.JS FUNDAMENTALS An introduction to D3.js Information visualization data flow Data-driven design and interaction PART 2 THE PILLARS OF INFORMATION VISUALIZATION Chart components Layouts Network visualization Geospatial information visualization Traditional DOM manipulation with D3 PART 3 ADVANCED TECHNIQUES Composing interactive applications Writing layouts and components Big data visualization D3.js on mobile (available online only)

The richly illustrated Interactive Web-Based Data Visualization with R, plotly, and shiny focuses on the process of programming interactive web graphics for multidimensional data analysis. It is written for the data analyst who wants to leverage the capabilities of interactive web graphics without having to learn web programming. Through many R code examples, you will learn how to tap the extensive functionality of these tools to enhance the presentation and exploration of data. By mastering these concepts and tools, you will impress your colleagues with your ability to quickly generate more informative, engaging, and reproducible interactive graphics using free and open source software that you can share over email, export to pdf, and more. Key Features: Convert static ggplot2 graphics to an interactive web-based form Link, animate, and arrange multiple plots in standalone HTML from R Embed, modify, and respond to plotly graphics in a shiny app Learn best practices for visualizing continuous, discrete, and multivariate data Learn numerous ways to visualize geo-spatial data This book makes heavy use of plotly for graphical rendering, but you will also learn about other R packages that support different phases of a data science workflow, such as tidyr, dplyr, and tidyverse. Along the way, you will gain insight into best practices for visualization of high-dimensional data, statistical graphics, and graphical perception. The printed book is complemented by an interactive website where readers can view movies demonstrating the examples and interact with graphics.

This book is a mini tutorial with plenty of code examples and strategies to give you many options when building your own visualizations. This book is ideal for anyone interested in data visualization. Some rudimentary knowledge of JavaScript is required.

Summary D3.js in Action, Second Edition is completely revised and updated for D3 v4 and ES6. It's a practical tutorial for creating interactive graphics and data-driven applications using D3. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Visualizing complex data is hard. Visualizing complex data on the web is darn near impossible without D3.js. D3 is a JavaScript library that provides a simple but powerful data visualization API over HTML, CSS, and SVG. Start with a structure, dataset, or algorithm; mix in D3; and you can programmatically generate static, animated, or interactive images that scale to any screen or browser. It's easy, and after a little practice, you'll be blown away by how beautiful your results can be! About the Book D3.js in Action, Second Edition is a completely updated revision of Manning's bestselling guide to data visualization with D3. You'll explore dozens of real-world examples, including force and network diagrams, workflow illustrations, geospatial constructions, and more. Along the way, you'll pick up best practices for building interactive graphics, animations, and live data representations. You'll also step through a fully interactive application created with D3 and React. What's Inside Updated for D3 v4 and ES6 Reusable layouts and components Geospatial data visualizations Mixed-mode rendering About the Reader Suitable for web developers with HTML, CSS, and JavaScript skills. No specialized data science skills required. About the Author Elijah Meeks is a senior data visualization engineer at Netflix. Table of Contents PART 1 - D3.JS FUNDAMENTALS An introduction to D3.js Information visualization data flow Data-driven design and interaction Chart components Layouts PART 2 - COMPLEX DATA VISUALIZATION Hierarchical visualization Network visualization Geospatial information visualization PART 3 - ADVANCED TECHNIQUES Interactive applications with React and D3 Writing layouts and components Mixed mode rendering

Integrate D3.js into a React TypeScript project and create a chart component working in harmony with React. This book will show you how utilize D3 with React to bring life to your charts. Seasoned author Elad Elrom will show you how to create simple charts such as line, bar, donut, scatter, histogram and others, and advanced charts such as a world map and force charts. You'll also learn to share the data across your components and charts using React Recoil state management. Then integrate third-party chart libraries that are built on D3 such as Rechart, Visx, Nivo, React-vi, and Victory and in the end

deploy your chart as a server or serverless app on popular platforms. React and D3 are two of the most popular frameworks in their respective areas – learn to bring them together and take your storytelling to the next level. What You'll Learn Set up your project with React, TypeScript and D3.js Create simple and advanced D3.js charts Work with complex charts such as world and force charts Integrate D3 data with React state management Improve the performance of your D3 components Deploy as a server or serverless app and debug test Who This Book Is For Readers that already have basic knowledge of React, HTML, CSS and JavaScript.

Bring your data to life with D3.js. Create interactive, visually exciting infographics and visualizations with HTML, CSS, JavaScript, and SVG graphics.

Interactive Data Visualization for the Web addresses people interested in data visualization but new to programming or web development, giving them what they need to get started creating and publishing their own data visualization projects on the web. The recent explosion of interest in visualization and publicly available data sources has created need for making these skills accessible at an introductory level. The second edition includes greatly expanded geomapping coverage, more real-world examples, a chapter on how to put together all the pieces, and an appendix of case studies, in addition to other improvements.

Data Visualization with D3 4.x CookbookPackt Publishing Ltd

If you are interested in creating maps for the web GIS data, this book is for you. Familiarity with D3.js will be helpful but is not necessary.

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.

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.

Create attractive web-based data visualizations using the amazing JavaScript library D3.js About This Book Learn to use the facilities provided by D3.js to create data-driven visualizations Explore the concepts of D3.js through examples that enable you to quickly create visualizations including charts, network diagrams, and maps Get practical examples of visualizations using real-world data sets that show you how to use D3.js to visualize and interact with information to glean its underlying meaning Who This Book Is For Whether you are new to data and data visualization, a seasoned data scientist, or a computer graphics specialist, this book will provide you with the skills you need to create web-based and interactive data visualizations. This book assumes some knowledge of coding and in particular, experience coding in JavaScript. What You Will Learn Install and use D3.js to create HTML elements within the document Use development tools such as JSBIN and Chrome Developer Tools to create D3.js applications Retrieve JSON data and use D3.js selections and data binding to create visual elements from data Create and style graphical elements such as circles, ellipses, rectangles, lines, paths, and text using SVG Turn your data into bar and scatter charts, and add margins, axes, labels, and legends Use D3.js generators to perform the magic of creating complex visualizations from data Add interactivity to your visualizations, including tool-tips, sorting, hover-to-highlight, and grouping and dragging of visuals In Detail This book will take you through all the concepts of D3.js starting with the most basic ones and progressively building on them in each chapter to expand your knowledge of D3.js. Starting with obtaining D3.js and creating simple data bindings to non-graphical HTML elements, you will then master the creation of graphical elements from data. You'll discover how to combine those elements into simple visualizations such as bar, line, and scatter charts, as well as more elaborate visualizations such as network diagrams, Sankey diagrams, maps, and choreopleths. Using practical examples provided, you will quickly get to grips with the features of D3.js and use this learning to create your own spectacular data visualizations with D3.js. Style and approach This book uses a practical, step-by-step approach that builds iteratively, starting with the basic concepts right through to mastery of the technology. Each concept

is demonstrated using code examples that are interactively available online (and can also be run locally), and each chapter builds upon the concepts covered in the previous chapter, with succinct explanations of what the code does and how it fits into the bigger picture.

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.

"Do you want to make sense of your data? Do you want to create interactive charts, data trees, and geospatial charts efficiently? Well then, this course is your ideal choice to learn interactive data visualization with D3.js V4. It includes a number of extensive examples that to help you hone your skills with data visualization. Throughout five sections these examples will help you acquire a clear practical understanding of the various techniques, tools and functionality provided by D3.js. You will first setup your D3.JS development environment and learn the basic patterns needed to visualize your data. After that you will learn techniques to optimize different processes such as animating data transitions, creating charts, and much more. The course will also guide you through creating custom graphs and visualizations, and show you how to go from the raw data to beautiful visualizations. Towards the end of the course, you will learn to add more functionality on top of D3.js by using it with other external libraries and integrating it with ECMAScript 6."--Resource description page.

"D3.js gives us a way to easily represent data and create standard-based, interactive data-driven visualizations, which can run on all devices, from phone to desktop. Do you want to make sense of your data? Do you want to create interactive charts, geospatial charts, and maps efficiently? This video course is your ideal choice to master interactive data visualization with D3.js V4. The course includes a number of extensive examples that to help you hone your skills with data visualization. These examples will help you acquire a clear practical understanding of the various techniques, tools and functionality provided by D3.js. You will learn techniques to optimize different processes such as animating data transitions; creating graphs and charts, integrating external resources (static as well as streaming); visualizing information on maps; working with colors and scales; utilizing the different D3.js APIs; and much more. The extensive examples will include working with complex and real time data streams. Towards the end of the course, you will learn to add custom shapes and paths using various D3 functionality."--Resource description page.

If you are a web developer with experience in AngularJS and want to implement interactive visualizations using D3.js, this book is for you. Knowledge of SVG or D3.js will give you an edge to get the most out of this book.

Breathe life into your data by learning how to use D3.js V4 to visualize information About This Book Create complex visualizations powered by D3.js and open data. Provides an extensive set of visualizations that explore all the functionality provided by D3.js V4. Shows how to set up an easy-to-use environment to create stunning visualizations. Who This Book Is For The typical target audience of this book is JavaScript developers, designers, and visual artists who have some basic JavaScript programming knowledge and who now want to master pro-level techniques to create interactive data visualizations using web standards which work on desktop as well as mobile devices. What You Will Learn Learn how D3.js works to declaratively define visualizations. Create charts from scratch by using SVG and the D3.js APIs See how to prepare data for easy visualization using D3.js. Visualize hierarchical data using chart types provided by D3.js Explore the different options provided by D3.js to visualize linked data such as graphs. Spice up your visualizations by adding interactivity and animations. Learn how to use D3.js to visualize and interact with Geo- and Gis-related information sources. Create visualization by streaming data over WebSockets In Detail Do you want to make sense of your data? Do you want to create interactive charts, data trees, info-graphics, geospatial charts, and maps efficiently? This book is your ideal choice to master interactive data visualization with D3.js V4. The book includes a number of extensive examples that to help you hone your skills with data visualization. Throughout nine chapters these examples will help you acquire a clear practical understanding of the various techniques, tools and functionality provided by D3.js. You will first setup your D3.JS development environment and learn the basic patterns needed to visualize your data. After that you will learn techniques to optimize different processes such as working with selections; animating data transitions; creating graphs and charts, integrating external resources (static as well as streaming); visualizing information on maps; working with colors and scales; utilizing the different D3.js APIs; and much more. The book will also guide you through creating custom graphs and visualizations, and show you how to go from the raw data to beautiful visualizations. The extensive examples will include working with complex and realtime data streams, such as seismic data, geospatial data, scientific data, and more. Towards the end of the book, you will learn to add more functionality on top of D3.js by using it with other external libraries and integrating it with Ecmascript 6 and Typescript Style and approach This book will have a real-world, case-study approach, where you will be given data sets from different domains. These data sets will have different visualization goals; some might need 2D or 3D charts, some might need automated workflows, others might require interactive maps. While you fulfill these goals, you will learn different techniques and best practices, which will enable you to perform data visualization tasks on your own Pro Data Visualization using R and JavaScript makes the R language approachable, and promotes the idea of data gathering and analysis. You'll see how to use R to interrogate and analyze your data, and then use the D3 JavaScript library to format and display that data in an elegant, informative, and interactive way. You will learn how to gather data effectively, and also how to understand the philosophy and implementation of each type of chart, so as to be able to represent the results visually. With the popularity of the R language, the art and practice of creating data visualizations is no longer the preserve of mathematicians, statisticians, or cartographers. As technology leaders, we can gather metrics around what we do and use data visualizations to communicate that information. Pro Data Visualization using R and JavaScript combines the power of the R language with the simplicity and familiarity of JavaScript to display clear and informative data visualizations. Gathering and analyzing empirical data is the key to truly understanding

anything. We can track operational metrics to quantify the health of our products in production. We can track quality metrics of our projects, and even use our data to identify bad code. Visualizing this data allows anyone to read our analysis and easily get a deep understanding of the story the data tells. What you'll learn A rich understanding of how to gather, and analyze empirical data How to tell a story with data using data visualizations What types of data visualizations are best to use for the story that you want to tell with your data A comprehensive introduction to the R language, covering all the essentials Exploration of how to construct interactive data visualizations using JavaScript and JavaScript libraries Who this book is for Developers at all levels interested in data visualization, beginning to intermediate engineering managers, statisticians, mathematicians, economists and any others interested in data visualization. Table of Contents Techniques for Data Visualization The R Language A Deeper Dive into R Data Visualization with D3 Visualizing Spatial Information from Access Logs (Data Maps) Visualizing Defects over Time (Time Series) Bar Charts Correlation Analysis with Team Dynamics (Scatterplot and Bubble Chart) Balancing Delivery with Quality (Parallel Coordinates Chart)

Explore the power of D3.js 5 and its integration with web technologies for building rich and interactive data visualization solutions Key Features Explore the latest D3.js 5 for creating charts, plots, and force-directed graphics Practical guide for creating interactive graphics and data-driven apps with JavaScript Build Real-time visualization and transition on web using SVG with D3.js Book Description This book is a practical hands-on introduction to D3 (Data-driven Documents): the most popular open-source JavaScript library for creating interactive web-based data visualizations. Based entirely on open web standards, D3 provides an integrated collection of tools for efficiently binding data to graphical elements. If you have basic knowledge of HTML, CSS and JavaScript you can use D3.js to create beautiful interactive web-based data visualizations. D3 is not a charting library. It doesn't contain any pre-defined chart types, but can be used to create whatever visual representations of data you can imagine. The goal of this book is to introduce D3 and provide a learning path so that you obtain a solid understanding of its fundamental concepts, learn to use most of its modules and functions, and gain enough experience to create your own D3 visualizations. You will learn how to create bar, line, pie and scatter charts, trees, dendograms, treemaps, circle packs, chord/ribbon diagrams, sankey diagrams, animated network diagrams, and maps using different geographical projections. Fundamental concepts are explained in each chapter and then applied to a larger example in step-by-step tutorials, complete with full code, from hundreds of examples you can download and run. This book covers D3 version 5 and is based on ES2015 JavaScript. What you will learn Learn to use D3.js version 5 and web standards to create beautiful interactive data-driven visualizations for the web Bind data to DOM elements, applying different scales, color schemes and configuring smooth animated transitions for data updates Generate data structures and layouts for many popular chart formats Apply interactive behaviors to any chart Create thematic maps based on GIS data using different geographical projections with interactive behaviors Load, parse and transform data from JSON and CSV formats Who this book is for The book is intended for web developers, web designers, data scientists, artists, and any developer who wish to create interactive data visualization for the Web using D3. The book assumes basic knowledge of HTML, CSSs, and JavaScript.

Learn How to Design Effective Visualization Systems Visualization 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

Learn how to create beautiful, interactive, browser-based data visualizations with the D3 JavaScript library. This hands-on book shows you how to use a combination of JavaScript and SVG to build everything from simple bar charts to complex infographics. You'll learn how to use basic D3 tools by building visualizations based on real data from the New York Metropolitan Transit Authority. Using historical tables, geographical information, and other data, you'll graph bus breakdowns and accidents and the percentage of subway trains running on time, among other examples. By the end of the book, you'll be prepared to build your own web-based data visualizations with D3. Join a dataset with elements of a webpage, and modify the elements based on the data Map data values onto pixels and colors with D3's scale objects Apply axis and line generators to simplify aspects of building visualizations Create a simple UI that allows users to investigate and compare data Use D3 transitions in your UI to animate important aspects of the data Get an introduction to D3 layout tools for building more sophisticated visualizations If you can code and manipulate data, and know how to work with JavaScript and SVG, this book is for you.

"D3.js is a JavaScript library that enables data to drive interactive graphical forms and makes complex data analysis easier. Nowadays, big data, data deluge, and analytics are all trending buzzwords, so how does D3.js make sense of all this data? Simply by using visualizations and defining rules for dynamic graphics engines, which allows users to gain rich insights from large and complex datasets. Building Interactive Data Visualization with D3.js showcases the D3 JavaScript library built specifically for the use of driving visual elements with data. This video course will walk you through the basics of the library by showing its core components and methodologies. By following along with the examples in this video you'll become proficient at creating dynamic visualizations driven by user interactivity. This course starts with the very basics of frontend web development showing the challenges of incorporating dynamic graphics without using D3. Users learn to combine data with visual elements on the page to create informative visualizations. By the end of this section, viewers will be comfortable with using the D3 library to create their own custom concept of data-driven visualizations. We'll see how to use real datasets via APIs to create custom visualizations. By leveraging the interactive nature of web programming we'll look at how to incorporate user input to add interactivity to our visualization. We'll start with basic scatter plots and slowly build upon this foundation to create more complicated forms of dynamic data visualizations. Eventually we'll end the video course by walking through the process of creating a completely novel form of visualization merging concepts of both a scatter plot and a geographic map. Building Interactive Data Visualization with D3.js provides one with the foundation to continue on their journey of creating novel and highly impactful data visualizations."--Resource description page.

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.

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.

If you're in a hurry to learn D3.js, the leading JavaScript library for web-based graphics and visualization, this book is for you. Written for technically savvy readers with a background in programming or data science, the book moves quickly, emphasizing unifying concepts and patterns. Anticipating common difficulties, author Philipp K. Janert teaches you how to apply D3 to your own problems. Assuming only a general programming background, but no previous experience with contemporary web development, this book explains supporting technologies such as SVG, HTML5, CSS, and the DOM as needed, making it a convenient one-stop resource for a technical audience. Understand D3 selections, the library's fundamental organizing principle Learn how to create data-driven documents with data binding Create animated graphs and interactive user interfaces Draw figures with curves, shapes, and colors Use the built-in facilities for heatmaps, tree graphs, and networks Simplify your work by writing your own reusable components

Ian Johnson, the organizer of Bay Area d3 (the largest d3 meetup in the world), starts with SVG and then dives deep into d3 including DOM manipulation, categorical and quantitative scales, axis, brushes, color schemes, events and histograms. Make sense of your data by exploring it visually with D3.js!

Turn your raw data into real knowledge by creating and deploying complex data visualizations with D3.js About This Book Understand how to best represent your data by developing the right kind of visualization Explore the concepts of D3.js through examples that enable you to quickly create visualizations including charts, network diagrams, and maps Get practical examples of visualizations using real-world data sets that show you how to use D3.js to visualize and interact with information to glean its underlying meaning Who This Book Is For Whether you are new to data and data visualization, a seasoned data scientist, or a computer graphics specialist, this Learning Path will provide you with the skills you need to create web-based and interactive data visualizations. Some basic JavaScript knowledge is expected, but no prior experience with data visualization or D3 is required What You Will Learn Gain a solid understanding of the common D3 development idioms Find out how to write basic D3 code for servers using Node.js Install and use D3.js to create HTML elements within a document Create and style graphical elements such as circles, ellipses, rectangles, lines, paths, and text using SVG Turn your data into bar and scatter charts, and add margins, axes, labels, and legends Use D3.js generators to perform the magic of creating complex visualizations from data Add interactivity to your visualizations, including tool-tips, sorting, hover-to-highlight, and grouping and dragging of visuals Write, test, and distribute a D3-based charting package Make a real-time application with Node and D3 In Detail D3 has emerged as one of the leading platforms to develop beautiful, interactive visualizations over the web. We begin the course by setting up a strong foundation, then build on this foundation as we take you through the entire world of reimagining data using interactive, animated visualizations created in D3.js. In the first module, we cover the various features of D3.js to build a wide range of visualizations. We also focus on the entire process of representing data through visualizations. By the end of this module, you will be ready to use D3 to transform any data into a more engaging and sophisticated visualization. In the next module, you will learn to master the creation of graphical elements from data. Using practical examples provided, you will quickly get to grips with the features of D3.js and use this learning to create your own spectacular data visualizations with D3.js. Over the last leg of this course, you will get acquainted with how to integrate D3 with mapping libraries to provide reverse geocoding and interactive maps among many other advanced features of D3. This module culminates by showing you how to create enterprise-level dashboards to display real-time data. This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: Learning D3.js Data Visualization, Second Edition by Andrew H. Rininsland D3.js By Example by Michael Heydt Mastering D3.js by Pablo Navarro Castillo Style and approach This course provides a comprehensive explanation of how to leverage the power of D3.js to create powerful and creative visualizations through step-by-step instructions in the form of modules. Each module help you skill up a level in creating meaningful visualizations.

Go beyond the basics of D3.js to create maintainable, modular, and testable charts and to package them into a library that can be distributed as open source software or kept for private use. This book will show you how to transform regular D3.js chart code into reusable and extendable modules. You know the basics of working with D3.js, but it's time to become a professional D3.js practitioner. This book is your launching pad to refactoring code, composing complex visualizations from small components, working as a team with other developers, and integrating charts with a Continuous Integration system. You'll begin by creating a production-ready chart using D3.js v5, ES2015, and a test-driven approach and then move on to using and extending Britecharts, the reusable charting library based on Reusable API patterns. Finally, you'll see how to use D3.js along with React to document and build your charts to compose a charting library you can release into the NPM repository. With Pro D3.js, you'll become an accomplished D3.js developer in no time. What You Will Learn Create v5 D3.js charts with ES2016 and unit tests Develop modular, testable and extensible code with the Reusable API pattern Work with and extend Britecharts, a reusable charting library created at Eventbrite Use Webpack and npm to create and publish a charting library from your own chart collections Write reference documentation and build a documentation homepage for your library. Who This Book Is For Data scientists, data visualization engineers, and frontend developers with a fundamental knowledge of D3.js and some experience with JavaScript, as well as data journalists and consultants. Discover over 65 recipes to help you create breathtaking data visualizations using the latest features of D3 About This Book Learn about D3 4.0 from the inside out and master its new features Utilize D3 packages to generate graphs, manipulate data, and create beautiful presentations Solve real-world visualization problems with the help of practical recipes Who This Book Is For If you are a developer familiar with HTML, CSS, and JavaScript, and you wish to get the most out of D3, then this book is for you. This book can serve as a desktop quick-reference guide for experienced data visualization developers. You'll also find this book useful if you're a D3 user who wants to take advantage of the new features introduced in D3 4.0. You should have previous experience with D3. What You Will Learn Get a solid understanding of the D3 fundamentals and idioms Use D3 to load, manipulate, and map data to any kind of visual representation on the

web Create data-driven dynamic visualizations that update as the data does Leverage the various modules provided by D3 to create sophisticated, dynamic, and interactive charts and graphics Create data-driven transitions and animations within your visualizations Understand and leverage more advanced concepts such as force, touch, and Geo data visualizations In Detail This book gives you all the guidance you need to start creating modern data visualizations with D3 4.x that take advantage of the latest capabilities of JavaScript. The book starts with the basic D3 structure and building blocks and quickly moves on to writing idiomatic D3-style JavaScript code. You will learn how to work with selection to target certain visual elements on the page, then you will see techniques to represent data both in programming constructs and its visual metaphor. You will learn how map values in your data domain to the visual domain using scales, and use the various shape functions supported by D3 to create SVG shapes in visualizations. Moving on, you'll see how to use and customize various D3 axes and master transition to add bells and whistles to otherwise dry visualizations. You'll also learn to work with charts, hierarchy, graphs, and build interactive visualizations. Next you'll work with Force, which is one of the most awe-inspiring techniques you can add to your visualizations, and you'll implement a fully functional Choropleth map (a special purpose colored map) in D3. Finally, you'll learn to unit test data visualization code and test-driven development in a visualization project so you know how to produce high-quality D3 code. Style and approach This step-by-step guide to mastering data visualizations with D3 will help you create amazing data visualizations with professional efficiency and precision. It is a solution-based guide in which you learn through practical recipes, illustrations, and code samples.

Inject new life into your data by creating compelling visualizations with d3.js About This Book- Understand how to best represent your data by developing the right kind of visualization- Harness the power of D3 by building interactive and real-time data-driven web visualizations- This book will provide a strong foundation in designing compelling web visualizations with D3.js Who This Book Is For This book is for web developers, data scientists, and anyone interested in representing data through interactive visualizations on the web with D3. Some basic JavaScript knowledge is expected, but no prior experience with data visualization or D3 is required to follow this book. What You Will Learn- Gain a solid understanding of the common D3 development idioms- Be able to input data, transform it, and output it as a visualization- Add simple effects and user interactions to a visualization- Find out how to write basic D3 code for server using Node.js- Automate testing visualizations using Mocha- Achieve fluency in ES2015, the most modern version of JavaScript In Detail D3 has emerged as one of the leading platforms to develop beautiful, interactive visualizations over the web. We begin by setting up a strong foundation, then build on this foundation book will take you through the entire world of reimagining data using interactive, animated visualizations created in D3.js. In addition to covering the various features of D3.js to build a wide range of visualizations, we also focus on the entire process of representing data through visualizations so that developers and those interested in data visualization will get the entire process right. We also include chapters that explore a wide range of visualizations through practical use cases. By the end of this book, you will have unlocked the mystery behind successful data visualizations and will be ready to use D3 to transform any data into a more engaging and sophisticated visualization. Style and approach This book has comprehensive explanation on how to leverage the power of D3.js to create powerful and creative visualizations through step by step instruction

R Markdown is a powerful tool for combining analysis and reporting into the single document in the spirit of literate programming and reproducible research. Since the birth of the rmarkdown package in early 2014, R Markdown has grown substantially from a package that supports a few output formats (such as HTML, PDF, and Word) to an extensive and diverse ecosystem that enables the creation of books, blogs, scientific articles, websites, and more. Due to its rapid success, this ecosystem is hard to learn completely meaning that R Markdown users, from novices to advanced users, likely do not know all that these packages have to offer. The R Markdown Cookbook confronts this gap by showcasing short, practical examples of wide-ranging tips and tricks to get the most out of these tools. After reading this book, you will learn how to: Enhance your R Markdown content with diagrams, citations, and dynamically generated text Streamline your workflow with child documents, code chunk references, and caching Control the formatting and layout with Pandoc markdown syntax or by writing custom HTML and LaTeX templates Utilize chunk options and hooks to fine-tune how your code is processed Switch between different language engines to seamlessly incorporate python, D3, and more into your analysis Create and publish your own interactive and compelling data visualizations with D3.js 4.x About This Book Build interactive and rich graphics and visualization using JavaScript's powerful library D3.js Learn D3 from the ground up, using the all-new version 4 of the library Gain insight into producing high-quality, extensible charts and visualizations using best practices such as writing testable, extensible code and strong typing Who This Book Is For This book is for web developers, interactive news developers, data scientists, and anyone interested in representing data through interactive visualizations on the Web with D3. Some basic knowledge of JavaScript is expected, but no prior experience with data visualization or D3 is required to follow this book. What You Will Learn Map data to visual elements using D3's scales Draw SVG elements using D3's shape generators Transform data using D3's collection methods Use D3's various layout patterns to quickly generate various common types of chart Write modern JavaScript using ES2017 and Babel Explore the basics of unit testing D3 visualizations using Mocha and Chai Write and deploy a simple Node.js web service to render charts via HTML Canvas Understand what makes a good data visualization and how to use the tools at your disposal to create accurate charts In Detail Want to get started with impressive interactive visualizations and implement them in your daily tasks? This book offers the perfect solution-D3.js. It has emerged as the most popular tool for data visualization. This book will teach you how to implement the features of the latest version of D3 while writing JavaScript using the newest tools and technique You will start by setting up the D3 environment and making your first basic bar chart. You will then build stunning SVG and Canvas-based data visualizations while writing testable, extensible code, as accurate and informative as it is visually stimulating. Step-by-step examples walk you through creating, integrating, and debugging different types of visualization and will have you building basic visualizations (such as bar, line, and scatter graphs) in no time. By the end of this book, you will have mastered the techniques necessary to successfully visualize data and will be ready to use D3 to transform any data into an engaging and sophisticated visualization. Style and approach This book follows a tutorial-based approach in teaching the world's most powerful data visualization library, D3.

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

powerful JavaScript 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 downloadable code and 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 finish Explore inspiring case studies with nine accomplished designers talking about their D3-based projects

This book will help you build interactive graphs that are viewable in any web browser using JavaScript, D3.js, and SVG. You will learn how to make a scatter plot, a bar graph, a pie chart, a force directed graph, and a map. Key Features Takes you through the most common graphs you'll need Add interactivity to your visualizations Easy to follow builds Book Description D3.js is a JavaScript library that allows you to create graphs and data visualizations in the browser with HTML, SVG, and CSS. This book will take you from the basics of D3.js, so that you can create your own interactive visualizations, to creating the most common graphs that you will encounter as a developer, scientist, statistician, or data scientist. The book begins with an overview of SVG, the basis for creating two-dimensional graphics in the browser. Once the reader has a firm understanding of SVG, we will tackle the basics of how to use D3.js to connect data to our SVG elements. We will start with a scatter plot that maps run data to circles on a graph, and expand our scatter plot to make it interactive. You will see how you can easily allow the users of your graph to create, edit, and delete run data by simply dragging and clicking the graph. Next, we will explore creating a bar graph, using external data from a mock API. After that, we will explore animations and motion with a bar graph, and use various physics-based forces to create a force-directed graph. Finally, we will look at how to use GeoJSON data to create a map. What you will learn Build a scatter plot Build a bar graph Build a pie chart Build a force-directed graph Build a map Build interactivity into your graphs Who this book is for This book is for web developers, interactive news developers, data scientists, and anyone interested in representing data through interactive visualizations on the Web with D3. Some basic knowledge of JavaScript is expected, but no prior experience with data visualization or D3 is required to follow this book.

Build beautiful data visualizations with D3 The Fullstack D3 book is the complete guide to D3. With dozens of code examples showing each step, you can gain new insights into your data by creating visualizations. Learn how to quickly turn data into insights with D3 We have the data. But it needs to be understood by humans. The best way to convert this data into an understandable format is to mold it into a data visualization. And D3 is the best tool for job if you need to create custom data visualizations. With Fullstack D3 and Data Visualization you and your team will be able to share key insights, uncover problems before they start, and impress your boss by creating gorgeous visualizations. What's Inside Chapter 0: Introduction When would you want to use D3.js? There is a spectrum of libraries to create charts on the web: on one end, you have easy-to-use, basic libraries that will create a standard chart type. Chapter 1: Making your first chart In this chapter we make a line chart. Line charts are a great starting place because of their popularity, but also because of their simplicity. Chapter 2: Making a scatterplot When looking at the relationship between two metrics, a scatterplot is a good choice. In this chapter we show how to create a scatterplot. Chapter 3: Making a bar chart In this chapter we cover how to create a histogram, which is a bar chart that shows the distribution of one metric, with the metric values on the x axis and the frequency of values on the y axis. Chapter 4: Animations and Transitions When we update our charts, we can animate elements from their old to their new positions. These animations can be visually exciting, but more importantly, they have functional benefits. Chapter 5: Interactions The biggest advantage of creating charts with JavaScript is the ability to respond to user input. Chapter 6: Making a map Maps are also uniquely good at answering geography-based questions. In this chapter, we'll build a map and learn how to plot values within a location. Chapter 7: Data Visualization Basics Now that we're comfortable with how to create a chart, we should zoom out a bit and talk about what chart to create. Chapter 8: Common Charts In this chapter, we talk about common chart types and when to use them. Chapter 9: Dashboard Design A dashboard is any web interface that makes sense out of dynamic data, and in this chapter we learn how to make one. Chapter 10: Advanced Visualization: Marginal Histogram First, we'll focus on enhancing a chart we've already made: our scatter plot. This chart will have multiple goals, all exploring the daily temperature ranges in our weather dataset. Chapter 11: Advanced Visualization: Radial Weather Chart We talked about radar charts in Chapter 10. For this project, we'll build a more complex radar chart. Chapter 12: Advanced Visualization: Animated Sankey Diagram In this project, we'll be simulating real data and creating an animated diagram to engage our viewers. Chapter 13: D3 and React What's the best way to draw a chart within React? It turns out that there is a fair bit of overlap in functionality between a React and D3 - we'll discuss how we can create blazing fast charts using the two together. Chapter 14: D3 and Angular In this chapter we show how to create optimized SVG charts using D3 and Angular.

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