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WEB SCRAPING WITH PYTHON

Packt Publishing Ltd **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.

WEB SCRAPING WITH PYTHON

COLLECTING DATA FROM THE MODERN WEB

"O'Reilly Media, Inc." 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

PYTHON WEB SCRAPING, SECOND EDITION

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 WEB SCRAPING

Packt Publishing Ltd **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.

HANDS-ON WEB SCRAPING WITH PYTHON

PERFORM ADVANCED SCRAPING OPERATIONS USING VARIOUS PYTHON LIBRARIES AND TOOLS SUCH AS SELENIUM, REGEX, AND OTHERS

[Packt Publishing Ltd](#) **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 BeautifulSoup 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.

AUTOMATE THE BORING STUFF WITH PYTHON, 2ND EDITION

PRACTICAL PROGRAMMING FOR TOTAL BEGINNERS

[No Starch Press](#) The second edition of this best-selling Python book (over 500,000 copies sold!) uses Python 3 to teach even the technically uninclined how to write programs that do in minutes what would take hours to do by hand. There is no prior programming experience required and the book is loved by liberal arts majors and geeks alike. 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 this fully revised second edition of the best-selling classic *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. You'll learn the basics of Python and explore Python's rich library of modules for performing specific tasks, like scraping data off websites, reading PDF and Word documents, and automating clicking and typing tasks. The second edition of this international fan favorite includes a brand-new chapter on input validation, as well as tutorials on automating Gmail and Google Sheets, plus tips on automatically updating CSV files. You'll learn how to create programs that effortlessly perform useful 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 email responses and text notifications
- Fill out online forms

Step-by-step instructions walk you through each program, and updated 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, 2nd Edition*.

PRACTICAL WEB SCRAPING FOR DATA SCIENCE

BEST PRACTICES AND EXAMPLES WITH PYTHON

[Apress](#) 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

OVER 90 PROVEN RECIPES TO GET YOU SCRAPING WITH PYTHON, MICROSERVICES, DOCKER, AND AWS

Packt Publishing Ltd 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.

PYTHON AUTOMATION COOKBOOK

75 PYTHON AUTOMATION IDEAS FOR WEB SCRAPING, DATA WRANGLING, AND PROCESSING EXCEL, REPORTS, EMAILS, AND MORE, 2ND EDITION

Packt Publishing Ltd **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 BeautifulSoupBuild 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 contentCreate fire-and-forget automation tasks by writing cron jobs, log files, and regexes with Python scriptingWho 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

A PRACTICAL GUIDE TO WEB SCRAPING AND TEXT MINING

John Wiley & Sons "This book provides a unified framework of web scraping and information extraction from text data with R for the social sciences"--

LEARNING SCRAPY

Packt Publishing Ltd 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.

GETTING STRUCTURED DATA FROM THE INTERNET

RUNNING WEB CRAWLERS/SCRAPERS ON A BIG DATA PRODUCTION SCALE

Apres Utilize web scraping at scale to quickly get unlimited amounts of free data available on the web into a structured format. This book teaches you to use Python scripts to crawl through websites at scale and scrape data from HTML and JavaScript-enabled pages and convert it into structured data formats such as CSV, Excel, JSON, or load it into a SQL database of your choice. This book goes beyond the basics of web scraping and covers advanced topics such as natural language processing (NLP) and text analytics to extract names of people, places, email addresses, contact details, etc., from a page at production scale using distributed big data techniques on an Amazon Web Services (AWS)-based cloud infrastructure. It book covers developing a robust data processing and ingestion pipeline on the Common Crawl corpus, containing petabytes of data publicly available and a web crawl data set available on AWS's registry of open data. Getting Structured Data from the Internet also includes a step-by-step tutorial on deploying your own crawlers using a production web scraping framework (such as Scrapy) and dealing with real-world issues (such as breaking Captcha, proxy IP rotation, and more). Code used in the book is provided to help you understand the concepts in practice and write your own web crawler to power your business ideas. **What You Will Learn** Understand web scraping, its applications/uses, and how to avoid web scraping by hitting publicly available rest API endpoints to directly get data Develop a web scraper and crawler from scratch using lxml and BeautifulSoup library, and learn about scraping from JavaScript-enabled pages using Selenium Use AWS-based cloud computing with EC2, S3, Athena, SQS, and SNS to analyze, extract, and store useful insights from crawled pages Use SQL language on PostgreSQL running on Amazon Relational Database Service (RDS) and SQLite using SQLAlchemy Review sci-kit learn, Gensim, and spaCy to perform NLP tasks on scraped web pages such as name entity recognition, topic clustering (Kmeans, Agglomerative Clustering), topic modeling (LDA, NMF, LSI), topic classification (naive Bayes, Gradient Boosting Classifier) and text similarity (cosine distance-based nearest neighbors) Handle web archival file formats and explore Common Crawl open data on AWS Illustrate practical applications for web crawl data by building a similar website tool and a technology

profiler similar to builtwith.com Write scripts to create a backlinks database on a web scale similar to Ahrefs.com, Moz.com, Majestic.com, etc., for search engine optimization (SEO), competitor research, and determining website domain authority and ranking Use web crawl data to build a news sentiment analysis system or alternative financial analysis covering stock market trading signals Write a production-ready crawler in Python using Scrapy framework and deal with practical workarounds for Captchas, IP rotation, and more Who This Book Is For Primary audience: data analysts and scientists with little to no exposure to real-world data processing challenges, secondary: experienced software developers doing web-heavy data processing who need a primer, tertiary: business owners and startup founders who need to know more about implementation to better direct their technical team

PYTHON FOR DATA ANALYSIS

DATA WRANGLING WITH PANDAS, NUMPY, AND IPYTHON

"O'Reilly Media, Inc." **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**

THE HITCHHIKER'S GUIDE TO PYTHON

BEST PRACTICES FOR DEVELOPMENT

"O'Reilly Media, Inc." **The Hitchhiker's Guide to Python takes the journeyman Pythonista to true expertise. More than any other language, Python was created with the philosophy of simplicity and parsimony. Now 25 years old, Python has**

become the primary or secondary language (after SQL) for many business users. With popularity comes diversity—and possibly dilution. This guide, collaboratively written by over a hundred members of the Python community, describes best practices currently used by package and application developers. Unlike other books for this audience, *The Hitchhiker's Guide* is light on reusable code and heavier on design philosophy, directing the reader to excellent sources that already exist.

PYTHON FOR EXCEL

["O'Reilly Media, Inc."](#) While Excel remains ubiquitous in the business world, recent Microsoft feedback forums are full of requests to include Python as an Excel scripting language. In fact, it's the top feature requested. What makes this combination so compelling? In this hands-on guide, Felix Zumstein--creator of xlwings, a popular open source package for automating Excel with Python--shows experienced Excel users how to integrate these two worlds efficiently. Excel has added quite a few new capabilities over the past couple of years, but its automation language, VBA, stopped evolving a long time ago. Many Excel power users have already adopted Python for daily automation tasks. This guide gets you started. Use Python without extensive programming knowledge Get started with modern tools, including Jupyter notebooks and Visual Studio code Use pandas to acquire, clean, and analyze data and replace typical Excel calculations Automate tedious tasks like consolidation of Excel workbooks and production of Excel reports Use xlwings to build interactive Excel tools that use Python as a calculation engine Connect Excel to databases and CSV files and fetch data from the internet using Python code Use Python as a single tool to replace VBA, Power Query, and Power Pivot

WEBSITE SCRAPING WITH PYTHON

USING BEAUTIFULSOUP AND SCRAPY

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. --

DATA WRANGLING WITH PYTHON

TIPS AND TOOLS TO MAKE YOUR LIFE EASIER

"O'Reilly Media, Inc." 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

WEB SCRAPING WITH PYTHON

COLLECTING DATA FROM THE MODERN WEB

"O'Reilly Media, Inc." 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

MINING THE SOCIAL WEB

ANALYZING DATA FROM FACEBOOK, TWITTER, LINKEDIN, AND OTHER SOCIAL MEDIA SITES

["O'Reilly Media, Inc."](#) Provides information on data analysis from a variety of social networking sites, including Facebook, Twitter, and LinkedIn.

GETTING STARTED WITH BEAUTIFUL SOUP

[Packt Publishing Ltd](#) 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 MACHINE LEARNING WITH PYTHON

A GUIDE FOR DATA SCIENTISTS

["O'Reilly Media, Inc."](#) Machine learning has become an integral part of many commercial applications and research projects, but this field is not exclusive to large companies with extensive research teams. If you use Python, even as a beginner, this book will teach you practical ways to build your own machine learning solutions. With all the data available today, machine learning applications are limited only by your imagination. You'll learn the steps necessary to create a successful machine-learning application with Python and the scikit-learn library. Authors Andreas Müller and Sarah Guido focus on the practical aspects of using machine learning algorithms, rather than the math behind them. Familiarity with the NumPy and matplotlib libraries will help you get even more from this book. With this book, you'll learn: Fundamental concepts and applications of machine learning Advantages and shortcomings of widely used machine learning algorithms How to represent data processed by machine learning, including which data aspects to focus on Advanced methods for model evaluation and parameter tuning The concept of pipelines for chaining models and encapsulating your workflow Methods for working with text data, including text-specific processing techniques Suggestions for improving your machine learning and data science skills

PYTHON FOR EVERYBODY

EXPLORING DATA IN PYTHON 3

Python for Everybody is designed to introduce students to programming and software development through the lens of exploring data. You can think of the Python programming language as your tool to solve data problems that are beyond the capability of a spreadsheet. Python is an easy to use and easy to learn programming language that is freely available on Macintosh, Windows, or Linux computers. So once you learn Python you can use it for the rest of your career without needing to purchase any software. This book uses the Python 3 language. The earlier Python 2 version of this book is titled "Python for Informatics: Exploring Information". There are free downloadable electronic copies of this book in various formats and supporting materials for the book at www.pythonlearn.com. The course materials are available to you under a Creative Commons License so you can adapt them to teach your own Python course.

PYTHON BASICS

A PRACTICAL INTRODUCTION TO PYTHON 3

[Real Python \(Realpython.Com\)](http://Realpython.Com) **Make the Leap From Beginner to Intermediate in Python... Python Basics: A Practical Introduction to Python 3 Your Complete Python Curriculum-With Exercises, Interactive Quizzes, and Sample Projects** What should you learn about Python in the beginning to get a strong foundation? With Python Basics, you'll not only cover the core concepts you really need to know, but you'll also learn them in the most efficient order with the help of practical exercises and interactive quizzes. You'll know enough to be dangerous with Python, fast! **Who Should Read This Book** If you're new to Python, you'll get a practical, step-by-step roadmap on developing your foundational skills. You'll be introduced to each concept and language feature in a logical order. Every step in this curriculum is explained and illustrated with short, clear code samples. Our goal with this book is to educate, not to impress or intimidate. If you're familiar with some basic programming concepts, you'll get a clear and well-tested introduction to Python. This is a practical introduction to Python that jumps right into the meat and potatoes without sacrificing substance. If you have prior experience with languages like VBA, PowerShell, R, Perl, C, C++, C#, Java, or Swift the numerous exercises within each chapter will fast-track your progress. If you're a seasoned developer, you'll get a Python 3 crash course that brings you up to speed with modern Python programming. Mix and match the chapters that interest you the most

and use the interactive quizzes and review exercises to check your learning progress as you go along. If you're a self-starter completely new to coding, you'll get practical and motivating examples. You'll begin by installing Python and setting up a coding environment on your computer from scratch, and then continue from there. We'll get you coding right away so that you become competent and knowledgeable enough to solve real-world problems, fast. Develop a passion for programming by solving interesting problems with Python every day! If you're looking to break into a coding or data-science career, you'll pick up the practical foundations with this book. We won't just dump a boat load of theoretical information on you so you can "sink or swim"-instead you'll learn from hands-on, practical examples one step at a time. Each concept is broken down for you so you'll always know what you can do with it in practical terms. If you're interested in teaching others "how to Python," this will be your guidebook. If you're looking to stoke the coding flame in your coworkers, kids, or relatives-use our material to teach them. All the sequencing has been done for you so you'll always know what to cover next and how to explain it. What Python Developers Say About The Book: "Go forth and learn this amazing language using this great book." - Michael Kennedy, Talk Python "The wording is casual, easy to understand, and makes the information flow well." - Thomas Wong, Pythonista "I floundered for a long time trying to teach myself. I slogged through dozens of incomplete online tutorials. I snoozed through hours of boring screencasts. I gave up on countless cruffy books from big-time publishers. And then I found Real Python. The easy-to-follow, step-by-step instructions break the big concepts down into bite-sized chunks written in plain English. The authors never forget their audience and are consistently thorough and detailed in their explanations. I'm up and running now, but I constantly refer to the material for guidance." - Jared Nielsen, Pythonista

GO WEB SCRAPING QUICK START GUIDE

IMPLEMENT THE POWER OF GO TO SCRAPE AND CRAWL DATA FROM THE WEB

Packt Publishing Ltd **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.

PRACTICAL DATA SCIENCE WITH PYTHON

LEARN TOOLS AND TECHNIQUES FROM HANDS-ON EXAMPLES TO EXTRACT INSIGHTS FROM DATA

[Packt Publishing Ltd](#) Learn to effectively manage data and execute data science projects from start to finish using Python

Key Features Understand and utilize data science tools in Python, such as specialized machine learning algorithms and statistical modeling Build a strong data science foundation with the best data science tools available in Python Add value to yourself, your organization, and society by extracting actionable insights from raw data

Book Description Practical Data Science with Python teaches you core data science concepts, with real-world and realistic examples, and strengthens your grip on the basic as well as advanced principles of data preparation and storage, statistics, probability theory, machine learning, and Python programming, helping you build a solid foundation to gain proficiency in data science. The book starts with an overview of basic Python skills and then introduces foundational data science techniques, followed by a thorough explanation of the Python code needed to execute the techniques. You'll understand the code by working through the examples. The code has been broken down into small chunks (a few lines or a function at a time) to enable thorough discussion. As you progress, you will learn how to perform data analysis while exploring the functionalities of key data science Python packages, including pandas, SciPy, and scikit-learn. Finally, the book covers ethics and privacy concerns in data science and suggests resources for improving data science skills, as well as ways to stay up to date on new data science developments. By the end of the book, you should be able to comfortably use Python for basic data science projects and should have the skills to execute the data science process on any data source. What you will learn Use Python data science packages effectively Clean and prepare data for data science work, including feature engineering and feature selection Data modeling, including classic statistical models (such as t-tests), and essential machine learning algorithms, such as random forests and boosted models Evaluate model performance Compare and understand different machine learning methods Interact with Excel spreadsheets through Python Create automated data science reports through Python Get to grips with text analytics techniques

Who this book is for The book is intended for beginners, including students starting or about to start a data science, analytics, or related program (e.g. Bachelor's, Master's, bootcamp, online courses), recent college graduates who want to learn new skills to set them apart in the job market, professionals who want to learn hands-on data science techniques in Python, and those who want to shift their career to data science. The book requires basic familiarity with Python. A "getting started with Python" section has been included to get complete novices up to speed.

WEB SCRAPING WITH PYTHON

[Lulu Press, Inc](#) 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.

EMBEDDED SYSTEMS AND ARTIFICIAL INTELLIGENCE

PROCEEDINGS OF ESAI 2019, FEZ, MOROCCO

[Springer Nature](#) This book gathers selected research papers presented at the First International Conference on Embedded Systems and Artificial Intelligence (ESAI 2019), held at Sidi Mohamed Ben Abdellah University, Fez, Morocco, on 2-3 May 2019. Highlighting the latest innovations in Computer Science, Artificial Intelligence, Information Technologies, and Embedded Systems, the respective papers will encourage and inspire researchers, industry professionals, and policymakers to put these methods into practice.

JAVASCRIPT FOR MODERN WEB DEVELOPMENT

BUILDING A WEB APPLICATION USING HTML, CSS, AND JAVASCRIPT

[BPB Publications](#) **Beginner to Expert in Web development with JavaScript: From HTML to React-Redux KEY FEATURES - Acquire web development skills to build independent applications - Understand the basics of HTML, CSS, JavaScript, React and Redux - Create build beautiful applications using HTML, CSS, JavaScript, React and Redux - Learn how to debug and unit test your applications properly to build good end products - Follow best practices to write good quality code and build performant applications DESCRIPTION** This book will take you on a complete journey of learning web development, starting right with the basics. The book begins with the history of web development and JavaScript, how it has evolved over these years, and how it still keeps growing with new features. Next, you will learn the basic pillars of web development - HTML, CSS, and JavaScript. You will learn about the functional, object-oriented programming and asynchronous behaviour, and how JavaScript provides for these. Empowered with the basics, you will proceed to learn the new features of JavaScript, ES2015, and the latest ES2019. Next, you will apply your learning to build a real application to see how the Web takes shape. At the end, you will also have an introductory section on ReactJS, one of

the modern frameworks for UI development and also develop a simple weather application using React. You will be introduced to Redux as the state container for React applications. This book will conclude with an introductory look at additional topics which can be taken up to become a professional and in building enterprise level applications. **WHAT WILL YOU LEARN** By the end of the book, you will be building real web applications to put your knowledge to practice. This book introduces all the concepts to get started with web application development. To further excel in this field, you really need to practice by building a lot many applications, implementing your own ideas or imitating existing websites. Also remember to practice additional examples provided in the code bundle of the book to master this field. **WHO THIS BOOK IS FOR** This book can be used by people who are completely new to software development and want to get into front-end web development by starting from basics. This book can also be used by JavaScript users for a quick reference to the fundamentals of HTML, CSS, JS, and learn ReactJS with Redux, as well as the new features in JavaScript ES2019. Table of Contents 1. History of JS and how it has revolutionized web development 2. HTML: Creating Web Content 3. CSS: Making content beautiful 4. JavaScript Programming: Making application Interactive 5. Functional programming with JavaScript 6. Object-Oriented JavaScript 7. Asynchronous Programming 8. What's new in ES2019 JavaScript 9. Building an application with JavaScript 10. Debugging JavaScript Applications 11. Unit test automation 12. Build and Deploy an Application 13. JavaScript Best Practices 14. Introduction to React 15. Building an application with React 16. State Management in React applications 17. Debugging, Testing, and Deploying React applications 18. What is next - for becoming a pro?

WEB SCRAPING FOR DATA SCIENCE WITH PYTHON

[Createspace Independent Publishing Platform](#) **Get Started with Web Scraping using Python! Congratulations! By picking up this book, you've set the first steps into the exciting world of web scraping. For those who are not familiar with programming or the deeper workings of the web, web scraping often looks like a black art: the ability to write a program that sets off on its own to explore the Internet and collect data is seen as a magical and exciting ability to possess. In this book, we set out to provide a concise and modern guide to web scraping, using Python as our programming language, without glossing over important details or best practices. In addition, this book is written with a data science audience in mind. We're data scientists ourselves, and have very often found web scraping to be a powerful tool to have in your arsenal, as many data science projects start with the first step of obtaining an appropriate data set, so why not utilize the treasure trove of information the web provides. As such, we've strived to offer a guide that: Is concise and to the point, whilst also being thorough Is geared towards data scientists: we'll show**

you how web scraping fits into the data science workflow Takes a "code first" approach to get you up to speed quickly without too much boilerplate text Is modern by using well-established best practices and Python packages only Shows how to handle the web of today, including JavaScript, cookies, and common web scraping mitigation techniques Includes a thorough managerial and legal discussion regarding web scraping Provides lots of pointers for further reading and learning Includes many larger, fully worked out examples Chapter Overview Nine chapters are included in this book. In Chapter 1, we provide a brief overview on web scraping and real-life use cases and make sure your Python environment is set up correctly. In Chapter 2, you'll learn the basics regarding HTTP, the core piece of technology behind the web, and the requests Python library. In Chapter 3, we start working with HTML and CSS sites, using the BeautifulSoup library. Chapter 4 returns to HTTP, exploring it more detail. Chapter 5 introduces the Selenium library, which you'll use to scrape JavaScript-heavy websites. Chapter 6 explains web crawling in detail. In Chapter 7, an in-depth discussion regarding managerial and legal concerns is provided. Chapter 8 recaps best practices and provides pointers to other tools. Chapter 9 includes fourteen, fully worked out web scraping examples bringing everything you've learned together, and illustrates various interesting data science oriented use cases.

ADVANCED INFORMATION NETWORKING AND APPLICATIONS

PROCEEDINGS OF THE 35TH INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION NETWORKING AND APPLICATIONS (AINA-2021), VOLUME 3

[Springer Nature](#) This book covers the theory, design and applications of computer networks, distributed computing and information systems. Networks of today are going through a rapid evolution, and there are many emerging areas of information networking and their applications. Heterogeneous networking supported by recent technological advances in low-power wireless communications along with silicon integration of various functionalities such as sensing, communications, intelligence and actuations is emerging as a critically important disruptive computer class based on a new platform, networking structure and interface that enable novel, low-cost and high-volume applications. Several of such applications have been difficult to realize because of many interconnections problems. To fulfill their large range of applications, different kinds of networks need to collaborate, and wired and next-generation wireless systems should be integrated in order to develop high-performance computing solutions to problems arising from the complexities of these networks. The aim of the book "Advanced Information Networking and Applications" is to provide latest research findings, innovative research results, methods and development techniques from both theoretical and

practical perspectives related to the emerging areas of information networking and applications.

APPLIED DATA SCIENCE IN TOURISM

INTERDISCIPLINARY APPROACHES, METHODOLOGIES, AND APPLICATIONS

Springer Access to large data sets has led to a paradigm shift in the tourism research landscape. Big data is enabling a new form of knowledge gain, while at the same time shaking the epistemological foundations and requiring new methods and analysis approaches. It allows for interdisciplinary cooperation between computer sciences and social and economic sciences, and complements the traditional research approaches. This book provides a broad basis for the practical application of data science approaches such as machine learning, text mining, social network analysis, and many more, which are essential for interdisciplinary tourism research. Each method is presented in principle, viewed analytically, and its advantages and disadvantages are weighed up and typical fields of application are presented. The correct methodical application is presented with a "how-to" approach, together with code examples, allowing a wider reader base including researchers, practitioners, and students entering the field. The book is a very well-structured introduction to data science - not only in tourism - and its methodological foundations, accompanied by well-chosen practical cases. It underlines an important insight: data are only representations of reality, you need methodological skills and domain background to derive knowledge from them - Hannes Werthner, Vienna University of Technology
Roman Egger has accomplished a difficult but necessary task: make clear how data science can practically support and foster travel and tourism research and applications. The book offers a well-taught collection of chapters giving a comprehensive and deep account of AI and data science for tourism - Francesco Ricci, Free University of Bozen-Bolzano
This well-structured and easy-to-read book provides a comprehensive overview of data science in tourism. It contributes largely to the methodological repository beyond traditional methods. - Rob Law, University of Macau

LEARNING DATA MINING WITH PYTHON

Packt Publishing Ltd The next step in the information age is to gain insights from the deluge of data coming our way. Data mining provides a way of finding this insight, and Python is one of the most popular languages for data mining, providing both power and flexibility in analysis. This book teaches you to design and develop data mining applications using a variety of datasets, starting with basic classification and affinity analysis. Next, we move on to more complex data types including text, images, and graphs. In every chapter, we create models that solve real-world problems.

There is a rich and varied set of libraries available in Python for data mining. This book covers a large number, including the IPython Notebook, pandas, scikit-learn and NLTK. Each chapter of this book introduces you to new algorithms and techniques. By the end of the book, you will gain a large insight into using Python for data mining, with a good knowledge and understanding of the algorithms and implementations.

PYTHON DATA SCIENCE HANDBOOK

ESSENTIAL TOOLS FOR WORKING WITH DATA

"O'Reilly Media, Inc." 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

ARTIFICIAL INTELLIGENCE WITH PYTHON

Packt Publishing Ltd Build real-world Artificial Intelligence applications with Python to intelligently interact with the world around you About This Book Step into the amazing world of intelligent apps using this comprehensive guide Enter the world of Artificial Intelligence, explore it, and create your own applications Work through simple yet insightful examples that will get you up and running with Artificial Intelligence in no time Who This Book Is For This book is for Python developers who want to build real-world Artificial Intelligence applications. This book is friendly to Python beginners, but being familiar with Python would be useful to play around with the code. It will also be useful for experienced Python programmers who are looking to use Artificial Intelligence techniques in their existing technology

stacks. What You Will Learn Realize different classification and regression techniques Understand the concept of clustering and how to use it to automatically segment data See how to build an intelligent recommender system Understand logic programming and how to use it Build automatic speech recognition systems Understand the basics of heuristic search and genetic programming Develop games using Artificial Intelligence Learn how reinforcement learning works Discover how to build intelligent applications centered on images, text, and time series data See how to use deep learning algorithms and build applications based on it In Detail Artificial Intelligence is becoming increasingly relevant in the modern world where everything is driven by technology and data. It is used extensively across many fields such as search engines, image recognition, robotics, finance, and so on. We will explore various real-world scenarios in this book and you'll learn about various algorithms that can be used to build Artificial Intelligence applications. During the course of this book, you will find out how to make informed decisions about what algorithms to use in a given context. Starting from the basics of Artificial Intelligence, you will learn how to develop various building blocks using different data mining techniques. You will see how to implement different algorithms to get the best possible results, and will understand how to apply them to real-world scenarios. If you want to add an intelligence layer to any application that's based on images, text, stock market, or some other form of data, this exciting book on Artificial Intelligence will definitely be your guide! Style and approach This highly practical book will show you how to implement Artificial Intelligence. The book provides multiple examples enabling you to create smart applications to meet the needs of your organization. In every chapter, we explain an algorithm, implement it, and then build a smart application.

ENCYCLOPEDIA OF BIG DATA

Springer This encyclopedia will be an essential resource for our times, reflecting the fact that we currently are living in an expanding data-driven world. Technological advancements and other related trends are contributing to the production of an astoundingly large and exponentially increasing collection of data and information, referred to in popular vernacular as “Big Data.” Social media and crowdsourcing platforms and various applications — “apps” — are producing reams of information from the instantaneous transactions and input of millions and millions of people around the globe. The Internet-of-Things (IoT), which is expected to comprise tens of billions of objects by the end of this decade, is actively sensing real-time intelligence on nearly every aspect of our lives and environment. The Global Positioning System (GPS) and other location-aware technologies are producing data that is specific down to particular latitude and longitude coordinates and seconds of the day. Large-scale instruments, such as the Large Hadron Collider

(LHC), are collecting massive amounts of data on our planet and even distant corners of the visible universe. Digitization is being used to convert large collections of documents from print to digital format, giving rise to large archives of unstructured data. Innovations in technology, in the areas of Cloud and molecular computing, Artificial Intelligence/Machine Learning, and Natural Language Processing (NLP), to name only a few, also are greatly expanding our capacity to store, manage, and process Big Data. In this context, the Encyclopedia of Big Data is being offered in recognition of a world that is rapidly moving from gigabytes to terabytes to petabytes and beyond. While indeed large data sets have long been around and in use in a variety of fields, the era of Big Data in which we now live departs from the past in a number of key respects and with this departure comes a fresh set of challenges and opportunities that cut across and affect multiple sectors and disciplines, and the public at large. With expanded analytical capacities at hand, Big Data is now being used for scientific inquiry and experimentation in nearly every (if not all) disciplines, from the social sciences to the humanities to the natural sciences, and more. Moreover, the use of Big Data has been well established beyond the Ivory Tower. In today's economy, businesses simply cannot be competitive without engaging Big Data in one way or another in support of operations, management, planning, or simply basic hiring decisions. In all levels of government, Big Data is being used to engage citizens and to guide policy making in pursuit of the interests of the public and society in general. Moreover, the changing nature of Big Data also raises new issues and concerns related to, for example, privacy, liability, security, access, and even the veracity of the data itself. Given the complex issues attending Big Data, there is a real need for a reference book that covers the subject from a multi-disciplinary, cross-sectoral, comprehensive, and international perspective. The Encyclopedia of Big Data will address this need and will be the first of such reference books to do so. Featuring some 500 entries, from "Access" to "Zillow," the Encyclopedia will serve as a fundamental resource for researchers and students, for decision makers and leaders, and for business analysts and purveyors. Developed for those in academia, industry, and government, and others with a general interest in Big Data, the encyclopedia will be aimed especially at those involved in its collection, analysis, and use. Ultimately, the Encyclopedia of Big Data will provide a common platform and language covering the breadth and depth of the topic for different segments, sectors, and disciplines.

WE FEEL FINE

AN ALMANAC OF HUMAN EMOTION

Simon and Schuster **The creators of the award-winning website of the same name draw on science, art and blogs to**

reveal what people throughout the world are actually feeling, in a volume that summarizes a database compilation of several million search results analyzed by weather, location and other factors.

INTRODUCING PYTHON

MODERN COMPUTING IN SIMPLE PACKAGES

"O'Reilly Media, Inc." 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.

SELECTING A STORE LOCATION

RESEARCH EXPOSED

HOW EMPIRICAL SOCIAL SCIENCE GETS DONE IN THE DIGITAL AGE

Columbia University Press The era of digital communication provides endless opportunities for the collection and analysis of social data in novel ways. It also presents new and unanticipated challenges, as researchers are often inventing elements of their methodologies on the fly or studying a phenomenon or media platform for the first time. *Research Exposed* offers in-depth, behind-the-scenes accounts of doing empirical social science in this new paradigm. Through firsthand descriptions of innovative research projects, it shares lessons learned from over a dozen scholars' cutting-edge work. These candid accounts describe what can go wrong when pioneering new genres of research and how such difficulties can be overcome, giving both big-picture reflection and actionable advice. The chapters discuss a variety of methods, ranging from the completely novel to the use of more traditional approaches in the digital context, and cover research questions relevant to a range of disciplines, including sociology, political science, communication, information studies, and anthropology. By focusing attention on the concrete details seldom discussed in final project write-ups or traditional research guides, *Research Exposed* helps equip junior and senior scholars alike with essential information

that is all too often left with no outlet for sharing. It offers important insights into how empirical social science research can be both innovative and rigorous when dealing with the opportunities and challenges presented by digital media.

NATURAL LANGUAGE PROCESSING WITH PYTHON

ANALYZING TEXT WITH THE NATURAL LANGUAGE TOOLKIT

"O'Reilly Media, Inc." **This book offers a highly accessible introduction to natural language processing, the field that supports a variety of language technologies, from predictive text and email filtering to automatic summarization and translation. With it, you'll learn how to write Python programs that work with large collections of unstructured text. You'll access richly annotated datasets using a comprehensive range of linguistic data structures, and you'll understand the main algorithms for analyzing the content and structure of written communication. Packed with examples and exercises, Natural Language Processing with Python will help you: Extract information from unstructured text, either to guess the topic or identify "named entities" Analyze linguistic structure in text, including parsing and semantic analysis Access popular linguistic databases, including WordNet and treebanks Integrate techniques drawn from fields as diverse as linguistics and artificial intelligence This book will help you gain practical skills in natural language processing using the Python programming language and the Natural Language Toolkit (NLTK) open source library. If you're interested in developing web applications, analyzing multilingual news sources, or documenting endangered languages -- or if you're simply curious to have a programmer's perspective on how human language works -- you'll find Natural Language Processing with Python both fascinating and immensely useful.**