D3js Guide

This book A Beginner’s Guide to Learning Analytics is designed to meet modern educational trends’ needs. It is addressed to readers who have no prior knowledge of learning analytics and functions as an introductory text to learning analytics for those who want to do more with evaluation/assessment in their organizations. The book is useful to all who need to evaluate their learning and teaching strategies. It aims to bring greater efficiency and deeper engagement to individual students, learning communities, and educators. Covered here are the key concepts linked to learning analytics for researchers and practitioners interested in learning analytics. This book helps those who want to apply analytics to learning and development programs and helps educational institutions to identify learners who require support and provide a more personalized learning experience. Like chapters show diverse uses of learning analytics to enhance student and faculty performance. It presents a coherent framework for the effective translation of learning analytics research for educational practice to its practical application in different educational domains. This book provides educators and researchers with the tools and frameworks to effectively make sense of and use data and analytics in their everyday practice. This book will be a valuable addition to researchers’ bookshelves.

This full-color text shows readers how to transform data into something meaningful - information. It is meant for anyone interested in the art and science of communicating data to others. Drawing on the author’s years of practice and teaching, it bridges the two worlds in ways everyone can participate in and appreciate the beautiful in information.

Your indispensable guide to mastering the efficient use of D3.js in professional-standard data visualization projects. You will learn what data visualization is, how to work with it, and how to think like a D3.js expert, both practically and theoretically. Practical D3.js does not just show you how to use D3.js, it teaches you how to think like a data scientist and work with the data in the real world. In Part One, you will learn about theories behind data visualization. In Part Two, you will learn how to use D3.js to create the best charts and layouts. Uniquely, this book intertwines the technical details of D3.js with practical topics such as data journalism and the use of open government data. Written by leading data scientists Tarek Amr and Rayna Stamboliyska, this book is your guide to using D3.js in the real world – add it to your library today. You Will Learn: How to think like a data scientist and present data in the best way What structure and design strategies you can use for compelling data visualization How to use data binding, animations and events, scales, and color pickers How to use shapes, path generators, arcs and polygons Who This Book is For: This book is for anyone who wants to learn to master the use of D3.js in a practical manner, while still learning the important theoretical aspects needed to enable them to work with their data in the best possible way.

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.

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.

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.

Presenting a comprehensive resource for the mastery of network analysis in R, the goal of Network Analysis with R is to introduce modern network analysis techniques in R to social, physical, and health scientists. The mathematical foundations of network analysis are emphasized in an accessible way and readers are guided through the basic steps of network studies: network conceptualization, data collection and management, network description, visualization, and building and testing statistical models of networks. As with all of the books in the Use R! series, each chapter contains extensive R code and detailed visualizations of

datasets. Appendices will describe the R network packages and the datasets used in the book. An R package developed specifically for the book, available to readers on GitHub, contains relevant code and real-world network datasets as well.
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.
Packed with practical recipes, this is a step-by-step guide to learning data visualization with D3 with the help of detailed illustrations and code samples.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.
Since this book first published in 2006, the field of information visualization has changed dramatically. First, information visualization has exploded online and on other digital platforms. Second, information graphics reporting has encompassed nearly every sector of communication and business. Visual reporting skills are not only relevant in traditional news environments, but many other professions as well. This edition seeks to address these changes by providing learners with a cross-platform, cross-industry approach to instruction. It will include a robust, dynamic website complete with regularly updated examples of print, online, and broadcast graphics, as well as useful tutorials and exercises. This book covers everything you need to know about reporting with graphics; information visualization and graphic design from a journalistic perspective. A companion website includes regularly updated examples of print, online, and broadcast graphics, as well as tutorials and exercises. Chapters include relevant case studies and conclude with essays from experts. When appropriate, resource files for exercises (such as Illustrator templates, images, and/or other visual reference material) will also be provided on the companion website. thegraphicsreporter.com
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, CSs, and JavaScript.
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.
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.

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 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.

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

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.

Bring data to life with the D3.js data visualization library, and get up to speed with JavaScript, HTML, and CSS to build stunning data visuals About This Video Learn to create a bar chart that can move dynamically Visualize earthquakes -

both dynamically and as circles in the x-axis Get to grips with using the getElementById selector In Detail Effective visualization of data helps users analyze and gather insights about data, making complex data more accessible, understandable, and easy on the eye. If you want to create incredible graphs and data-driven visualizations from raw data and communicate information clearly and efficiently within your organization, work, and school, then enroll in this complete data visualization course covering the D3.js library. The course begins with an introduction to D3.js, and then teaches you how to create dynamic visualizations, scales, bar charts, and SVG paths. You'll then perform hands-on tasks such as earthquake visualization, creating a pie chart, and building a navigation page. The course then takes you through JavaScript fundamentals, along with covering arrays, loops, functions, and objects. Toward the concluding chapters, you'll get to grips with the document object model (DOM) and the browser object model (BOM). By the end of this course, you'll have gained a solid understanding of the basics of HTML, CSS, and JavaScript - the three main technologies necessary for building amazing visualizations using the D3.js library.

Inject new life into your data by creating compelling visualizations with d3.jsAbout 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.jsWho This Book Is ForThis 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 JavaScriptIn DetailD3 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 approachThis book has comprehensive explanation on how to leverage the power of D3.js to create powerful and creative visualizations through step by step instruction

In the last 25 years, information systems have had a disruptive effect on society and business. Up until recently though, the majority of passengers and goods were transported by sea in many ways similar to the way they were at the turn of the previous century. Gradually, advanced information technologies are being introduced, in an attempt to make shipping safer, greener, more efficient, and transparent. The emerging field of Maritime Informatics studies the application of information technology and information systems to maritime transportation. Maritime Informatics can be considered as both a field of study and domain of application. As an application domain, it is the outlet of innovations originating from data science and artificial intelligence; as a field of study, it is positioned between computer science and marine engineering. This new field's complexity lies within this duality because it is faced with disciplinary barriers yet demands a systemic, transdisciplinary approach. At present, there is a growing body of knowledge that remains undocumented in a single source or textbook designed to assist students and practitioners. This highly useful textbook/reference starts by introducing required knowledge, algorithmic approaches, and technical details, before presenting real-world applications. The aim is to present interested audiences with an overview of the main technological innovations having a disruptive effect on the maritime industry, as well as to discuss principal ideas, methods of operation and applications, and future developments. The material in this unique volume provides requisite core knowledge for undergraduate or postgraduate students, employing an analytical approach with numerous real-world examples and case studies.

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.

D3.js Quick Start GuideCreate amazing, interactive visualizations in the browser with JavaScriptPackt Publishing Ltd

For many researchers, Python is a first-class tool mainly because of its libraries for storing, manipulating, and gaining

insight from data. Several resources exist for individual pieces of this data science stack, but only with the Python Data Science Handbook do you get them all—IPython, NumPy, Pandas, Matplotlib, Scikit-Learn, and other related tools. Working scientists and data crunchers familiar with reading and writing Python code will find this comprehensive desk reference ideal for tackling day-to-day issues: manipulating, transforming, and cleaning data; visualizing different types of data; and using data to build statistical or machine learning models. Quite simply, this is the must-have reference for scientific computing in Python. With this handbook, you'll learn how to use: IPython and Jupyter: provide computational environments for data scientists using Python NumPy: includes the ndarray for efficient storage and manipulation of dense data arrays in Python Pandas: features the DataFrame for efficient storage and manipulation of labeled/columnar data in Python Matplotlib: includes capabilities for a flexible range of data visualizations in Python Scikit-Learn: for efficient and clean Python implementations of the most important and established machine learning algorithms

Build your data science skills. Start data visualization Using Python. Right away. Become a good data analyst by creating quality data visualizations using Python. KEY FEATURES ? Exciting coverage on loads of Python libraries, including Matplotlib, Seaborn, Pandas, and Plotly. ? Tons of examples, illustrations, and use-cases to demonstrate visual storytelling of varied datasets. ? Covers a strong fundamental understanding of exploratory data analysis (EDA), statistical modeling, and data mining. DESCRIPTION Data visualization plays a major role in solving data science challenges with various capabilities it offers. This book aims to equip you with a sound knowledge of Python in conjunction with the concepts you need to master to succeed as a data visualization expert. The book starts with a brief introduction to the world of data visualization and talks about why it is important, the history of visualization, and the capabilities it offers. You will learn how to do simple Python-based visualization with examples with progressive complexity of key features. The book starts with Matplotlib and explores the power of data visualization with over 50 examples. It then explores the power of data visualization using one of the popular exploratory data analysis-oriented libraries, Pandas. The book talks about statistically inclined data visualization libraries such as Seaborn. The book also teaches how we can leverage bokeh and Plotly for interactive data visualization. Each chapter is enriched and loaded with 30+ examples that will guide you in learning everything about data visualization and storytelling of mixed datasets. WHAT YOU WILL LEARN ? Learn to work with popular Python libraries and frameworks, including Seaborn, Bokeh, and Plotly. ? Practice your data visualization understanding across numerous datasets and real examples. ? Learn to visualize geospatial and time-series datasets. ? Perform correlation and EDA analysis using Pandas and Matplotlib. ? Get to know storytelling of complex and unstructured data using Bokeh and Pandas. ? Learn best practices in writing clean and short python scripts for a quicker visual summary of datasets. WHO THIS BOOK IS FOR This book is for all data analytics professionals, data scientists, and data mining hobbyists who want to be strong data visualizers by learning all the popular Python data visualization libraries. Prior working knowledge of Python is assumed. TABLE OF CONTENTS 1. Introduction to Data Visualization 2. Why Data Visualization 3. Various Data Visualization Elements and Tools 4. Using Matplotlib with Python 5. Using NumPy and Pandas for Plotting 6. Using Seaborn for Visualization 7. Using Bokeh with Python 8. Using Plotly, Folium, and Other Tools for Data Visualization 9. Hands-on Examples and Exercises, Case Studies, and Further Resources

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

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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

Intended to anyone interested in numerical computing and data science: students, researchers, teachers, engineers, analysts, hobbyists... Basic knowledge of Python/NumPy is recommended. Some skills in mathematics will help you understand the theory

behind the computational methods.
Learn to use IPython and Jupyter Notebook for your data analysis and visualization work. Key Features Leverage the Jupyter Notebook for interactive data science and visualization Become an expert in high-performance computing and visualization for data analysis and scientific modeling A comprehensive coverage of scientific computing through many hands-on, example-driven recipes with detailed, step-by-step explanations Book Description Python is one of the leading open source platforms for data science and numerical computing. IPython and the associated Jupyter Notebook offer efficient interfaces to Python for data analysis and interactive visualization, and they constitute an ideal gateway to the platform. IPython Interactive Computing and Visualization Cookbook, Second Edition contains many ready-to-use, focused recipes for high-performance scientific computing and data analysis, from the latest IPython/Jupyter features to the most advanced tricks, to help you write better and faster code. You will apply these state-of-the-art methods to various real-world examples, illustrating topics in applied mathematics, scientific modeling, and machine learning. The first part of the book covers programming techniques: code quality and reproducibility, code optimization, high-performance computing through just-in-time compilation, parallel computing, and graphics card programming. The second part tackles data science, statistics, machine learning, signal and image processing, dynamical systems, and pure and applied mathematics. What you will learn Master all features of the Jupyter Notebook Code better: write high-quality, readable, and well-tested programs; profile and optimize your code; and conduct reproducible interactive computing experiments Visualize data and create interactive plots in the Jupyter Notebook Write blazingly fast Python programs with NumPy, ctypes, Numba, Cython, OpenMP, GPU programming (CUDA), parallel IPython, Dask, and more Analyze data with Bayesian or frequentist statistics (Pandas, PyMC, and R), and learn from actual data through machine learning (scikit-learn) Gain valuable insights into signals, images, and sounds with SciPy, scikit-image, and OpenCV Simulate deterministic and stochastic dynamical systems in Python Familiarize yourself with math in Python using SymPy and Sage: algebra, analysis, logic, graphs, geometry, and probability theory Who this book is for This book is intended for anyone interested in numerical computing and data science: students, researchers, teachers, engineers, analysts, and hobbyists. A basic knowledge of Python/NumPy is recommended. Some skills in mathematics will help you understand the theory behind the computational methods.
Effortlessly ensure your application's code quality from day 1 About This Book Customize your Moodle 3.x app. Leverage the new features of Moodle 3.x by diving deep into the Moodle development eco-system. Cater to heavy user traffic, customize learning requirements and create custom third party plugins. Who This Book Is For This book is for Moodle developers who are familiar with the basic Moodle functionality and have an understanding of the types of scenarios in which the Moodle platform can be usefully employed. You must have medium-level PHP programming knowledge. You should be familiar with HTML and XML protocols. You do not need to have prior knowledge of Moodle-specific terminology What You Will Learn Work with the different types of custom modules that can be written for Moodle 3.x Understand how to author custom modules so they conform to the agreed Moodle 3.x development guidelines Get familiar with the Moodle 3.x architecture—its internal and external APIs Customize Moodle 3.x so it can integrate seamlessly with third-party applications of any kind Build a new course format to specify the layout of a course Implement third-party graphics libraries in your plugins Build plugins that can be themed easily Provide custom APIs that will provide the means to automate Moodle 3 in real time In Detail The new and revamped Moodle is the top choice for developers to create cutting edge e-learning apps that cater to different user's segments and are visually appealing as well. This book explains how the Moodle 3.x platform provides a framework that allows developers to create a customized e-learning solution. It begins with an exploration of the different types of plugin.. We then continue with an investigation of creating new courses. You will create a custom plugin that pulls in resources from a third-party repository. Then you'll learn how users can be assigned to courses and granted the necessary permissions. Furthermore, you will develop a custom user home. At the end of the book, we'll discuss the Web Services API to fully automate Moodle 3.x in real time. Style and approach This book takes a step-by-step practical approach with every step explained in great detail using practical examples. You will create custom plugins from scratch with the examples shown and create new modules as well as extensions with the examples presented.
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.
PrestaShop 1.6 User-Guide PrestaShop presents a comprehensive, intuitive user administration panel, and gives you hundreds of standard functions that can be adapted or personalized in order to respond to all of your needs. This user guide will help you familiarize yourself with all of PrestaShop’s features. You will also be able to efficiently manage your PrestaShop site. While the majority of it is aimed at shop owners, the first chapter serves as an introduction to the front-office interface, which can be helpful to everyone. You can post all of your questions directly on our forum: http://www.prestashop.com/forums/ Chapters in this guide: Training Customizing your shop Connecting to the PrestaShop back-office Discovering the Administration Area First steps with PrestaShop 1.6 Managing the Catalog Managing Orders Managing Customers Creating Price Rules and Vouchers Managing Modules and Themes Making the Native Modules Work Managing Shipping Understanding Local Settings Understanding the Preferences Understanding the Advanced Parameters Administering the Back-Office Understanding Statistics Advanced Stock Management Managing Multiple Shops
If you are a software developer working with data visualizations and want to build complex data visualizations, this book is for you. Basic knowledge of D3 framework is expected. With real-world examples, you will learn how to structure your applications to

create enterprise-level charts and interactive dashboards.
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.
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)
Scala will be a valuable tool to have on hand during your data science journey for everything from data cleaning to cutting-edge machine learning About This Book Build data science and data engineering solutions with ease An in-depth look at each stage of the data analysis process — from reading and collecting data to distributed analytics Explore a broad variety of data processing, machine learning, and genetic algorithms through diagrams, mathematical formulations, and source code Who This Book Is For This learning path is perfect for those who are comfortable with Scala programming and now want to enter the field of data science. Some knowledge of statistics is expected. What You Will Learn Transfer and filter tabular data to extract features for machine learning Read, clean, transform, and write data to both SQL and NoSQL databases Create Scala web applications that couple with JavaScript libraries such as D3 to create compelling interactive visualizations Load data from HDFS and HIVE with ease Run streaming and graph analytics in Spark for exploratory analysis Bundle and scale up Spark jobs by deploying them into a variety of cluster managers Build dynamic workflows for scientific computing Leverage open source libraries to extract patterns from time series Master probabilistic models for sequential data In Detail Scala is especially good for analyzing large sets of data as the scale of the task doesn't have any significant impact on performance. Scala's powerful functional libraries can interact with databases and build scalable frameworks — resulting in the creation of robust data pipelines. The first module introduces you to Scala libraries to ingest, store, manipulate, process, and visualize data. Using real world examples, you will learn how to design scalable architecture to process and model data — starting from simple concurrency constructs and progressing to actor systems and Apache Spark. After this, you will also learn how to build interactive visualizations with web frameworks. Once you have become familiar with all the tasks involved in data science, you will explore data analytics with Scala in the second module. You'll see how Scala can be used to make sense of data through easy to follow recipes. You will learn about Bokeh bindings for exploratory data analysis and quintessential machine learning with algorithms with Spark ML library. You'll get a sufficient understanding of Spark streaming, machine learning for streaming data, and Spark graphX. Armed with a firm understanding of data analysis, you will be ready to explore the most cutting-edge aspect of data science — machine learning. The final module teaches you the A to Z of machine learning with Scala. You'll explore Scala for dependency injections and implicits, which are used to write machine learning algorithms. You'll also explore machine learning topics such as clustering, dimentionality reduction, Naive Bayes, Regression models, SVMs, neural networks, and more. This learning path combines some of the best that Packt has to offer into one complete, curated package. It includes content from the following Packt products: Scala for Data Science, Pascal Bugnion Scala Data Analysis Cookbook, Arun Manivannan Scala for Machine Learning, Patrick R. Nicolas Style and approach A complete package with all the information necessary to start building useful data engineering and data science solutions straight away. It contains a diverse set of recipes that cover the full spectrum of interesting data analysis tasks and will help you revolutionize your data analysis skills using Scala.

Crisp and concise guide on building impressive maps as well as visualizations with D3 a JavaScript library About This Book Dive into D3.js and apply its powerful data binding ability in order to create stunning visualizations Learn the key concepts of SVG, JavaScript, CSS and the DOM to bring data and shapes to live in the browser Solve common problems faced while building interactive maps Acquire key web development skills from the creating your interactive to testing and finally publishing it. Who This Book Is For This book is for people with at least a basic knowledge of of web development (basic HTML/CSS/JavaScript). You don't need to have worked with D3.js before. What You Will Learn Work with SVG geometric shapes Learn to manage map data and plot it with D3.js Add interactivity and points of interest to your maps Compress and manipulate geoJSON files with the use of topoJSON Learn how to write testable D3.js visualizations Build a globe with D3.js and Canvas and add interactivity to it. Create a hexbin map with D3.js In Detail D3.js is a visualization library used for the creation and control of dynamic and interactive graphical forms. It is a library used to manipulate HTML and SVG documents as well as the Canvas element based on data. Using D3.js, developers can create interactive maps for the web, that look and feel beautiful. This book will show you how build and design maps with D3.js and gives you great insight into projections, colors, and the most appropriate types of map. The book begins by helping you set up all the tools necessary to build visualizations and maps. Then it covers obtaining geographic data, modifying it to your specific needs, visualizing it with augmented data using D3.js. It will further show you how to draw and map with the Canvas API and how to publish your visualization. By the end of this book, you'll be creating maps like the election maps and the kind of infographics you'll find on sites like the New York Times. Style and approach This step by step guide with pragmatic examples will help you create maps and amazing visualizations.

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