

Python Data Science Cookbook By Gopi Subramanian

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Data Science Essentials in Python - Dmitry Zinoviev 2016-08-10

Go from messy, unstructured artifacts stored in SQL and NoSQL databases to a neat, well-organized dataset with this quick reference for the busy data scientist. Understand text mining, machine learning, and network analysis; process numeric data with the NumPy and Pandas modules; describe and analyze data using statistical and network-theoretical methods; and see actual examples of data analysis at work. This one-stop solution covers the essential data science you need in Python. Data science is one of the fastest-growing disciplines in terms of academic research, student enrollment, and employment. Python, with its flexibility and scalability, is quickly overtaking the R language for data-scientific projects. Keep Python data-science concepts at your fingertips with this modular, quick reference to the tools used to acquire, clean, analyze, and store data. This one-stop solution covers essential Python, databases, network analysis, natural language processing, elements of machine learning, and visualization. Access structured and unstructured text and numeric data from local files, databases, and the Internet. Arrange, rearrange, and clean the data. Work with relational and non-relational databases, data visualization, and simple predictive analysis (regressions, clustering, and decision trees). See how typical data analysis problems are handled. And try your hand at your own solutions to a variety of medium-scale projects that are fun to work on and look good on your resume. Keep this handy quick guide at your side

whether you're a student, an entry-level data science professional converting from R to Python, or a seasoned Python developer who doesn't want to memorize every function and option. What You Need: You need a decent distribution of Python 3.3 or above that includes at least NLTK, Pandas, NumPy, Matplotlib, Networkx, SciKit-Learn, and BeautifulSoup. A great distribution that meets the requirements is Anaconda, available for free from www.continuum.io. If you plan to set up your own database servers, you also need MySQL (www.mysql.com) and MongoDB (www.mongodb.com). Both packages are free and run on Windows, Linux, and Mac OS.

Mission India - A P J Abdul Kalam 2015-11-10

Mission India: A Vision For Indian Youth has been written with the intention of challenging the Indian youth to bring about a positive change in the country by 2020. Kalam starts off by telling the readers that there has never been a time in Indian history such as this, where the nation has 540 million youth and 20 million Indians across the globe. He also states that several developed countries have directed their efforts towards setting up research centers across the country, which has benefited scientists, engineers, and professionals from various spheres. Kalam and Rajan tell the readers about their goal to make India one among the five top economic powers in the world by 2020. In the beginning of this book, Kalam presents the readers with a question as to whether India can become a developed country. He then provides

insights into the current situation in the country, and explains that this goal is a realistic one. In the subsequent chapters, Kalam and Rajan begin to examine the five industries that need to become reasonably self-sufficient in the coming years, and each chapter tells the readers what can be done to bring a positive change in each industry. They also tell the readers about the current education system in the country, and the latest technology that can be used to improve the quality of education. The readers are also given insights into the present healthcare industry and infrastructural system, which are trademarks of a developed nation. Kalam and Rajan conclude by telling every individual and organization about the role they can play in transforming the nation by 2020

[Python Data Science Essentials](#) - Alberto Boschetti 2016-10-28

Become an efficient data science practitioner by understanding Python's key concepts About This Book Quickly get familiar with data science using Python 3.5 Save time (and effort) with all the essential tools explained Create effective data science projects and avoid common pitfalls with the help of examples and hints dictated by experience Who This Book Is For If you are an aspiring data scientist and you have at least a working knowledge of data analysis and Python, this book will get you started in data science. Data analysts with experience of R or MATLAB will also find the book to be a comprehensive reference to enhance their data manipulation and machine learning skills. What You Will Learn Set up your data science toolbox using a Python scientific environment on Windows, Mac, and Linux Get data ready for your data science project Manipulate, fix, and explore data in order to solve data science problems Set up an experimental pipeline to test your data science hypotheses Choose the most effective and scalable learning algorithm for your data science tasks Optimize your machine learning models to get the best performance Explore and cluster graphs, taking advantage of interconnections and links in your data In Detail Fully expanded and upgraded, the second edition of Python Data Science Essentials takes you through all you need to know to succeed in data science using Python. Get modern insight into the core of Python data, including the latest versions of Jupyter notebooks, NumPy, pandas and

scikit-learn. Look beyond the fundamentals with beautiful data visualizations with Seaborn and ggplot, web development with Bottle, and even the new frontiers of deep learning with Theano and TensorFlow. Dive into building your essential Python 3.5 data science toolbox, using a single-source approach that will allow to work with Python 2.7 as well. Get to grips fast with data munging and preprocessing, and all the techniques you need to load, analyse, and process your data. Finally, get a complete overview of principal machine learning algorithms, graph analysis techniques, and all the visualization and deployment instruments that make it easier to present your results to an audience of both data science experts and business users. Style and approach The book is structured as a data science project. You will always benefit from clear code and simplified examples to help you understand the underlying mechanics and real-world datasets.

Introduction to Data Science for Social and Policy Research - Jose Manuel Magallanes Reyes 2017-09-21

This comprehensive guide provides a step-by-step approach to data collection, cleaning, formatting, and storage, using Python and R. *Understanding Service-Oriented Architecture* - Dr. Ashish Seth 2020-01-14

Let's Design On-Demand Business Model DESCRIPTION Service-Oriented Architecture (SOA) is an architectural approach that can be shared and reused. The book proposes a service-based architecture approach to design an adaptive business model for small enterprises. It presents an ad-hoc model which is based on five layered SOA architecture that can integrate all activities comprising Supply Chain Management (SCM), Customer Relationship Management (CRM), Technical and Enterprise applications tools, and hence, it best suits the SME requirements. This book covers the challenges that SMEs face to compete with large enterprises. It also compares the proposed model with traditional ERP systems and other similar approaches. It is found that the SOA model is efficient, cost-effective, and competent with similar existing solutions. There is always a need to know the scope and size of the work involved while developing a service or deriving any

application from service-based model; this book will help in determining the cost and effort for such projects. KEY FEATURES - Guide to investigate series of processes/activities (value chain activities) required in Small and Medium size Enterprises (SME). - Guide for organizations to identify which SOA infrastructure will be needed to build service-based applications for themselves. - Guide for organizations to test the SOA model in order to meet the changing on-demand business requirements and ensure high level of security and governance. - Guide to handle interoperability between different vendor infrastructures. WHAT WILL YOU LEARN The book will cover the detailed study of service-oriented model from the inception of the idea to its final implementation. You will be able to understand the basics components of service-oriented architecture. You will learn how to develop SOA based model and will realize that most of the interoperability problems visible at the conceptual level could be overcome. The successful simulation of integration among business value chain activities by using the service-oriented methodology can be served as guidelines for researchers, system designers, and system stakeholders to obtain integrated and accuracy output information. WHO THIS BOOK IS FOR Anyone who is interested to gain knowledge about the architecture of service-based model and would like to pursue research in this domain. TABLE OF CONTENTS 1. Service-Oriented Architecture - an Introduction 2. Review of Service-Oriented Systems 3. Research Methodologies 4. Design and Implementation of an SOA Model - A Case Study 5. Study of the inhibiting and success factors in SOA design and implementation 6. Testing of Service-Based Model

Practical Data Science Cookbook - Prabhanjan Tattar 2017-06-29
Over 85 recipes to help you complete real-world data science projects in R and Python About This Book Tackle every step in the data science pipeline and use it to acquire, clean, analyze, and visualize your data Get beyond the theory and implement real-world projects in data science using R and Python Easy-to-follow recipes will help you understand and implement the numerical computing concepts Who This Book Is For If you are an aspiring data scientist who wants to learn data science and

numerical programming concepts through hands-on, real-world project examples, this is the book for you. Whether you are brand new to data science or you are a seasoned expert, you will benefit from learning about the structure of real-world data science projects and the programming examples in R and Python. What You Will Learn Learn and understand the installation procedure and environment required for R and Python on various platforms Prepare data for analysis by implement various data science concepts such as acquisition, cleaning and munging through R and Python Build a predictive model and an exploratory model Analyze the results of your model and create reports on the acquired data Build various tree-based methods and Build random forest In Detail As increasing amounts of data are generated each year, the need to analyze and create value out of it is more important than ever. Companies that know what to do with their data and how to do it well will have a competitive advantage over companies that don't. Because of this, there will be an increasing demand for people that possess both the analytical and technical abilities to extract valuable insights from data and create valuable solutions that put those insights to use. Starting with the basics, this book covers how to set up your numerical programming environment, introduces you to the data science pipeline, and guides you through several data projects in a step-by-step format. By sequentially working through the steps in each chapter, you will quickly familiarize yourself with the process and learn how to apply it to a variety of situations with examples using the two most popular programming languages for data analysis—R and Python. Style and approach This step-by-step guide to data science is full of hands-on examples of real-world data science tasks. Each recipe focuses on a particular task involved in the data science pipeline, ranging from readying the dataset to analytics and visualization

Blue Pelican Java - Charles E. Cook 2005

"Blue Pelican Java" is a somewhat unusual high school computer science textbook. Most computer science texts will begin with a section on the history of computers followed with a flurry of definitions that are just "so many words" to the average student. The approach here is to first give

the student some experience upon which to hang the definitions that come later. The usual practice of introducing classes and objects is deferred until the student has a firm grasp of the fundamentals (loops, decision structures, etc). Thus, the beginning student is not overwhelmed by the simultaneous introduction of OOPs and the fundamentals. The book includes plenty of exercises (many in "contest" form), programming projects, and a huge appendix.

Envisioning Information - Edward R. Tufte 1990

Escaping flatland. Micro/Macro readings. Layering and separation. Small multiples. Color and information. Narratives of Space and time. Epilogue.

Python Data Analysis Cookbook - Ivan Idris 2016-07-22

Over 140 practical recipes to help you make sense of your data with ease and build production-ready data apps About This Book Analyze Big Data sets, create attractive visualizations, and manipulate and process various data types Packed with rich recipes to help you learn and explore amazing algorithms for statistics and machine learning Authored by Ivan Idris, expert in python programming and proud author of eight highly reviewed books Who This Book Is For This book teaches Python data analysis at an intermediate level with the goal of transforming you from journeyman to master. Basic Python and data analysis skills and affinity are assumed. What You Will Learn Set up reproducible data analysis Clean and transform data Apply advanced statistical analysis Create attractive data visualizations Web scrape and work with databases, Hadoop, and Spark Analyze images and time series data Mine text and analyze social networks Use machine learning and evaluate the results Take advantage of parallelism and concurrency In Detail Data analysis is a rapidly evolving field and Python is a multi-paradigm programming language suitable for object-oriented application development and functional design patterns. As Python offers a range of tools and libraries for all purposes, it has slowly evolved as the primary language for data science, including topics on: data analysis, visualization, and machine learning. Python Data Analysis Cookbook focuses on reproducibility and creating production-ready systems. You will start with recipes that set

the foundation for data analysis with libraries such as matplotlib, NumPy, and pandas. You will learn to create visualizations by choosing color maps and palettes then dive into statistical data analysis using distribution algorithms and correlations. You'll then help you find your way around different data and numerical problems, get to grips with Spark and HDFS, and then set up migration scripts for web mining. In this book, you will dive deeper into recipes on spectral analysis, smoothing, and bootstrapping methods. Moving on, you will learn to rank stocks and check market efficiency, then work with metrics and clusters. You will achieve parallelism to improve system performance by using multiple threads and speeding up your code. By the end of the book, you will be capable of handling various data analysis techniques in Python and devising solutions for problem scenarios. Style and Approach The book is written in "cookbook" style striving for high realism in data analysis. Through the recipe-based format, you can read each recipe separately as required and immediately apply the knowledge gained. *Mastering Python for Data Science* - Samir Madhavan 2015-08-31 Explore the world of data science through Python and learn how to make sense of data About This Book Master data science methods using Python and its libraries Create data visualizations and mine for patterns Advanced techniques for the four fundamentals of Data Science with Python - data mining, data analysis, data visualization, and machine learning Who This Book Is For If you are a Python developer who wants to master the world of data science then this book is for you. Some knowledge of data science is assumed. What You Will Learn Manage data and perform linear algebra in Python Derive inferences from the analysis by performing inferential statistics Solve data science problems in Python Create high-end visualizations using Python Evaluate and apply the linear regression technique to estimate the relationships among variables. Build recommendation engines with the various collaborative filtering algorithms Apply the ensemble methods to improve your predictions Work with big data technologies to handle data at scale In Detail Data science is a relatively new knowledge domain which is used by various organizations to make data driven decisions. Data scientists

have to wear various hats to work with data and to derive value from it. The Python programming language, beyond having conquered the scientific community in the last decade, is now an indispensable tool for the data science practitioner and a must-know tool for every aspiring data scientist. Using Python will offer you a fast, reliable, cross-platform, and mature environment for data analysis, machine learning, and algorithmic problem solving. This comprehensive guide helps you move beyond the hype and transcend the theory by providing you with a hands-on, advanced study of data science. Beginning with the essentials of Python in data science, you will learn to manage data and perform linear algebra in Python. You will move on to deriving inferences from the analysis by performing inferential statistics, and mining data to reveal hidden patterns and trends. You will use the matplotlib library to create high-end visualizations in Python and uncover the fundamentals of machine learning. Next, you will apply the linear regression technique and also learn to apply the logistic regression technique to your applications, before creating recommendation engines with various collaborative filtering algorithms and improving your predictions by applying the ensemble methods. Finally, you will perform K-means clustering, along with an analysis of unstructured data with different text mining techniques and leveraging the power of Python in big data analytics. Style and approach This book is an easy-to-follow, comprehensive guide on data science using Python. The topics covered in the book can all be used in real world scenarios.

Java Professional Interview Guide - Mandar Maheshwar Jog 2021-08-24
An Ultimate Solution to Crack Java interview KEY FEATURES ● Start identifying responses for various interviews for Java architecture. ● Solutions to real Java scenarios and applications across the industry. ● Understand the various perspectives of Java concepts from the interviewer's point of view. DESCRIPTION Java Professional Interview Guide aims at helping engineers who want to work in Java. The book covers nearly every aspect of Java, right from the fundamentals of core Java to advanced features such as lambdas and functional programming. Each concept's topics begin with an overview, followed by a discussion of

the interview questions. Additionally, the book discusses the frameworks, Hibernate and Spring. The questions included in each topic will undoubtedly help you feel more confident during the technical interview, which will increase your chances of being selected. You will gain an understanding of both the interviewer and the interviewee's psychology. This book will help you build a solid foundation of Java, the Java architecture, and how to answer questions about Java's internal operations. You will begin to experience interview questions that cover all of Java's major concepts, from object orientation to collections. You will be able to investigate how objects are constructed and what the fundamental properties of OOPs are. Additionally, you will learn how to handle exceptions and work with files and collections. We'll cover advanced topics like functional programming and design patterns in the final chapters. The section also covers questions on Java web application development. Finally, you will be able to learn how to answer questions using industry-standard frameworks like Spring and Hibernate. WHAT YOU WILL LEARN ● How to prepare before an actual technical interview? ● You will learn how to understand an interviewer's mindset. ● What kind of questions can be asked and how can they be answered? ● How to deal with cross-examination questions in an interview. ● How can the interviewer reframe the questions and how can you provide solutions? WHO THIS BOOK IS FOR This book is intended for both new and experienced candidates preparing for the Java Developer Interview. Although the book provides an overview of all Java and J2EE concepts, prior knowledge of basic Java is required. TABLE OF CONTENTS 1. The Preparation Beyond Technology 2. Architecture of Java 3. Object Orientation in Java 4. Handling Exception 5. File Handling 6. Concurrency 7. JDBC 8. Collections 9. Miscellaneous 10. Functional Programming 11. Design Patterns 12. Basics of Web 13. Spring and Spring Boot 14. Hibernate

Maya Programming with Python Cookbook - Adrian Herbez
2016-07-29

Master complex workflows and conquer the world with Python and Maya About This Book Improve your modelling skills and reduce your scripting

problems using Python in Maya Learn to communicate with web applications using Python for easier team development A quick and practical answer to every problem you can have whilst scripting in Maya with Python Who This Book Is For This book is for Python developers who have just started scripting with Maya. What You Will Learn Find out how to use Python scripting to automate tedious tasks Create functional user interfaces to make scripts easy to share with others Add new functionality to Maya via the power of scripting Import and export arbitrary data into and out of Maya Improve your workflow, and that of your team Create custom create custom controls to make rigs that are easy to work with Implement a system to render 3D assets for isometric games Use script jobs to trigger actions automatically in response to user interaction Open a command port to allow other applications to communicate with Maya In Detail Maya is a 3D graphics and animation software, used to develop interactive 3D applications and games with stupendous visual effects. The Maya Programming with Python Cookbook is all about creating fast, powerful automation systems with minimum coding using Maya Python. With the help of insightful and essential recipes, this book will help you improve your modelling skills. Expand your development options and overcome scripting problems encountered whilst developing code in Maya. Right from the beginning, get solutions to complex development concerns faced when implementing as parts of build. Style and approach This book is comprised of a set of practical recipes, grouped under specific topics, which can be referred to independently or in sequence. These recipes provide quick solutions to common problems, and cover most of the real-world scenarios that developers are likely to face when working with Maya.

R Data Analysis Projects - Gopi Subramanian 2017-11-17

Get valuable insights from your data by building data analysis systems from scratch with R. About This Book A handy guide to take your understanding of data analysis with R to the next level Real-world projects that focus on problems in finance, network analysis, social media, and more From data manipulation to analysis to visualization in R, this book will teach you everything you need to know about building end-

to-end data analysis pipelines using R Who This Book Is For If you are looking for a book that takes you all the way through the practical application of advanced and effective analytics methodologies in R, then this is the book for you. A fundamental understanding of R and the basic concepts of data analysis is all you need to get started with this book. What You Will Learn Build end-to-end predictive analytics systems in R Build an experimental design to gather your own data and conduct analysis Build a recommender system from scratch using different approaches Use and leverage RShiny to build reactive programming applications Build systems for varied domains including market research, network analysis, social media analysis, and more Explore various R Packages such as RShiny, ggplot, recommenderlab, dplyr, and find out how to use them effectively Communicate modeling results using Shiny Dashboards Perform multi-variate time-series analysis prediction, supplemented with sensitivity analysis and risk modeling In Detail R offers a large variety of packages and libraries for fast and accurate data analysis and visualization. As a result, it's one of the most popularly used languages by data scientists and analysts, or anyone who wants to perform data analysis. This book will demonstrate how you can put to use your existing knowledge of data analysis in R to build highly efficient, end-to-end data analysis pipelines without any hassle. You'll start by building a content-based recommendation system, followed by building a project on sentiment analysis with tweets. You'll implement time-series modeling for anomaly detection, and understand cluster analysis of streaming data. You'll work through projects on performing efficient market data research, building recommendation systems, and analyzing networks accurately, all provided with easy to follow codes. With the help of these real-world projects, you'll get a better understanding of the challenges faced when building data analysis pipelines, and see how you can overcome them without compromising on the efficiency or accuracy of your systems. The book covers some popularly used R packages such as dplyr, ggplot2, RShiny, and others, and includes tips on using them effectively. By the end of this book, you'll have a better understanding of data analysis with R, and be able to put your knowledge to practical use

without any hassle. Style and approach This book takes a unique, learn-as-you-do approach, as you build on your understanding of data analysis progressively with each project. This book is designed in a way that implementing each project will empower you with a unique skill set, and enable you to implement the next project more confidently.

Tensorflow in 1 Day: Make Your Own Neural Network - Krishna Rungta 2018-09-05

Tensorflow is the most popular Deep Learning Library out there. It has fantastic graph computations feature which helps data scientist to visualize his designed neural network using TensorBoard. This Machine learning library supports both Convolution as well as Recurrent Neural network. It supports parallel processing on CPU as well as GPU.

Prominent machine learning algorithms supported by TensorFlow are Deep Learning Classification, wip & deep, Boston Tree amongst others. The book is very hands-on and gives you industry ready deep learnings practices. Here is what is covered in the book

Python Data Science Cookbook - Gopi Subramanian 2015-11-11

Over 60 practical recipes to help you explore Python and its robust data science capabilities About This Book • The book is packed with simple and concise Python code examples to effectively demonstrate advanced concepts in action • Explore concepts such as programming, data mining, data analysis, data visualization, and machine learning using Python • Get up to speed on machine learning algorithms with the help of easy-to-follow, insightful recipes Who This Book Is For This book is intended for all levels of Data Science professionals, both students and practitioners, starting from novice to experts. Novices can spend their time in the first five chapters getting themselves acquainted with Data Science. Experts can refer to the chapters starting from 6 to understand how advanced techniques are implemented using Python. People from non-Python backgrounds can also effectively use this book, but it would be helpful if you have some prior basic programming experience. What You Will Learn • Explore the complete range of Data Science algorithms • Get to know the tricks used by industry engineers to create the most accurate data science models • Manage and use Python libraries such as numpy,

scipy, scikit learn, and matplotlib effectively • Create meaningful features to solve real-world problems • Take a look at Advanced Regression methods for model building and variable selection • Get a thorough understanding of the underlying concepts and implementation of Ensemble methods • Solve real-world problems using a variety of different datasets from numerical and text data modalities • Get accustomed to modern state-of-the art algorithms such as Gradient Boosting, Random Forest, Rotation Forest, and so on In Detail Python is increasingly becoming the language for data science. It is overtaking R in terms of adoption, it is widely known by many developers, and has a strong set of libraries such as Numpy, Pandas, scikit-learn, Matplotlib, Ipython and Scipy, to support its usage in this field. Data Science is the emerging new hot tech field, which is an amalgamation of different disciplines including statistics, machine learning, and computer science. It's a disruptive technology changing the face of today's business and altering the economy of various verticals including retail, manufacturing, online ventures, and hospitality, to name a few, in a big way. This book will walk you through the various steps, starting from simple to the most complex algorithms available in the Data Science arsenal, to effectively mine data and derive intelligence from it. At every step, we provide simple and efficient Python recipes that will not only show you how to implement these algorithms, but also clarify the underlying concept thoroughly. The book begins by introducing you to using Python for Data Science, followed by working with Python environments. You will then learn how to analyse your data with Python. The book then teaches you the concepts of data mining followed by an extensive coverage of machine learning methods. It introduces you to a number of Python libraries available to help implement machine learning and data mining routines effectively. It also covers the principles of shrinkage, ensemble methods, random forest, rotation forest, and extreme trees, which are a must-have for any successful Data Science Professional. Style and approach This is a step-by-step recipe-based approach to Data Science algorithms, introducing the math philosophy behind these algorithms.

Salesforce.com For Dummies - Liz Kao 2016-04-25

Your all-access guide to reaping the benefits of Salesforce.com. Salesforce.com has a rapidly expanding influence over the way companies across the globe interact with their clientele. Written by Salesforce.com insiders with years of experience in customer relationship management (CRM) solutions, *Salesforce.com For Dummies* gives you an edge in building relationships and managing your company's sales, marketing, customer service, and support operations. You'll discover how to organize contacts, schedule business appointments, use forecasting tools to predict upcoming sales, create accurate projects based on past performance, and so much more. A customizable, on-demand CRM solution, Salesforce.com allows businesses to organize and manage all of their customer information—leads, opportunities, contacts, accounts, cases, and solutions—in one place. Whether you're a Windows or Mac user, this down-to-earth, friendly guide shows you how to maximize Salesforce.com's capabilities to close deals faster, gain real-time visibility into sales, and collaborate instantly. Customize the new user interface with apps, widgets, and tools. Prospect leads, drive sales, and provide outstanding customer service. Manage contacts, identify opportunities, and analyze your results. Collaborate with colleagues using Chatter. If you're new to Salesforce.com or an existing user looking for the latest tips and tricks to maximize its potential, this friendly guide has you covered.

Python for Data Science For Dummies - John Paul Mueller

2019-01-25

The fast and easy way to learn Python programming and statistics. Python is a general-purpose programming language created in the late 1980s—and named after Monty Python—that's used by thousands of people to do things from testing microchips at Intel, to powering Instagram, to building video games with the PyGame library. *Python For Data Science For Dummies* is written for people who are new to data analysis, and discusses the basics of Python data analysis programming and statistics. The book also discusses Google Colab, which makes it possible to write Python code in the cloud. Get started with data science

and Python. Visualize information. Wrangle data. Learn from data. The book provides the statistical background needed to get started in data science programming, including probability, random distributions, hypothesis testing, confidence intervals, and building regression models for prediction.

The Data Science Handbook - Field Cady 2017-02-28

A comprehensive overview of data science covering the analytics, programming, and business skills necessary to master the discipline. Finding a good data scientist has been likened to hunting for a unicorn: the required combination of technical skills is simply very hard to find in one person. In addition, good data science is not just rote application of trainable skill sets; it requires the ability to think flexibly about all these areas and understand the connections between them. This book provides a crash course in data science, combining all the necessary skills into a unified discipline. Unlike many analytics books, computer science and software engineering are given extensive coverage since they play such a central role in the daily work of a data scientist. The author also describes classic machine learning algorithms, from their mathematical foundations to real-world applications. Visualization tools are reviewed, and their central importance in data science is highlighted. Classical statistics is addressed to help readers think critically about the interpretation of data and its common pitfalls. The clear communication of technical results, which is perhaps the most undertrained of data science skills, is given its own chapter, and all topics are explained in the context of solving real-world data problems. The book also features:

- Extensive sample code and tutorials using Python™ along with its technical libraries
- Core technologies of “Big Data,” including their strengths and limitations and how they can be used to solve real-world problems
- Coverage of the practical realities of the tools, keeping theory to a minimum; however, when theory is presented, it is done in an intuitive way to encourage critical thinking and creativity
- A wide variety of case studies from industry
- Practical advice on the realities of being a data scientist today, including the overall workflow, where time is spent, the types of datasets worked on, and the skill sets needed

The

Data Science Handbook is an ideal resource for data analysis methodology and big data software tools. The book is appropriate for people who want to practice data science, but lack the required skill sets. This includes software professionals who need to better understand analytics and statisticians who need to understand software. Modern data science is a unified discipline, and it is presented as such. This book is also an appropriate reference for researchers and entry-level graduate students who need to learn real-world analytics and expand their skill set. FIELD CADY is the data scientist at the Allen Institute for Artificial Intelligence, where he develops tools that use machine learning to mine scientific literature. He has also worked at Google and several Big Data startups. He has a BS in physics and math from Stanford University, and an MS in computer science from Carnegie Mellon.

Data Science - Vijay Kotu 2018-11-27

Learn the basics of Data Science through an easy to understand conceptual framework and immediately practice using RapidMiner platform. Whether you are brand new to data science or working on your tenth project, this book will show you how to analyze data, uncover hidden patterns and relationships to aid important decisions and predictions. Data Science has become an essential tool to extract value from data for any organization that collects, stores and processes data as part of its operations. This book is ideal for business users, data analysts, business analysts, engineers, and analytics professionals and for anyone who works with data. You'll be able to: Gain the necessary knowledge of different data science techniques to extract value from data. Master the concepts and inner workings of 30 commonly used powerful data science algorithms. Implement step-by-step data science process using using RapidMiner, an open source GUI based data science platform Data Science techniques covered: Exploratory data analysis, Visualization, Decision trees, Rule induction, k-nearest neighbors, Naïve Bayesian classifiers, Artificial neural networks, Deep learning, Support vector machines, Ensemble models, Random forests, Regression, Recommendation engines, Association analysis, K-Means and Density based clustering, Self organizing maps, Text mining, Time series

forecasting, Anomaly detection, Feature selection and more... Contains fully updated content on data science, including tactics on how to mine business data for information Presents simple explanations for over twenty powerful data science techniques Enables the practical use of data science algorithms without the need for programming Demonstrates processes with practical use cases Introduces each algorithm or technique and explains the workings of a data science algorithm in plain language Describes the commonly used setup options for the open source tool RapidMiner

SQL Guide for Microsoft Access - Scorpio Digital Press 2019-08

SQL Quickstart Guide SQL is the standard language used for retrieval and manipulating databases. SQL stands for Structured Query Language. It is one of the programming languages that is developed for managing data which is stored in a relational database management system (RDBMS). SQL language operates through use of declarative statements, by this access it ensures that the data is accurate and secure, it also helps maintain the integrity of databases, no matter its size. SQL is widely used today across most web frameworks and database applications. Understanding SQL gives you the liberty to explore data, and make better decisions. One of the benefits of learning SQL language is that, you also learn concepts that are similar to nearly every RDBMS. SQL will execute queries against a database SQL will get data from a database SQL will Insert records in a database SQL will upgrade records in a database SQL will erase records from a database SQL will build new databases SQL will build new tables in a database SQL will build keep procedures in a database SQL will build views in a database SQL will set authorizations on tables, techniques, and views SQL could be a customary Buy the book and learn basics of SQL quickly.....

Arduino - James Arthur 2020-03-24

Within this book, you will discover the different Arduino models you might like to choose from, the key terms relating to Arduino, the many functions of Arduino, how to set up your Arduino, how read and write code, and finally, how to use your Arduino to power some cool projects! *Fundamentals of Computer Programming with C#* - Svetlin Nakov

2013-09-01

The free book "Fundamentals of Computer Programming with C#" is a comprehensive computer programming tutorial that teaches programming, logical thinking, data structures and algorithms, problem solving and high quality code with lots of examples in C#. It starts with the first steps in programming and software development like variables, data types, conditional statements, loops and arrays and continues with other basic topics like methods, numeral systems, strings and string processing, exceptions, classes and objects. After the basics this fundamental programming book enters into more advanced programming topics like recursion, data structures (lists, trees, hash-tables and graphs), high-quality code, unit testing and refactoring, object-oriented principles (inheritance, abstraction, encapsulation and polymorphism) and their implementation the C# language. It also covers fundamental topics that each good developer should know like algorithm design, complexity of algorithms and problem solving. The book uses C# language and Visual Studio to illustrate the programming concepts and explains some C# / .NET specific technologies like lambda expressions, extension methods and LINQ. The book is written by a team of developers lead by Svetlin Nakov who has 20+ years practical software development experience. It teaches the major programming concepts and way of thinking needed to become a good software engineer and the C# language in the meantime. It is a great start for anyone who wants to become a skillful software engineer. The books does not teach technologies like databases, mobile and web development, but shows the true way to master the basics of programming regardless of the languages, technologies and tools. It is good for beginners and intermediate developers who want to put a solid base for a successful career in the software engineering industry. The book is accompanied by free video lessons, presentation slides and mind maps, as well as hundreds of exercises and live examples. Download the free C# programming book, videos, presentations and other resources from <http://introprogramming.info>. Title: Fundamentals of Computer Programming with C# (The Bulgarian C# Programming Book) ISBN:

9789544007737 ISBN-13: 978-954-400-773-7 (9789544007737) ISBN-10: 954-400-773-3 (9544007733) Author: Svetlin Nakov & Co. Pages: 1132 Language: English Published: Sofia, 2013 Publisher: Faber Publishing, Bulgaria Web site: <http://www.introprogramming.info> License: CC-Attribution-Share-Alike Tags: free, programming, book, computer programming, programming fundamentals, ebook, book programming, C#, CSharp, C# book, tutorial, C# tutorial; programming concepts, programming fundamentals, compiler, Visual Studio, .NET, .NET Framework, data types, variables, expressions, statements, console, conditional statements, control-flow logic, loops, arrays, numeral systems, methods, strings, text processing, StringBuilder, exceptions, exception handling, stack trace, streams, files, text files, linear data structures, list, linked list, stack, queue, tree, balanced tree, graph, depth-first search, DFS, breadth-first search, BFS, dictionaries, hash tables, associative arrays, sets, algorithms, sorting algorithm, searching algorithms, recursion, combinatorial algorithms, algorithm complexity, OOP, object-oriented programming, classes, objects, constructors, fields, properties, static members, abstraction, interfaces, encapsulation, inheritance, virtual methods, polymorphism, cohesion, coupling, enumerations, generics, namespaces, UML, design patterns, extension methods, anonymous types, lambda expressions, LINQ, code quality, high-quality code, high-quality classes, high-quality methods, code formatting, self-documenting code, code refactoring, problem solving, problem solving methodology, 9789544007737, 9544007733

Keith's Dark Tower - Eleanor Hodgman Porter 1919

[Decoding JavaScript](#) - Rushabh Mulraj Shah 2021-05-21

Mastering advanced JavaScript to build modern next-generation web applications. KEY FEATURES ● A simplified explanation of complex concepts to create powerful and flexible web applications. ● Learn testing JavaScript code, regular expressions, fetching data, and many more with ES6. ● A full-fledged section dedicated to developing an application using JavaScript. DESCRIPTION Decoding JavaScript will take the users on an eventful journey of simplifying and understanding

advanced concepts of JavaScript. Since JavaScript is the core programming language for almost every interaction on the web, this book will make it easier for readers to develop modern cutting-edge web applications. The book begins with a quick recap of the fundamental JavaScript (JS) concepts like the syntax of JS, data types, operators, conditionals, looping, functions, arrays, objects, and so on. The readers will also explore the handy Chrome Developers' Tools. This book will also help readers learn and implement important concepts like how to connect to the servers, fetching data like images, user information, videos, etc. from the server, and displaying it on the web page. Besides that, users will learn about impactful concepts like testing JavaScript code, regular expressions, and exploring the popular ES6 and the versions beyond. Most importantly, this book will help you with the best JavaScript practices followed by companies like Google, Facebook, Twitter, etc. to develop a live application right from scratch. **WHAT YOU WILL LEARN**

- Build dynamic web applications interacting with servers using Vanilla.
- Improve code efficiency by learning advanced concepts of JavaScript.
- Get acquainted with best practices adopted by industry leaders, including Google and Facebook.
- Get access to work with popular libraries like ReactJS, jQuery, Angular, Ember, and Vue.

WHO THIS BOOK IS FOR This book is for aspiring web developers and fairly experienced JavaScript developers who want to create modern web and server applications. Prior knowledge of HTML and CSS is essential to begin with this book. **TABLE OF CONTENTS**

1. Introduction to JavaScript
2. The Developer's Tools
3. Functions
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11. Storing Data in Browsers
12. Debugging and Error Handling
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Business Intelligence For Dummies - Swain Scheps 2011-02-04

You're intelligent, right? So you've already figured out that Business Intelligence can be pretty valuable in making the right decisions about your business. But you've heard at least a dozen definitions of what it is, and heard of at least that many BI tools. Where do you start? Business

Intelligence For Dummies makes BI understandable! It takes you step by step through the technologies and the alphabet soup, so you can choose the right technology and implement a successful BI environment. You'll see how the applications and technologies work together to access, analyze, and present data that you can use to make better decisions about your products, customers, competitors, and more. You'll find out how to: Understand the principles and practical elements of BI Determine what your business needs Compare different approaches to BI Build a solid BI architecture and roadmap Design, develop, and deploy your BI plan Relate BI to data warehousing, ERP, CRM, and e-commerce Analyze emerging trends and developing BI tools to see what else may be useful Whether you're the business owner or the person charged with developing and implementing a BI strategy, checking out Business Intelligence For Dummies is a good business decision.

Distributed Systems: Concepts and Design, 4/e - Coulouris 2009

Code like a Pro in C# - Jort Rodenburg 2021-08-24

Build on your existing programming skills and upskill to professional-level C# programming. Summary In *Code Like A Pro in C#* you will learn: Unit testing and test-driven development Refactor a legacy .NET codebase Principles of clean code Essential backend architecture skills Query and manipulate databases with LINQ and Entity Framework Core Critical business applications worldwide are written in the versatile C# language and the powerful .NET platform, running on desktops, cloud systems, and Windows or Linux servers. *Code Like a Pro in C#* makes it easy to turn your existing abilities in C# or another OO language (such as Java) into practical C# mastery. There's no "Hello World" or Computer Science 101 basics—you'll learn by refactoring an out-of-date legacy codebase, using new techniques, tools, and best practices to bring it up to modern C# standards. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology You know the basics, now get ready for the next step! Pro-quality C# code is efficient, clean, and fast. Whether you're building user-facing business applications or writing data-intensive

backend services, the experience-based, practical techniques in this book will take your C# skills to a new level. About the book Code Like a Pro in C# teaches you to how write clean C# code that's suitable for enterprise applications. In this book, you'll refactor a legacy codebase by applying modern C# techniques. You'll explore tools like Entity Framework Core, design techniques like dependency injection, and key practices like testing and clean coding. It's a perfect path to upgrade your existing C# skills or shift from another OO language into C# and the .NET ecosystem. What's inside Unit testing and test-driven development Refactor a legacy .NET codebase Principles of clean code Query and manipulate databases with LINQ and Entity Framework Core About the reader For developers experienced with object-oriented programming. No C# experience required. About the author Jort Rodenburg is a software engineer who has taught numerous courses on getting up to speed with C# and .NET. Table of Contents PART 1 USING C# AND .NET 1 Introducing C# and .NET 2 .NET and how it compiles PART 2 THE EXISTING CODEBASE 3 How bad is this code? 4 Manage your unmanaged resources! PART 3 THE DATABASE ACCESS LAYER 5 Setting up a project and database with Entity Framework Core PART 4 THE REPOSITORY LAYER 6 Test-driven development and dependency injection 7 Comparing objects 8 Stubbing, generics, and coupling 9 Extension methods, streams, and abstract classes PART 5 THE SERVICE LAYER 10 Reflection and mocks 11 Runtime type checking revisited and error handling 12 Using IEnumerable and yield return PART 6 THE CONTROLLER LAYER 13 Middleware, HTTP routing, and HTTP responses 14 JSON serialization/deserialization and custom model binding

Modern Python Cookbook - Steven F. Lott 2016-11-30

The latest in modern Python recipes for the busy modern programmer About This Book Develop succinct, expressive programs in Python Learn the best practices and common idioms through carefully explained and structured recipes Discover new ways to apply Python for the new age of development Who This Book Is For The book is for web developers, programmers, enterprise programmers, engineers, big data scientist,

and so on. If you are a beginner, Python Cookbook will get you started. If you are experienced, it will expand your knowledge base. A basic knowledge of programming would help. What You Will Learn See the intricate details of the Python syntax and how to use it to your advantage Improve your code readability through functions in Python Manipulate data effectively using built-in data structures Get acquainted with advanced programming techniques in Python Equip yourself with functional and statistical programming features Write proper tests to be sure a program works as advertised Integrate application software using Python In Detail Python is the preferred choice of developers, engineers, data scientists, and hobbyists everywhere. It is a great scripting language that can power your applications and provide great speed, safety, and scalability. By exposing Python as a series of simple recipes, you can gain insight into specific language features in a particular context. Having a tangible context helps make the language or standard library feature easier to understand. This book comes with over 100 recipes on the latest version of Python. The recipes will benefit everyone ranging from beginner to an expert. The book is broken down into 13 chapters that build from simple language concepts to more complex applications of the language. The recipes will touch upon all the necessary Python concepts related to data structures, OOP, functional programming, as well as statistical programming. You will get acquainted with the nuances of Python syntax and how to effectively use the advantages that it offers. You will end the book equipped with the knowledge of testing, web services, and configuration and application integration tips and tricks. The recipes take a problem-solution approach to resolve issues commonly faced by Python programmers across the globe. You will be armed with the knowledge of creating applications with flexible logging, powerful configuration, and command-line options, automated unit tests, and good documentation. Style and approach This book takes a recipe-based approach, where each recipe addresses specific problems and issues. The recipes provide discussions and insights and an explanation of the problems.

Data Engineering on Azure - Vlad Riscutia 2021-08-17

Build a data platform to the industry-leading standards set by Microsoft's own infrastructure. Summary In Data Engineering on Azure you will learn how to: Pick the right Azure services for different data scenarios Manage data inventory Implement production quality data modeling, analytics, and machine learning workloads Handle data governance Using DevOps to increase reliability Ingesting, storing, and distributing data Apply best practices for compliance and access control Data Engineering on Azure reveals the data management patterns and techniques that support Microsoft's own massive data infrastructure. Author Vlad Riscutia, a data engineer at Microsoft, teaches you to bring an engineering rigor to your data platform and ensure that your data prototypes function just as well under the pressures of production. You'll implement common data modeling patterns, stand up cloud-native data platforms on Azure, and get to grips with DevOps for both analytics and machine learning. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Build secure, stable data platforms that can scale to loads of any size. When a project moves from the lab into production, you need confidence that it can stand up to real-world challenges. This book teaches you to design and implement cloud-based data infrastructure that you can easily monitor, scale, and modify. About the book In Data Engineering on Azure you'll learn the skills you need to build and maintain big data platforms in massive enterprises. This invaluable guide includes clear, practical guidance for setting up infrastructure, orchestration, workloads, and governance. As you go, you'll set up efficient machine learning pipelines, and then master time-saving automation and DevOps solutions. The Azure-based examples are easy to reproduce on other cloud platforms. What's inside Data inventory and data governance Assure data quality, compliance, and distribution Build automated pipelines to increase reliability Ingest, store, and distribute data Production-quality data modeling, analytics, and machine learning About the reader For data engineers familiar with cloud computing and DevOps. About the author Vlad Riscutia is a software architect at Microsoft. Table of Contents 1 Introduction PART 1 INFRASTRUCTURE

2 Storage 3 DevOps 4 Orchestration PART 2 WORKLOADS 5 Processing 6 Analytics 7 Machine learning PART 3 GOVERNANCE 8 Metadata 9 Data quality 10 Compliance 11 Distributing data

Data Science and Analytics with Python - Jesus Rogel-Salazar
2018-02-05

Data Science and Analytics with Python is designed for practitioners in data science and data analytics in both academic and business environments. The aim is to present the reader with the main concepts used in data science using tools developed in Python, such as SciKit-learn, Pandas, Numpy, and others. The use of Python is of particular interest, given its recent popularity in the data science community. The book can be used by seasoned programmers and newcomers alike. The book is organized in a way that individual chapters are sufficiently independent from each other so that the reader is comfortable using the contents as a reference. The book discusses what data science and analytics are, from the point of view of the process and results obtained. Important features of Python are also covered, including a Python primer. The basic elements of machine learning, pattern recognition, and artificial intelligence that underpin the algorithms and implementations used in the rest of the book also appear in the first part of the book. Regression analysis using Python, clustering techniques, and classification algorithms are covered in the second part of the book. Hierarchical clustering, decision trees, and ensemble techniques are also explored, along with dimensionality reduction techniques and recommendation systems. The support vector machine algorithm and the Kernel trick are discussed in the last part of the book. About the Author Dr. Jesús Rogel-Salazar is a Lead Data scientist with experience in the field working for companies such as AKQA, IBM Data Science Studio, Dow Jones and others. He is a visiting researcher at the Department of Physics at Imperial College London, UK and a member of the School of Physics, Astronomy and Mathematics at the University of Hertfordshire, UK. He obtained his doctorate in physics at Imperial College London for work on quantum atom optics and ultra-cold matter. He has held a position as senior lecturer in mathematics as well as a consultant in the

financial industry since 2006. He is the author of the book Essential Matlab and Octave, also published by CRC Press. His interests include mathematical modelling, data science, and optimization in a wide range of applications including optics, quantum mechanics, data journalism, and finance.

Advanced Bash Scripting Guide - Mendel Cooper

Effective Python - Brett Slatkin 2015

Effective Python will help students harness the full power of Python to write exceptionally robust, efficient, maintainable, and well-performing code. Utilizing the concise, scenario-driven style pioneered in Scott Meyers's best-selling Effective C++, Brett Slatkin brings together 53 Python best practices, tips, shortcuts, and realistic code examples from expert programmers. Each section contains specific, actionable guidelines organized into items, each with carefully worded advice supported by detailed technical arguments and illuminating examples.

Tkinter GUI Application Development Cookbook - Alejandro Rodas de Paz
2018-03-30

Discover solutions to all your Tkinter and Python GUI development problems
Key Features Integrate efficient Python GUI programming techniques with Tkinter Efficiently implement advanced MVC architectures in your Python GUI apps Solve all your problems related to Tkinter and Python GUI development
Book Description As one of the more versatile programming languages, Python is well-known for its batteries-included philosophy, which includes a rich set of modules in its standard library; Tkinter is the library included for building desktop applications. Due to this, Tkinter is a common choice for rapid GUI development, and more complex applications can benefit from the full capabilities of this library. This book covers all of your Tkinter and Python GUI development problems and solutions. Tkinter GUI Application Development Cookbook starts with an overview of Tkinter classes and at the same time provides recipes for basic topics, such as layout patterns and event handling. Next, we cover how to develop common GUI patterns, such as entering and saving data, navigating

through menus and dialogs, and performing long-running actions in the background. You can then make your apps leverage network resources effectively and perform graphical operations on a canvas and related tasks such as detecting collisions between items. Finally, this book covers using themed widgets, an extension of Tk widgets that have a more native look and feel. Finally, this book covers using the canvas and themed widgets. By the end of the book, you will have an in-depth knowledge of Tkinter classes, and will know how to use them to build efficient and rich GUI applications. What you will learn Add widgets and handle user events Lay out widgets within windows using frames and the different geometry managers Configure widgets so that they have a customized appearance and behavior Improve the navigation of your apps with menus and dialogs Apply object-oriented programming techniques in Tkinter applications Use threads to achieve responsiveness and update the GUI Explore the capabilities of the canvas widget and the types of items that can be added to it Extend Tkinter applications with the TTK (themed Tkinter) module Who this book is for This book is for Python developers who are familiar with the basics of the language syntax, data structures, and OOP. You do not need previous experience with Tkinter or other GUI development libraries.

100+ Solutions in Java - Dhruvi Shah 2021-01-06

A step by step guide that will help you learn the Java programming language
KEY FEATURES ●Get familiar with the features in Java 8 And Java 9 ●Understand the working of various Java APIs ●Learn Modular Programming with Java 9 ●Learn to use features such as Lambda, Time API, and Stream API. ●Learn how to access databases from a Java application
DESCRIPTION 100+ Solutions in Java is an easy-to-understand step-by-step guide that helps you develop applications using Java 8 and Java 9. It is for everyone, from beginners to professionals, who wish to begin development in Java. The content is designed as per increasing complexity and is explained in detail with appropriate examples. This book follows a practical approach by providing ample examples and assignments for you to test your understanding of each concept. You will also get familiar with the important features introduced

in Java 10. This book is a “beginner’s guide” that will help you upskill your knowledge in Java. By the end of the book, you will know the different features introduced in Java over the years and will learn to implement these features to develop real-world applications. WHAT YOU WILL LEARN ●Work with the newly introduced features in Java 8 And Java 9 ●Get to know in-depth about the Java Stream API ●Learn how to work with Java regular expressions ●Get an overview of Inheritance and Interfaces in Java ●Get familiar with Design Patterns in Java WHO THIS BOOK IS FOR This book is for Developers and Technical Specialists who are interested in learning Java. Prior knowledge of programming languages such as C, C++, or Python and any DBMS such as SQL Server, MySQL will be an added advantage. TABLE OF CONTENTS 1.

Introduction to Java 2. Java Programming Constructs 3. Java Application Components 4. Java Reference Types 5. Subclasses and Interfaces 6. Exceptions and Regular Expressions 7. Collections and Stream API 8. Generics and Time API 9. File Manipulation in Java 10. Threads and JDBC 11. Design Patterns and I18N 12. More about JDK 8, 9 and 10

Practical Web Scraping for Data Science - Seppe vanden Broucke 2018-04-18

This book provides a complete and modern guide to web scraping, using Python as the programming language, without glossing over important details or best practices. Written with a data science audience in mind, the book explores both scraping and the larger context of web technologies in which it operates, to ensure full understanding. The authors recommend web scraping as a powerful tool for any data scientist’s arsenal, as many data science projects start by obtaining an appropriate data set. Starting with a brief overview on scraping and real-life use cases, the authors explore the core concepts of HTTP, HTML, and CSS to provide a solid foundation. Along with a quick Python primer, they cover Selenium for JavaScript-heavy sites, and web crawling in detail. The book finishes with a recap of best practices and a collection of examples that bring together everything you've learned and illustrate various data science use cases. What You'll Learn Leverage well-established best practices and commonly-used Python packages Handle

today's web, including JavaScript, cookies, and common web scraping mitigation techniques Understand the managerial and legal concerns regarding web scraping Who This Book is For A data science oriented audience that is probably already familiar with Python or another programming language or analytical toolkit (R, SAS, SPSS, etc). Students or instructors in university courses may also benefit. Readers unfamiliar with Python will appreciate a quick Python primer in chapter 1 to catch up with the basics and provide pointers to other guides as well.

Introducing Data Science - Davy Cielen 2016-05-02

Summary Introducing Data Science teaches you how to accomplish the fundamental tasks that occupy data scientists. Using the Python language and common Python libraries, you'll experience firsthand the challenges of dealing with data at scale and gain a solid foundation in data science. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Many companies need developers with data science skills to work on projects ranging from social media marketing to machine learning. Discovering what you need to learn to begin a career as a data scientist can seem bewildering. This book is designed to help you get started. About the Book Introducing Data ScienceIntroducing Data Science explains vital data science concepts and teaches you how to accomplish the fundamental tasks that occupy data scientists. You'll explore data visualization, graph databases, the use of NoSQL, and the data science process. You'll use the Python language and common Python libraries as you experience firsthand the challenges of dealing with data at scale. Discover how Python allows you to gain insights from data sets so big that they need to be stored on multiple machines, or from data moving so quickly that no single machine can handle it. This book gives you hands-on experience with the most popular Python data science libraries, Scikit-learn and StatsModels. After reading this book, you'll have the solid foundation you need to start a career in data science. What's Inside Handling large data Introduction to machine learning Using Python to work with data Writing data science algorithms About the Reader This book assumes you're comfortable reading code in

Python or a similar language, such as C, Ruby, or JavaScript. No prior experience with data science is required. About the Authors Davy Cielen, Arno D. B. Meysman, and Mohamed Ali are the founders and managing partners of Optimately and Maiton, where they focus on developing data science projects and solutions in various sectors. Table of Contents Data science in a big data world The data science process Machine learning Handling large data on a single computer First steps in big data Join the NoSQL movement The rise of graph databases Text mining and text analytics Data visualization to the end user

[Python for Finance Cookbook](#) - Eryk Lewinson 2020-01-31

Solve common and not-so-common financial problems using Python libraries such as NumPy, SciPy, and pandas Key Features Use powerful Python libraries such as pandas, NumPy, and SciPy to analyze your financial data Explore unique recipes for financial data analysis and processing with Python Estimate popular financial models such as CAPM and GARCH using a problem-solution approach Book Description Python is one of the most popular programming languages used in the financial industry, with a huge set of accompanying libraries. In this book, you'll cover different ways of downloading financial data and preparing it for modeling. You'll calculate popular indicators used in technical analysis, such as Bollinger Bands, MACD, RSI, and backtest automatic trading strategies. Next, you'll cover time series analysis and models, such as exponential smoothing, ARIMA, and GARCH (including multivariate specifications), before exploring the popular CAPM and the Fama-French three-factor model. You'll then discover how to optimize asset allocation and use Monte Carlo simulations for tasks such as calculating the price of American options and estimating the Value at Risk (VaR). In later chapters, you'll work through an entire data science project in the financial domain. You'll also learn how to solve the credit card fraud and default problems using advanced classifiers such as random forest, XGBoost, LightGBM, and stacked models. You'll then be able to tune the hyperparameters of the models and handle class imbalance. Finally, you'll focus on learning how to use deep learning (PyTorch) for approaching financial tasks. By the end of this book, you'll have learned

how to effectively analyze financial data using a recipe-based approach. What you will learn Download and preprocess financial data from different sources Backtest the performance of automatic trading strategies in a real-world setting Estimate financial econometrics models in Python and interpret their results Use Monte Carlo simulations for a variety of tasks such as derivatives valuation and risk assessment Improve the performance of financial models with the latest Python libraries Apply machine learning and deep learning techniques to solve different financial problems Understand the different approaches used to model financial time series data Who this book is for This book is for financial analysts, data analysts, and Python developers who want to learn how to implement a broad range of tasks in the finance domain. Data scientists looking to devise intelligent financial strategies to perform efficient financial analysis will also find this book useful. Working knowledge of the Python programming language is mandatory to grasp the concepts covered in the book effectively.

[Hands-On Data Science and Python Machine Learning](#) - Frank Kane 2017-07-31

This book covers the fundamentals of machine learning with Python in a concise and dynamic manner. It covers data mining and large-scale machine learning using Apache Spark. About This Book Take your first steps in the world of data science by understanding the tools and techniques of data analysis Train efficient Machine Learning models in Python using the supervised and unsupervised learning methods Learn how to use Apache Spark for processing Big Data efficiently Who This Book Is For If you are a budding data scientist or a data analyst who wants to analyze and gain actionable insights from data using Python, this book is for you. Programmers with some experience in Python who want to enter the lucrative world of Data Science will also find this book to be very useful, but you don't need to be an expert Python coder or mathematician to get the most from this book. What You Will Learn Learn how to clean your data and ready it for analysis Implement the popular clustering and regression methods in Python Train efficient machine learning models using decision trees and random forests

Visualize the results of your analysis using Python's Matplotlib library Use Apache Spark's MLlib package to perform machine learning on large datasets In Detail Join Frank Kane, who worked on Amazon and IMDb's machine learning algorithms, as he guides you on your first steps into the world of data science. Hands-On Data Science and Python Machine Learning gives you the tools that you need to understand and explore the core topics in the field, and the confidence and practice to build and analyze your own machine learning models. With the help of interesting and easy-to-follow practical examples, Frank Kane explains potentially complex topics such as Bayesian methods and K-means clustering in a way that anybody can understand them. Based on Frank's successful data science course, Hands-On Data Science and Python Machine Learning empowers you to conduct data analysis and perform efficient machine learning using Python. Let Frank help you unearth the value in your data using the various data mining and data analysis techniques available in Python, and to develop efficient predictive models to predict future results. You will also learn how to perform large-scale machine learning on Big Data using Apache Spark. The book covers preparing your data for analysis, training machine learning models, and visualizing the final data analysis. Style and approach This comprehensive book is a perfect blend of theory and hands-on code examples in Python which can be used for your reference at any time.

Data Science and Complex Networks - Guido Caldarelli 2016-11-10

This book provides a comprehensive yet short description of the basic concepts of Complex Network theory. In contrast to other books the authors present these concepts through real case studies. The application topics span from Foodwebs, to the Internet, the World Wide Web and the Social Networks, passing through the International Trade Web and Financial time series. The final part is devoted to definition and implementation of the most important network models. The text provides information on the structure of the data and on the quality of available datasets. Furthermore it provides a series of codes to allow immediate implementation of what is theoretically described in the book. Readers already used to the concepts introduced in this book can learn the art of

coding in Python by using the online material. To this purpose the authors have set up a dedicated web site where readers can download and test the codes. The whole project is aimed as a learning tool for scientists and practitioners, enabling them to begin working instantly in the field of Complex Networks.

Mastering Python Data Visualization - Kirthi Raman 2015-10-27

Generate effective results in a variety of visually appealing charts using the plotting packages in Python About This Book Explore various tools and their strengths while building meaningful representations that can make it easier to understand data Packed with computational methods and algorithms in diverse fields of science Written in an easy-to-follow categorical style, this book discusses some niche techniques that will make your code easier to work with and reuse Who This Book Is For If you are a Python developer who performs data visualization and wants to develop existing knowledge about Python to build analytical results and produce some amazing visual display, then this book is for you. A basic knowledge level and understanding of Python libraries is assumed. What You Will Learn Gather, cleanse, access, and map data to a visual framework Recognize which visualization method is applicable and learn best practices for data visualization Get acquainted with reader-driven narratives and author-driven narratives and the principles of perception Understand why Python is an effective tool to be used for numerical computation much like MATLAB, and explore some interesting data structures that come with it Explore with various visualization choices how Python can be very useful in computation in the field of finance and statistics Get to know why Python is the second choice after Java, and is used frequently in the field of machine learning Compare Python with other visualization approaches using Julia and a JavaScript-based framework such as D3.js Discover how Python can be used in conjunction with NoSQL such as Hive to produce results efficiently in a distributed environment In Detail Python has a handful of open source libraries for numerical computations involving optimization, linear algebra, integration, interpolation, and other special functions using array objects, machine learning, data mining, and plotting. Pandas have a

productive environment for data analysis. These libraries have a specific purpose and play an important role in the research into diverse domains including economics, finance, biological sciences, social science, health care, and many more. The variety of tools and approaches available within Python community is stunning, and can bolster and enhance visual story experiences. This book offers practical guidance to help you on the journey to effective data visualization. Commencing with a chapter on the data framework, which explains the transformation of data into information and eventually knowledge, this book subsequently covers the complete visualization process using the most popular Python libraries with working examples. You will learn the usage of Numpy, Scipy, IPython, Matplotlib, Pandas, Patsy, and Scikit-Learn with a focus on generating results that can be visualized in many different ways. Further

chapters are aimed at not only showing advanced techniques such as interactive plotting; numerical, graphical linear, and non-linear regression; clustering and classification, but also in helping you understand the aesthetics and best practices of data visualization. The book concludes with interesting examples such as social networks, directed graph examples in real-life, data structures appropriate for these problems, and network analysis. By the end of this book, you will be able to effectively solve a broad set of data analysis problems. Style and approach The approach of this book is not step by step, but rather categorical. The categories are based on fields such as bioinformatics, statistical and machine learning, financial computation, and linear algebra. This approach is beneficial for the community in many different fields of work and also helps you learn how one approach can make sense across many fields