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Web Scraping with Python-Ryan Mitchell 2015-06-15 Learn web scraping and crawling techniques to access unlimited data from any web source in any format. With this practical guide, you'll learn how to use Python scripts and web APIs to gather and process data from thousands—or even millions—of web pages at once. Ideal for programmers, security professionals, and web administrators familiar with Python, this book not only teaches basic web scraping mechanics, but also delves into more advanced topics, such as analyzing raw data or using scrapers for frontend website testing. Code samples are available to help you understand the concepts in practice. Learn how to parse complicated HTML pages Traverse multiple pages and sites Get a general overview of APIs and how they work Learn several methods for storing the data you scrape Download, read, and extract data from documents Use tools and techniques to clean badly formatted data Read and write natural languages Crawl through forms and logins Understand how to scrape JavaScript Learn image processing and text recognition
Web Scraping with Python-Ryan Mitchell 2015-06-15 Learn web scraping and crawling techniques to access unlimited data from any web source in any format. With this practical guide, you'll learn how to use Python scripts and web APIs to gather and process data from thousands—or even millions—of web pages at once. Ideal for programmers, security professionals, and web administrators familiar with Python, this book not only teaches basic web scraping mechanics, but also delves into more advanced topics, such as analyzing raw data or using scrapers for frontend website testing. Code samples are available to help you understand the concepts in practice. Learn how to parse complicated HTML pages Traverse multiple pages and sites Get a general overview of APIs and how they work Learn several methods for storing the data you scrape Download, read, and extract data from documents Use tools and techniques to clean badly formatted data Read and write natural languages Crawl through forms and logins Understand how to scrape JavaScript Learn image processing and text recognition
Web Scraping with Python-Ryan Mitchell 2015 Learn web scraping and crawling techniques to access data from any web source in any format. Teaches basic web scraping mechanics, but also delves into more advanced topics, such as analyzing raw data or using scrapers for frontend website testing.
Web Scraping with Python-Ryan Mitchell 2018-03-21 If programming is magic then web scraping is surely a form of wizardry. By writing a simple automated program, you can query web servers, request data, and parse it to extract the information you need. The expanded edition of this practical book not only introduces you web scraping, but also serves as a comprehensive guide to scraping almost every type of data from the modern web. Part I focuses on web scraping mechanics: using Python to request information from a web server, performing basic handling of the server's response, and interacting with sites in an automated fashion. Part II explores a variety of more specific tools and applications to fit any web scraping scenario you're likely to encounter. Parse complicated HTML pages Develop crawlers with the Scrapy framework Learn methods to store data you scrape Read and extract data from documents

Clean and normalize badly formatted data Read and write natural languages Crawl through forms and logins Scrape JavaScript and crawl through APIs Use and write image-to-text software Avoid scraping traps and bot blockers Use scrapers to test your website

Hands-On Web Scraping with Python-Anish Chapagain 2019-07-15 Collect and scrape different complexities of data from the modern Web using the latest tools, best practices, and techniques Key Features Learn various scraping techniques using a range of Python libraries such as Scrapy and Beautiful Soup Build scrapers and crawlers to extract relevant information from the web Automate web scraping operations to bridge the accuracy gap and ease complex business needs Book Description Web scraping is an essential technique used in many organizations to scrape valuable data from web pages. This book will enable you to delve deeply into web scraping techniques and methodologies. This book will introduce you to the fundamental concepts of web scraping techniques and how they can be applied to multiple sets of web pages. We'll use powerful libraries from the Python ecosystem—such as Scrapy, lxml, pyquery, bs4, and others—to carry out web scraping operations. We will take an in-depth look at essential tasks to carry out simple to intermediate scraping operations such as identifying information from web pages, using patterns or attributes to retrieve information, and others. This book adopts a practical approach to web scraping concepts and tools, guiding you through a series of use cases and showing you how to use the best tools and techniques to efficiently scrape web pages. This book also covers the use of other popular web scraping tools, such as Selenium, Regex, and web-based APIs. By the end of this book, you will have learned how to efficiently scrape the web using different techniques with Python and other popular tools. What you will learn Analyze data and Information from web pages Learn how to use browser-based developer tools from the scraping perspective Use XPath and CSS selectors to identify and explore markup elements Learn to handle and manage cookies Explore advanced concepts in handling HTML forms and processing logins Optimize web securities, data storage, and API use to scrape data Use Regex with Python to extract data Deal with complex web entities by using Selenium to find and extract data Who this book is for This book is for Python programmers, data analysts, web scraping newbies, and anyone who wants to learn how to perform web scraping from scratch. If you want to begin your journey in applying web scraping techniques to a range of web pages, then this book is what you need! A working knowledge of the Python programming language is expected.

Web Scraping with Python-Richard Lawson 2015-10-28 Successfully scrape data from any website with the power of Python About This Book A hands-on guide to web scraping with real-life problems and solutions Techniques to download and extract data from complex websites Create a number of different web scrapers to extract information Who This Book Is For This book is aimed at developers who want to use web scraping for legitimate purposes. Prior programming experience with Python would be useful but not essential. Anyone with general knowledge of programming languages should be able to pick up the book and understand the principals involved. What You Will Learn Extract data from web pages with simple Python programming Build a threaded crawler to process web pages in parallel Follow links to crawl a website Download cache to reduce bandwidth Use multiple threads and processes to scrape faster Learn how to parse JavaScript-dependent websites Interact with forms and sessions Solve CAPTCHAs on protected web pages Discover how to track the state of a crawl In Detail The Internet contains the most useful set of data ever assembled, largely publicly accessible for free. However, this data is not easily reusable. It is embedded within the structure and style of websites and needs to be carefully extracted to be useful. Web scraping is becoming increasingly useful as a means to easily gather and make sense of the plethora of information available online. Using a simple language like Python, you can crawl the information out of complex websites using simple programming. This book is the ultimate guide to using Python to scrape data from websites. In the early chapters it covers how to extract data from static web pages and how to use caching to manage the load on servers. After the basics we'll get our hands dirty with building a more sophisticated crawler with threads and more advanced topics. Learn step-by-step how to use Ajax URLs, employ the Firebug extension for monitoring, and indirectly scrape data. Discover more scraping nitty-gritties such as using the browser renderer, managing cookies, how to submit forms to extract data from complex websites protected by CAPTCHA, and so on. The book wraps up with how to create high-level scrapers with Scrapy libraries and implement what has been learned to real websites. Style and approach This book is a hands-on guide with real-life examples and solutions starting simple and then progressively becoming more complex. Each chapter in this book introduces a problem and then provides one or more possible solutions.

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.

Python Web Scraping Cookbook-Michael Heydt 2018-02-09 Untangle your web scraping complexities and access web data with ease using Python scripts Key Features Hands-on recipes for advancing your web scraping skills to expert level One-stop solution guide to address complex and challenging web scraping tasks using Python Understand web page structures and collect data from a website with ease Book Description Python Web Scraping Cookbook is a solution-focused book that will teach you techniques to develop high-performance Scrapers, and deal with cookies, hidden form fields, Ajax-based sites and proxies. You'll explore a number of real-world scenarios where every part of the development or product life cycle will be fully covered. You will not only develop the skills to design reliable, high-performing data flows, but also deploy your codebase to Amazon Web Services (AWS). If you are involved in software engineering, product development, or data mining or in building data-driven products, you will find this book useful as each recipe has a clear purpose and objective. Right from extracting data from websites to writing a sophisticated web crawler, the book's independent recipes will be extremely helpful while on the job. This book covers Python libraries, requests, and BeautifulSoup. You will learn about crawling, web spidering, working with AJAX websites, and paginated items. You will also understand to tackle problems such as 403 errors, working with proxy, scraping images, and LXML. By the end of this book, you will be able to scrape websites more efficiently and deploy and operate your scraper in the cloud. What you will learn Use a variety of tools to scrape any website and data, including Scrapy and Selenium Master expression languages, such as XPath and CSS, and regular expressions to extract web data Deal with scraping traps such as hidden form fields, throttling, pagination, and different status codes Build robust scraping pipelines with SQS and RabbitMQ Scrape assets like image media and learn what to do when Scraper fails to run Explore ETL techniques of building a customized crawler, parser, and convert structured and unstructured data from websites Deploy and run your scraper as a service in AWS Elastic Container Service Who this book is for This book is ideal for Python programmers, web administrators, security professionals, and anyone who wants to perform web analytics. Familiarity with Python and basic understanding of web scraping will be useful to make the best of this book.

Learning Scrapy-Dimitrios Kouzis-Loukas 2016-01-30 Learn the art of efficient web scraping and crawling with Python About This Book Extract data from any source to perform real time analytics. Full of techniques and examples to help you crawl websites and extract data within hours. A hands-on guide to web scraping and crawling with real-life problems and solutions Who This Book Is For If you are a software developer, data scientist, NLP or machine-learning enthusiast or just need to migrate your company's wiki from a legacy platform, then this book is for you. It is perfect for someone , who needs instant access to large amounts of semi-structured data effortlessly. What You Will Learn Understand HTML pages and write XPath to extract the data you need Write Scrapy spiders with simple Python and do web crawls Push your data into any database, search engine or analytics system Configure your spider to download files, images and use proxies Create efficient pipelines that shape data in precisely the form you want Use Twisted Asynchronous API to process hundreds of items concurrently Make your crawler super-fast by learning how to tune Scrapy's performance Perform large scale distributed crawls with scrapyd and scrapinghub In Detail This book covers the long awaited Scrapy v 1.0 that empowers you to extract useful data from virtually any source with very little effort. It starts off by explaining the fundamentals of Scrapy framework, followed by a thorough description of how to extract data from any source, clean it up, shape it as per your requirement using Python and 3rd party APIs. Next you will be familiarised with the

process of storing the scrapped data in databases as well as search engines and performing real time analytics on them with Spark Streaming. By the end of this book, you will perfect the art of scarping data for your applications with ease Style and approach It is a hands on guide, with first few chapters written as a tutorial, aiming to motivate you and get you started quickly. As the book progresses, more advanced features are explained with real world examples that can be reffered while developing your own web applications.

Python Web Scraping-Katharine Jarmul 2017-05-30 Successfully scrape data from any website with the power of Python 3.x About This Book A hands-on guide to web scraping using Python with solutions to real-world problems Create a number of different web scrapers in Python to extract information This book includes practical examples on using the popular and well-maintained libraries in Python for your web scraping needs Who This Book Is For This book is aimed at developers who want to use web scraping for legitimate purposes. Prior programming experience with Python would be useful but not essential. Anyone with general knowledge of programming languages should be able to pick up the book and understand the principals involved. What You Will Learn Extract data from web pages with simple Python programming Build a concurrent crawler to process web pages in parallel Follow links to crawl a website Extract features from the HTML Cache downloaded HTML for reuse Compare concurrent models to determine the fastest crawler Find out how to parse JavaScript-dependent websites Interact with forms and sessions In Detail The Internet contains the most useful set of data ever assembled, most of which is publicly accessible for free. However, this data is not easily usable. It is embedded within the structure and style of websites and needs to be carefully extracted. Web scraping is becoming increasingly useful as a means to gather and make sense of the wealth of information available online. This book is the ultimate guide to using the latest features of Python 3.x to scrape data from websites. In the early chapters, you'll see how to extract data from static web pages. You'll learn to use caching with databases and files to save time and manage the load on servers. After covering the basics, you'll get hands-on practice building a more sophisticated crawler using browsers, crawlers, and concurrent scrapers. You'll determine when and how to scrape data from a JavaScript-dependent website using PyQt and Selenium. You'll get a better understanding of how to submit forms on complex websites protected by CAPTCHA. You'll find out how to automate these actions with Python packages such as mechanize. You'll also learn how to create class-based scrapers with Scrapy libraries and implement your learning on real websites. By the end of the book, you will have explored testing websites with scrapers, remote scraping, best practices, working with images, and many other relevant topics. Style and approach This hands-on guide is full of real-life examples and solutions starting simple and then progressively becoming more complex. Each chapter in this book introduces a problem and then provides one or more possible solutions.

Python Automation Cookbook-Jaime Buelta 2020-05-29 Get a firm grip on the core processes including browser automation, web scraping, Word, Excel, and GUI automation with Python 3.8 and higher Key Features Automate integral business processes such as report generation, email marketing, and lead generation Explore automated code testing and Python's growth in data science and AI automation in three new chapters Understand techniques to extract information and generate appealing graphs, and reports with Matplotlib Book Description In this updated and extended version of Python Automation Cookbook, each chapter now comprises the newest recipes and is revised to align with Python 3.8 and higher. The book includes three new chapters that focus on using Python for test automation, machine learning projects, and for working with messy data. This edition will enable you to develop a sharp understanding of the fundamentals required to automate business processes through real-world tasks, such as developing your first web scraping application, analyzing information to generate spreadsheet reports with graphs, and communicating with automatically generated emails. Once you grasp the basics, you will acquire the practical knowledge to create stunning graphs and charts using Matplotlib, generate rich graphics with relevant information, automate marketing campaigns, build machine learning projects, and execute debugging techniques. By the end of this book, you will be proficient in identifying monotonous tasks and resolving process inefficiencies to produce superior and reliable systems. What you will learn Learn data wrangling with Python and Pandas for your data science and AI projects Automate tasks such as text classification, email filtering, and web scraping with Python Use Matplotlib to generate a variety of stunning graphs, charts, and maps Automate a range of report generation tasks, from sending SMS and email campaigns to creating templates, adding images in Word, and even encrypting PDFs Master web scraping and web crawling of popular file formats and directories with tools like Beautiful Soup Build cool projects such as a Telegram bot for your marketing campaign, a reader from a news RSS feed, and a machine learning model to classify emails to the correct department based on their content

Create fire-and-forget automation tasks by writing cron jobs, log files, and regexes with Python scripting Who this book is for Python Automation Cookbook - Second Edition is for developers, data enthusiasts or anyone who wants to automate monotonous manual tasks related to business processes such as finance, sales, and HR, among others. Working knowledge of Python is all you need to get started with this book. Automated Data Collection with R-Simon Munzert 2015-01-20 "This book provides a unified framework of web scraping and information extraction from text data with R for the social sciences"--

R Web Scraping Quick Start Guide-Olgun Aydin 2018-10-31 Web Scraping techniques are getting more popular, since data is as valuable as oil in 21st century. Through this book get some key knowledge about using XPath, regEX; web scraping libraries for R like rvest and RSelenium technologies. Key Features Techniques, tools and frameworks for web scraping with R Scrape data effortlessly from a variety of websites Learn how to selectively choose the data to scrape, and build your dataset Book Description Web scraping is a technique to extract data from websites. It simulates the behavior of a website user to turn the website itself into a web service to retrieve or introduce new data. This book gives you all you need to get started with scraping web pages using R programming. You will learn about the rules of RegEx and Xpath, key components for scraping website data. We will show you web scraping techniques, methodologies, and frameworks. With this book's guidance, you will become comfortable with the tools to write and test RegEx and XPath rules. We will focus on examples of dynamic websites for scraping data and how to implement the techniques learned. You will learn how to collect URLs and then create XPath rules for your first web scraping script using rvest library. From the data you collect, you will be able to calculate the statistics and create R plots to visualize them. Finally, you will discover how to use Selenium drivers with R for more sophisticated scraping. You will create AWS instances and use R to connect a PostgreSQL database hosted on AWS. By the end of the book, you will be sufficiently confident to create end-to-end web scraping systems using R. What you will learn Write and create regEX rules Write XPath rules to query your data Learn how web scraping methods work Use rvest to crawl web pages Store data retrieved from the web Learn the key uses of Rselenium to scrape data Who this book is for This book is for R programmers who want to get started quickly with web scraping, as well as data analysts who want to learn scraping using R. Basic knowledge of R is all you need to get started with this book.

Getting Started with Beautiful Soup-Vineeth G. Nair 2014-01-24 This book is a practical, hands-on guide that takes you through the techniques of web scraping using Beautiful Soup. Getting Started with Beautiful Soup is great for anybody who is interested in website scraping and extracting information. However, a basic knowledge of Python, HTML tags, and CSS is required for better understanding. 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.

Applied Data Science with Python and Jupyter-Alex Galea 2018-10-31 Become the master player of data exploration by creating reproducible data processing pipelines, visualizations, and prediction models for your applications. Key Features Get up and running with the Jupyter ecosystem and some example datasets Learn about key machine learning concepts such as SVM, KNN classifiers, and Random Forests Discover how you can use web scraping to gather and parse your own bespoke datasets Book Description Getting started with data science doesn't have to be an uphill battle. Applied Data Science with Python and Jupyter is a step-by-step guide ideal for beginners who know a little Python and are looking for a quick, fast-paced introduction to these concepts. In this book, you'll learn every aspect of the standard data workflow process, including collecting, cleaning, investigating, visualizing, and modeling data. You'll start with the basics of Jupyter, which will be the backbone of the book. After familiarizing ourselves with its standard features, you'll look at an example of it in practice with our first analysis. In the next lesson, you dive right into predictive analytics, where multiple classification algorithms are implemented. Finally, the book ends by looking at data collection techniques. You'll see how web data can be acquired with scraping techniques and via APIs, and then briefly explore interactive visualizations. What you will learn Get up and running with the Jupyter ecosystem Identify potential areas of investigation and perform exploratory data analysis Plan a machine learning classification strategy and train classification models Use validation curves and dimensionality reduction to tune and enhance your models Scrape tabular data from web pages and transform it into Pandas DataFrames Create interactive, web-friendly visualizations to clearly communicate your findings Who this book is for Applied Data Science with Python and Jupyter is ideal for professionals with a variety of job descriptions across a large range of industries, given the rising popularity and accessibility of data science. You'll need some prior experience with Python, with any prior work with libraries such as Pandas, Matplotlib, and Pandas providing you a useful head start.

Mastering Social Media Mining with Python-Marco Bonzanini 2016-07-29 Acquire and analyze data from all corners of the social web with Python About This Book Make sense of highly unstructured social media data with the help of the insightful use cases provided in this guide Use this easy-to-follow, step-by-step guide to apply analytics to complicated and messy social data This is your one-stop solution to fetching, storing, analyzing, and visualizing social media data Who This Book Is For This book is for intermediate Python developers who want to engage with the use of public APIs to collect data from social media platforms and perform statistical analysis in order to produce useful insights from data. The book assumes a basic understanding of the Python Standard Library and provides practical examples to guide you toward the creation of your data analysis project based on social data. What You Will Learn Interact with a social media platform via their public API with Python Store social data in a convenient format for data analysis Slice and dice social data using Python tools for data science Apply text analytics techniques to understand what people are talking about on social media Apply advanced statistical and analytical techniques to produce useful insights from data Build beautiful visualizations with web technologies to explore data and present data products In Detail Your social media is filled with a wealth of hidden data – unlock it with the power of Python. Transform your understanding of your clients and customers when you use Python to solve the problems of understanding consumer behavior and turning raw data into actionable customer insights. This book will help you acquire and analyze data from leading social media sites. It will show you how to employ scientific Python tools to mine popular social websites such as Facebook, Twitter, Quora, and more. Explore the Python libraries used for social media mining, and get the tips, tricks, and insider insight you need to make the most of them. Discover how to develop data mining tools that use a social media API, and how to create your own data analysis projects using Python for clear insight from your social data. Style and approach This practical, hands-on guide will help you learn everything you need to perform data mining for social media. Throughout the book, we take an example-oriented approach to use Python for data analysis and provide useful tips and tricks that you can use in day-to-day tasks.

Data Wrangling with Python-Jacqueline Kazil 2016-02-04 How do you take your data analysis skills beyond Excel to the next level? By learning just enough Python to get stuff done. This hands-on guide shows non-programmers like you how to process information that's initially too messy or difficult to access. You don't need to know a thing about the Python programming language to get started. Through various step-by-step exercises, you'll learn how to acquire, clean, analyze, and present data efficiently. You'll also discover how to automate your data process, schedule file- editing and clean-up tasks, process larger datasets, and create compelling stories with data you obtain. Quickly learn basic Python syntax, data types, and language concepts Work with both machine-readable and human-consumable data Scrape websites and APIs to find a bounty of useful information Clean and format data to eliminate duplicates and errors in your datasets Learn when to standardize data and when to test and script data cleanup Explore and analyze your datasets with new Python libraries and techniques Use Python solutions to automate your entire data-wrangling process

Mining the Social Web-Matthew A. Russell 2018-12-04 Mine the rich data tucked away in popular social websites such as Twitter, Facebook, LinkedIn, and Instagram. With the third edition of this popular guide, data scientists, analysts, and programmers will learn how to glean insights from social media—including who's connecting with whom, what they're talking about, and where they're located—using Python code examples, Jupyter notebooks, or Docker containers. In part one, each standalone chapter focuses on one aspect of the social landscape, including each of the major social sites, as well as web pages, blogs and feeds, mailboxes, GitHub, and a newly added chapter covering Instagram. Part two provides a cookbook with two dozen bite-size recipes for solving particular issues with Twitter. Get a straightforward synopsis of the social web landscape Use Docker to easily run each chapter's example code, packaged as a Jupyter notebook Adapt and contribute to the code's open source GitHub repository Learn how to employ best-in-class Python 3 tools to slice and dice the data you collect Apply advanced mining techniques such as TFIDF, cosine similarity, collocation analysis, clique detection, and image recognition Build beautiful data visualizations with Python and JavaScript toolkits

Flask Web Development-Miguel Grinberg 2018-03-05 Take full creative control of your web applications with Flask, the Python-based microframework. With the second edition of this hands-on book, you'll learn the framework from the ground up by developing, step-by-step, a real-world project created by author Miguel Grinberg. This refreshed edition accounts for important technology changes that have occurred in the past three years. You'll learn the framework's core functionality, as well as how to extend applications with advanced web techniques such as database migration and web service communication. The first part

of each chapter provides you with reference and background for the topic in question, while the second part guides you though a hands-on implementation of the topic. If you have Python experience, this book shows you how to take advantage of the creative freedom Flask provides.

Spidering Hacks-Kevin Hemenway 2004 Provides techniques on creating spiders and scrapers to retrieve information from Web sites and data sources.

Data Visualization with Python and JavaScript-Kyran Dale 2016-06-30 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

Data Science from Scratch-Joel Grus 2015-04-14 Data science libraries, frameworks, modules, and toolkits are great for doing data science, but they're also a good way to dive into the discipline without actually understanding data science. In this book, you'll learn how many of the most fundamental data science tools and algorithms work by implementing them from scratch. If you have an aptitude for mathematics and some programming skills, author Joel Grus will help you get comfortable with the math and statistics at the core of data science, and with hacking skills you need to get started as a data scientist. Today's messy glut of data holds answers to questions no one's even thought to ask. This book provides you with the know-how to dig those answers out. Get a crash course in Python Learn the basics of linear algebra, statistics, and probability—and understand how and when they're used in data science Collect, explore, clean, munge, and manipulate data Dive into the fundamentals of machine learning Implement models such as k-nearest Neighbors, Naive Bayes, linear and logistic regression, decision trees, neural networks, and clustering Explore recommender systems, natural language processing, network analysis, MapReduce, and databases

Clean Data-Megan Squire 2015-05-25 If you are a data scientist of any level, beginners included, and interested in cleaning up your data, this is the book for you! Experience with Python or PHP is assumed, but no previous knowledge of data cleaning is needed.

Introducing Python-Bill Lubanovic 2019-11-06 Easy to understand and fun to read, this updated edition of Introducing Python is ideal for beginning programmers as well as those new to the language. Author Bill Lubanovic takes you from the basics to more involved and varied topics, mixing tutorials with cookbook-style code recipes to explain concepts in Python 3. End-of-chapter exercises help you practice what you've learned. You'll gain a strong foundation in the language, including best practices for testing, debugging, code reuse, and other development tips. This book also shows you how to use Python for applications in business, science, and the arts, using various Python tools and open source packages.

Automate the Boring Stuff with Python-Al Sweigart 2015-04-14 If you've ever spent hours renaming files or updating hundreds of spreadsheet cells, you know how tedious tasks like these can be. But what if you could have your computer do them for you? In Automate the Boring Stuff with Python, you'll learn how to use Python to write programs that do in minutes what would take you hours to do by hand—no prior programming experience required. Once you've mastered the basics of programming, you'll create Python programs that effortlessly perform useful and impressive feats of automation to: –Search for text in a file or across multiple files –Create, update, move, and rename files and folders –Search the Web and download online content –Update and format data in Excel spreadsheets of any size –Split, merge, watermark, and encrypt PDFs –Send reminder emails and text notifications –Fill out online forms Step-by-step instructions walk you through each program, and practice projects at the end of each chapter challenge you to improve those programs and use your newfound skills to automate similar tasks. Don't spend your time doing work a well-trained monkey could do. Even if you've never written a line of code, you can make your computer do the grunt work. Learn how in Automate the Boring Stuff with Python. Note: The programs in this book are written to run on Python 3.

Agile Data Science-Russell Jurney 2013-10-15 Mining big data requires a deep investment in people and

time. How can you be sure you're building the right models? With this hands-on book, you'll learn a flexible toolset and methodology for building effective analytics applications with Hadoop. Using lightweight tools such as Python, Apache Pig, and the D3.js library, your team will create an agile environment for exploring data, starting with an example application to mine your own email inboxes. You'll learn an iterative approach that enables you to quickly change the kind of analysis you're doing, depending on what the data is telling you. All example code in this book is available as working Heroku apps. Create analytics applications by using the agile big data development methodology Build value from your data in a series of agile sprints, using the data-value stack Gain insight by using several data structures to extract multiple features from a single dataset Visualize data with charts, and expose different aspects through interactive reports Use historical data to predict the future, and translate predictions into action Get feedback from users after each sprint to keep your project on track

Learn Python by Building Data Science Applications-Philipp Kats 2019-08-30 Understand the constructs of the Python programming language and use them to build data science projects Key Features Learn the basics of developing applications with Python and deploy your first data application Take your first steps in Python programming by understanding and using data structures, variables, and loops Delve into Jupyter, NumPy, Pandas, SciPy, and sklearn to explore the data science ecosystem in Python Book Description Python is the most widely used programming language for building data science applications. Complete with step-by-step instructions, this book contains easy-to-follow tutorials to help you learn Python and develop real-world data science projects. The "secret sauce" of the book is its curated list of topics and solutions, put together using a range of real-world projects, covering initial data collection, data analysis, and production. This Python book starts by taking you through the basics of programming, right from variables and data types to classes and functions. You'll learn how to write idiomatic code and test and debug it, and discover how you can create packages or use the range of built-in ones. You'll also be introduced to the extensive ecosystem of Python data science packages, including NumPy, Pandas, scikit-learn, Altair, and Datashader. Furthermore, you'll be able to perform data analysis, train models, and interpret and communicate the results. Finally, you'll get to grips with structuring and scheduling scripts using Luigi and sharing your machine learning models with the world as a microservice. By the end of the book, you'll have learned not only how to implement Python in data science projects, but also how to maintain and design them to meet high programming standards. What you will learn Code in Python using Jupyter and VS Code Explore the basics of coding – loops, variables, functions, and classes Deploy continuous integration with Git, Bash, and DVC Get to grips with Pandas, NumPy, and scikit-learn Perform data visualization with Matplotlib, Altair, and Datashader Create a package out of your code using poetry and test it with PyTest Make your machine learning model accessible to anyone with the web API Who this book is for If you want to learn Python or data science in a fun and engaging way, this book is for you. You'll also find this book useful if you're a high school student, researcher, analyst, or anyone with little or no coding experience with an interest in the subject and courage to learn, fail, and learn from failing. A basic understanding of how computers work will be useful.

Business Research Reporting-Dorinda Clippinger 2017-12-05 Business Research Reporting addresses the essential activities of locating, collecting, evaluating, analyzing, interpreting, and reporting business data. It highlights the value of primary and secondary research to making business decisions and solving business problems. It aims to help business managers, MBA candidates, and upper-level college students boost their research skills and report research with confidence. This book discusses primary data collection, sampling concepts, and the use of measurement and scales in preparing instruments. Also, this book explores statistical and non-statistical analysis of qualitative and quantitative data and data interpretation (findings, conclusions, and recommendations). The author shows how to locate, evaluate, and extract secondary data found on the web and in brick-and-mortar libraries, including optimized searching, evaluating, and recording. Plus, the book demonstrates how to avoid copyright infringement and plagiarism, use online citation software, and cite sources when writing and presenting. Two glossaries—one each for primary and secondary research—round out the content. Business Research Reporting can be your go-to guidebook for years to come. Reading through it in a couple of hours, you can pick up ample information to apply instantly. Then keep it handy and refer to it in your ongoing research activities.

Mining the Social Web-Matthew A. Russell 2011-01-21 Provides information on data analysis from a vareity of social networking sites, including Facebook, Twitter, and LinkedIn.

Website Scraping with Python-Gábor László Hajba 2018 Offering road-tested techniques for website scraping and solutions to common issues developers may face, this concise and focused book provides tips

and tweaking guidance for the popular scraping tools BeautifulSoup and Scrapy. --

Python for Data Analysis-Wes McKinney 2017-09-25 Get complete instructions for manipulating, processing, cleaning, and crunching datasets in Python. Updated for Python 3.6, the second edition of this hands-on guide is packed with practical case studies that show you how to solve a broad set of data analysis problems effectively. You'll learn the latest versions of pandas, NumPy, IPython, and Jupyter in the process. Written by Wes McKinney, the creator of the Python pandas project, this book is a practical, modern introduction to data science tools in Python. It's ideal for analysts new to Python and for Python programmers new to data science and scientific computing. Data files and related material are available on GitHub. Use the IPython shell and Jupyter notebook for exploratory computing Learn basic and advanced features in NumPy (Numerical Python) Get started with data analysis tools in the pandas library Use flexible tools to load, clean, transform, merge, and reshape data Create informative visualizations with matplotlib Apply the pandas groupby facility to slice, dice, and summarize datasets Analyze and manipulate regular and irregular time series data Learn how to solve real-world data analysis problems with thorough, detailed examples

Python Cookbook-Alex Martelli 2005-03-18 Portable, powerful, and a breeze to use, Python is the popular open source object-oriented programming language used for both standalone programs and scripting applications. It is now being used by an increasing number of major organizations, including NASA and Google.Updated for Python 2.4, The Python Cookbook, 2nd Edition offers a wealth of useful code for all Python programmers, not just advanced practitioners. Like its predecessor, the new edition provides solutions to problems that Python programmers face everyday.It now includes over 200 recipes that range from simple tasks, such as working with dictionaries and list comprehensions, to complex tasks, such as monitoring a network and building a templating system. This revised version also includes new chapters on topics such as time, money, and metaprogramming.Here's a list of additional topics covered: Manipulating text Searching and sorting Working with files and the filesystem Object-oriented programming Dealing with threads and processes System administration Interacting with databases Creating user interfaces Network and web programming Processing XML Distributed programming Debugging and testing Another advantage of The Python Cookbook, 2nd Edition is its trio of authors-- three well-known Python programming experts, who are highly visible on email lists and in newsgroups, and speak often at Python conferences.With scores of practical examples and pertinent background information, The Python Cookbook, 2nd Edition is the one source you need if you're looking to build efficient, flexible, scalable, and well-integrated systems.

Python Data Science Handbook-Jake VanderPlas 2016-11-21 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

Python Tricks-Dan Bader 2017 "I don't even feel like I've scratched the surface of what I can do with Python" With Python Tricks: The Book you'll discover Python's best practices and the power of beautiful & Pythonic code with simple examples and a step-by-step narrative. You'll get one step closer to mastering Python, so you can write beautiful and idiomatic code that comes to you naturally. Learning the ins and outs of Python is difficult-and with this book you'll be able to focus on the practical skills that really matter. Discover the "hidden gold" in Python's standard library and start writing clean and Pythonic code today. Who Should Read This Book: If you're wondering which lesser known parts in Python you should know about, you'll get a roadmap with this book. Discover cool (yet practical!) Python tricks and blow your coworkers' minds in your next code review. If you've got experience with legacy versions of Python, the book will get you up to speed with modern patterns and features introduced in Python 3 and backported to Python 2. If you've worked with other programming languages and you want to get up to speed with

Python, you'll pick up the idioms and practical tips you need to become a confident and effective Pythonista. If you want to make Python your own and learn how to write clean and Pythonic code, you'll discover best practices and little-known tricks to round out your knowledge. What Python Developers Say About The Book: "I kept thinking that I wished I had access to a book like this when I started learning Python many years ago." - Mariatta Wijaya, Python Core Developer "This book makes you write better Python code!" - Bob Belderbos, Software Developer at Oracle "Far from being just a shallow collection of snippets, this book will leave the attentive reader with a deeper understanding of the inner workings of Python as well as an appreciation for its beauty." - Ben Felder, Pythonista "It's like having a seasoned tutor explaining, well, tricks!" - Daniel Meyer, Sr. Desktop Administrator at Tesla Inc.

Python for Finance-Yves Hilpisch 2018-12-05 The financial industry has recently adopted Python at a tremendous rate, with some of the largest investment banks and hedge funds using it to build core trading and risk management systems. Updated for Python 3, the second edition of this hands-on book helps you get started with the language, guiding developers and quantitative analysts through Python libraries and tools for building financial applications and interactive financial analytics. Using practical examples throughout the book, author Yves Hilpisch also shows you how to develop a full-fledged framework for Monte Carlo simulation-based derivatives and risk analytics, based on a large, realistic case study. Much of the book uses interactive IPython Notebooks.

Python and AWS Cookbook-Mitch Garnaat 2011-10-31 This book focuses on Elastic Compute Cloud (EC2) and Simple Storage Service (S3) for developers writing in Python.

Go Web Scraping Quick Start Guide-Vincent Smith 2019-01-30 Learn how some Go-specific language features help to simplify building web scrapers along with common pitfalls and best practices regarding web scraping. Key Features Use Go libraries like Goquery and Colly to scrape the web Common pitfalls and best practices to effectively scrape and crawl Learn how to scrape using the Go concurrency model Book Description Web scraping is the process of extracting information from the web using various tools that perform scraping and crawling. Go is emerging as the language of choice for scraping using a variety of libraries. This book will quickly explain to you, how to scrape data data from various websites using Go libraries such as Colly and Goquery. The book starts with an introduction to the use cases of building a web scraper and the main features of the Go programming language, along with setting up a Go environment. It then moves on to HTTP requests and responses and talks about how Go handles them. You will also learn about a number of basic web scraping etiquettes. You will be taught how to navigate through a website, using a breadth-first and then a depth-first search, as well as find and follow links. You will get to know about the ways to track history in order to avoid loops and to protect your web scraper using proxies. Finally the book will cover the Go concurrency model, and how to run scrapers in parallel, along with large-scale distributed web scraping. What you will learn Implement Cache-Control to avoid unnecessary network calls Coordinate concurrent scrapers Design a custom, larger-scale scraping system Scrape basic HTML pages with Colly and JavaScript pages with chromedp Discover how to search using the "strings" and "regexp" packages Set up a Go development environment Retrieve information from an HTML document Protect your web scraper from being blocked by using proxies Control web browsers to scrape JavaScript sites Who this book is for Data scientists, and web developers with a basic knowledge of Golang wanting to collect web data and analyze them for effective reporting and visualization.

Text Mining-Gabe Ignatow 2016-04-20 Online communities generate massive volumes of natural language data and the social sciences continue to learn how to best make use of this new information and the technology available for analyzing it. Text Mining: A Guidebook for the Social Sciences brings together a broad range of contemporary qualitative and quantitative methods to provide strategic and practical guidance on analyzing large text collections. This accessible book, written by sociologist Gabe Ignatow and computer scientist Rada Mihalcea, surveys the fast-changing landscape of data sources, programming languages, software packages, and methods of analysis available today. Suitable for novice and experienced researchers alike, the book will help readers use text mining techniques more efficiently and productively.

Applied Text Analysis with Python-Benjamin Bengfort 2018-06-11 From news and speeches to informal chatter on social media, natural language is one of the richest and most underutilized sources of data. Not only does it come in a constant stream, always changing and adapting in context; it also contains information that is not conveyed by traditional data sources. The key to unlocking natural language is through the creative application of text analytics. This practical book presents a data scientist's approach to building language-aware products with applied machine learning. You'll learn robust, repeatable, and scalable techniques for text analysis with Python, including contextual and linguistic feature engineering,

vectorization, classification, topic modeling, entity resolution, graph analysis, and visual steering. By the end of the book, you'll be equipped with practical methods to solve any number of complex real-world problems. Preprocess and vectorize text into high-dimensional feature representations Perform document classification and topic modeling Steer the model selection process with visual diagnostics Extract key phrases, named entities, and graph structures to reason about data in text Build a dialog framework to enable chatbots and language-driven interaction Use Spark to scale processing power and neural networks to scale model complexity

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