Python For Everybody Exploring Data In Python 3

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Big Data Analysis with Python - Ivan Marin 2019-04-08
Get to grips with processing large volumes of data and presenting it as engaging, interactive insights using Spark and Python. Key Features Get a hands-on, fast-paced introduction to the Python data science stack Explore ways to create useful metrics and statistics from large datasets Create detailed analysis reports with real-world data Book Description Processing big data in real time is challenging due to scalability, information inconsistency, and fault tolerance. Big Data Analysis with Python teaches you how to use tools that can control this data avalanche for you. With this book, you'll learn practical techniques to aggregate data into useful dimensions for posterior analysis, extract statistical measurements, and transform datasets into features for other systems. The book begins with an introduction to data manipulation in Python using pandas. You'll then get familiar with statistical analysis and plotting techniques. With multiple hands-on activities in store, you'll be able to analyze data that is distributed on several computers by using Dask. As you progress, you'll study how to aggregate data for plots when the entire data cannot be accommodated in memory. You'll also explore Hadoop (HDFS and YARN), which will help you tackle larger datasets. The book also covers Spark and explains how it interacts with other tools. By the end of this book, you'll be able to bootstrap your own Python environment, process large files, and manipulate data to generate statistics, metrics, and graphs. What you will learn Use Python to read and transform data into different formats Generate basic statistics and metrics using data on disk Work with computing tasks distributed over a cluster Convert data from various sources into storage or querying formats Prepare data for statistical analysis, visualization, and machine learning Present data in the form of effective visuals Who this book is for Big Data Analysis with Python is designed for Python developers, data analysts, and data scientists who want to get hands-on with methods to control data and transform it into impactful insights. Basic knowledge of statistical measurements and relational databases will help you to understand various concepts explained in this book.

Problem Solving with Algorithms and Data Structures Using Python - Bradley N. Miller 2011
THIS TEXTBOOK is about computer science. It is also about Python. However, there is much more. The study of algorithms and data structures is central to understanding what computer science is all about. Learning computer science is not unlike learning any other type of difficult subject matter. The only way to be successful is through deliberate and incremental exposure to the fundamental ideas. A beginning computer scientist needs practice so that there is a thorough understanding before continuing on to the more complex parts of the curriculum. In addition, a beginner needs to be given the opportunity to be successful and gain confidence. This textbook is designed to serve as a text for a first course on data structures and algorithms, typically taught as the second course in the computer science curriculum. Even though the second course is considered more advanced than the first course, this book assumes you are beginners at this level. You may still be struggling with some of the basic ideas and skills from a first computer science course and yet be ready to further explore the discipline and continue to practice problem solving. We cover abstract data types and data structures, writing algorithms, and solving problems. We look at a number of data structures and solve classic problems that arise. The tools and techniques that you learn here will be applied over and over as you continue your study of computer science.

Text Processing in Python - David Mertz 2003
bull; Demonstrates how Python is the perfect language for text-processing functions. bull; Provides practical pointers and tips that emphasize efficient, flexible, and maintainable approaches to text-processing challenges. bull; Helps programmers develop solutions for dealing with the increasing amounts of data with which we are all inundated.

Python for Everybody - Charles R. Severance 2016-04-09
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.

Practical Machine Learning with Python - Dipanjan Sarkar 2017-12-20
Master the essential skills needed to recognize and solve complex problems with machine learning and deep learning. Using real-world examples that leverage the popular Python machine learning ecosystem, this book is your perfect companion for learning the art and science of machine learning to become a successful practitioner. The concepts, techniques, tools, frameworks, and methodologies used in this book will teach you how to think, design, build, and execute machine learning systems and projects successfully. Practical Machine Learning with Python follows a structured and comprehensive three-tiered approach packed with hands-on examples and code. Part 1 focuses on understanding machine learning concepts and tools. This includes machine learning basics with a broad overview of algorithms, techniques, concepts and applications, followed by a tour of the entire Python machine learning ecosystem. Brief guides for useful machine learning tools, libraries and frameworks are also covered. Part 2 details standard machine learning pipelines, with an emphasis on data processing analysis, feature engineering, and modeling. You will learn how to process, wrangle, summarize and visualize data in its various forms. Feature engineering and selection methodologies will be covered in detail with real-world datasets followed by model building, tuning, interpretation and deployment. Part 3 explores multiple real-world case studies spanning diverse domains and industries like retail, transportation, movies, music, marketing, computer vision and finance. For each case study, you will learn the application of various machine learning techniques and methods. The hands-on examples will help you become familiar with state-of-the-art machine learning tools and techniques and understand what algorithms are best suited for any problem. Practical Machine Learning with Python will empower you to start solving your own problems with machine learning today! What You'll Learn Execute end-to-end machine learning projects and systems Implement hands-on examples with industry standard, open source, robust machine learning tools and frameworks Review case studies depicting applications of machine learning and deep learning on diverse domains and industries Apply a wide range of machine learning models including regression, classification, and clustering. Understand and

apply the latest models and methodologies from deep learning including CNNs, RNNs, LSTMs and transfer learning. Who This Book Is For IT professionals, analysts, developers, data scientists, engineers, graduate students

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 for Data Analysis: Master the Basics of Data Analysis in Python Using Numpy, Pandas and Ipython - Samuel Burns 2019-03-22
You want to learn Python for data analysis using NumPy, Pandas, and IPython, and you don't know how to start? You don't need a big boring and expensive textbook. This book is the best one for everyone.Get your copy Now!!Why this book? Here are the reasons:The author has explored everything about python for data analysis using pandas, NumPy, Ipython and Matplotlib libraries from the basics. A simple language has been used. Many examples have been given, both theoretically and programmatically. Screenshots showing program outputs have been added. The book is written chronologically, in a step-by-step manner. Book Objectives: The Aims and Objectives of the Book: To help you understand why you should choose Python for data analysis tasks. To help you know the various data analysis libraries supported by Python and how to use them. To help you know how to analyze your business data and draw meaningful insights for effective decision making. To equip you with data analysis skills using Python programming language. To help you know where data analysis is applied today and how to use it in your everyday life. Who is this Book is for? : Here are the target readers for this book: Anybody who is a complete beginner to data analysis with Python or data analysis in general. Anybody who wants to advance their data analysis skills with Python programming language. Anybody who wants to know how to use data analysis for the benefit of their business or brand. Professionals in data science, computer programming, computer scientist. Professors, lecturers or tutors who are looking to find better ways to explain python for data analysis to their students in the simplest and easiest way. Students and academicians, especially those focusing on python programming, computer science,neural networks, machine learning, and deep learning. What do you need for this Book? : You are required to have installed the following on your computer: Python 3.X Numpy Pandas Matplotlib The Author guides you on how to install and configure the rest of the Python libraries that are required for data analysis. What is inside the book? : Why Python for Data Analysis? Exploring the Libraries Installation and Setup Using IPython Numpy Arrays and Vectorized Computation Pandas Library Data Wrangling Data Visualization Data Aggregation Working with Time Series Data Applications of Data Analysis Today The content of this book is all about data analysis with Python programming language using NumPy, Pandas, and IPython. It has been grouped into chapters, with each chapter exploring a different aspect of data analysis. The author has provided Python codes for doing different data analysis tasks. All these codes have been tested to ensure they are working correctly. Corresponding explanations have also been provided alongside each piece of code to help the reader understand the meaning of the various lines of the code. In addition to this, screenshots showing the output that each code should return have been given. The author has used a simple language to make it easy even for beginners to understand. The author begins by exploring the basic to the complex tasks in data analysis.

Hands-On Data Preprocessing in Python - Roy Jafari 2022-01-21
Get your raw data cleaned up and ready for processing to design better data analytic solutions Key

FeaturesDevelop the skills to perform data cleaning, data integration, data reduction, and data transformationMake the most of your raw data with powerful data transformation and massaging techniquesPerform thorough data cleaning, including dealing with missing values and outliersBook Description Hands-On Data Preprocessing is a primer on the best data cleaning and preprocessing techniques, written by an expert who's developed college-level courses on data preprocessing and related subjects. With this book, you'll be equipped with the optimum data preprocessing techniques from multiple perspectives, ensuring that you get the best possible insights from your data. You'll learn about different technical and analytical aspects of data preprocessing – data collection, data cleaning, data integration, data reduction, and data transformation – and get to grips with implementing them using the open source Python programming environment. The hands-on examples and easy-to-follow chapters will help you gain a comprehensive articulation of data preprocessing, its whys and hows, and identify opportunities where data analytics could lead to more effective decision making. As you progress through the chapters, you'll also understand the role of data management systems and technologies for effective analytics and how to use APIs to pull data. By the end of this Python data preprocessing book, you'll be able to use Python to read, manipulate, and analyze data; perform data cleaning, integration, reduction, and transformation techniques, and handle outliers or missing values to effectively prepare data for analytic tools. What you will learnUse Python to perform analytics functions on your dataUnderstand the role of databases and how to effectively pull data from databasesPerform data preprocessing steps defined by your analytics goalsRecognize and resolve data integration challengesIdentify the need for data reduction and execute itDetect opportunities to improve analytics with data transformationWho this book is for This book is for junior and senior data analysts, business intelligence professionals, engineering undergraduates, and data enthusiasts looking to perform preprocessing and data cleaning on large amounts of data. You don't need any prior experience with data preprocessing to get started with this book. However, basic programming skills, such as working with variables, conditionals, and loops, along with beginner-level knowledge of Python and simple analytics experience, are a prerequisite.

Dive Into Python - Mark Pilgrim 2004-07-12
* Quick start to learning python—very example oriented approach * Book has its own Web site established by the author: http://diveintopython.org/ Author is well known in the Open Source community and the book has a unique quick approach to learning an object oriented language.

Python Pocket Reference - Mark Lutz 2014-01-22
Updated for both Python 3.4 and 2.7, this convenient pocket guide is the perfect on-the-job quick reference. You'll find concise, need-to-know information on Python types and statements, special method names, built-in functions and exceptions, commonly used standard library modules, and other prominent Python tools. The handy index lets you pinpoint exactly what you need. Written by Mark Lutz—widely recognized as the world's leading Python trainer—Python Pocket Reference is an ideal companion to O'Reilly's classic Python tutorials, Learning Python and Programming Python, also written by Mark. This fifth edition covers: Built-in object types, including numbers, lists, dictionaries, and more Statements and syntax for creating and processing objects Functions and modules for structuring and reusing code Python's object-oriented programming tools Built-in functions, exceptions, and attributes Special operator overloading methods Widely used standard library modules and extensions Command-line options and development tools Python idioms and hints The Python SQL Database API

Non-Programmers Tutorial For Python 2 and 3 - Josh Cogliati 2018-04-19
This book is a tutorial for the Python 2 and 3 programming language designed for someone with no programming experience. All the examples work in Python 2.6 and Python 3.

Test-Driven Development with Python - Harry Percival 2017-08-02
By taking you through the development of a real web application from beginning to end, the second edition of this hands-on guide demonstrates the practical advantages of test-driven development (TDD) with Python. You'll learn how to write and run tests before building each part of your app, and then develop the minimum amount of code required to pass those tests. The result? Clean code that works. In the process, you'll learn the basics of Django, Selenium, Git, jQuery, and Mock, along with current web development techniques. If you're ready to take your Python skills to the next level, this book—updated for Python

3.6—clearly demonstrates how TDD encourages simple designs and inspires confidence. Dive into the TDD workflow, including the unit test/code cycle and refactoring Use unit tests for classes and functions, and functional tests for user interactions within the browser Learn when and how to use mock objects, and the pros and cons of isolated vs. integrated tests Test and automate your deployments with a staging server Apply tests to the third-party plugins you integrate into your site Run tests automatically by using a Continuous Integration environment Use TDD to build a REST API with a front-end Ajax interface

Python Cookbook - David Beazley 2013-05-10
If you need help writing programs in Python 3, or want to update older Python 2 code, this book is just the ticket. Packed with practical recipes written and tested with Python 3.3, this unique cookbook is for experienced Python programmers who want to focus on modern tools and idioms. Inside, youâ??ll find complete recipes for more than a dozen topics, covering the core Python language as well as tasks common to a wide variety of application domains. Each recipe contains code samples you can use in your projects right away, along with a discussion about how and why the solution works. Topics include: Data Structures and Algorithms Strings and Text Numbers, Dates, and Times Iterators and Generators Files and I/O Data Encoding and Processing Functions Classes and Objects Metaprogramming Modules and Packages Network and Web Programming Concurrency Utility Scripting and System Administration Testing, Debugging, and Exceptions C Extensions

Pandas for Everyone - Daniel Y. Chen 2017-12-15
The Hands-On, Example-Rich Introduction to Pandas Data Analysis in Python Today, analysts must manage data characterized by extraordinary variety, velocity, and volume. Using the open source Pandas library, you can use Python to rapidly automate and perform virtually any data analysis task, no matter how large or complex. Pandas can help you ensure the veracity of your data, visualize it for effective decision-making, and reliably reproduce analyses across multiple datasets. Pandas for Everyone brings together practical knowledge and insight for solving real problems with Pandas, even if you're new to Python data analysis. Daniel Y. Chen introduces key concepts through simple but practical examples, incrementally building on them to solve more difficult, real-world problems. Chen gives you a jumpstart on using Pandas with a realistic dataset and covers combining datasets, handling missing data, and structuring datasets for easier analysis and visualization. He demonstrates powerful data cleaning techniques, from basic string manipulation to applying functions simultaneously across dataframes. Once your data is ready, Chen guides you through fitting models for prediction, clustering, inference, and exploration. He provides tips on performance and scalability, and introduces you to the wider Python data analysis ecosystem. Work with DataFrames and Series, and import or export data Create plots with matplotlib, seaborn, and pandas Combine datasets and handle missing data Reshape, tidy, and clean datasets so they're easier to work with Convert data types and manipulate text strings Apply functions to scale data manipulations Aggregate, transform, and filter large datasets with groupby Leverage Pandas' advanced date and time capabilities Fit linear models using statsmodels and scikit-learn libraries Use generalized linear modeling to fit models with different response variables Compare multiple models to select the "best" Regularize to overcome overfitting and improve performance Use clustering in unsupervised machine learning

Python for Informatics - Charles Severance 2013-09-02
This book is designed to introduce students to programming and computational thinking through the lens of exploring data. You can think of Python as your tool to solve problems that are far beyond the capability of a spreadsheet. It is an easy-to-use and easy-to learn programming language that is freely available on Windows, Macintosh , and Linux computers. There are free downloadable copies of this book in various electronic formats and a self-paced free online course where you can explore the course materials. All the supporting materials for the book are available under open and remixable licenses. This book is designed to teach people to program even if they have no prior experience.

Learning Python - Mark Lutz 2013-06-12
Get a comprehensive, in-depth introduction to the core Python language with this hands-on book. Based on author Mark Lutz's popular training course, this updated fifth edition will help you quickly write efficient, high-quality code with Python. It's an ideal way to begin, whether you're new to programming or a professional developer versed in other languages. Complete with quizzes, exercises, and helpful

illustrations, this easy-to-follow, self-paced tutorial gets you started with both Python 2.7 and 3.3— the latest releases in the 3.X and 2.X lines—plus all other releases in common use today. You'll also learn some advanced language features that recently have become more common in Python code. Explore Python's major built-in object types such as numbers, lists, and dictionaries Create and process objects with Python statements, and learn Python's general syntax model Use functions to avoid code redundancy and package code for reuse Organize statements, functions, and other tools into larger components with modules Dive into classes: Python's object-oriented programming tool for structuring code Write large programs with Python's exception-handling model and development tools Learn advanced Python tools, including decorators, descriptors, metaclasses, and Unicode processing

Think Java - Allen B. Downey 2016-05-06
Currently used at many colleges, universities, and high schools, this hands-on introduction to computer science is ideal for people with little or no programming experience. The goal of this concise book is not just to teach you Java, but to help you think like a computer scientist. You'll learn how to program—a useful skill by itself—but you'll also discover how to use programming as a means to an end. Authors Allen Downey and Chris Mayfield start with the most basic concepts and gradually move into topics that are more complex, such as recursion and object-oriented programming. Each brief chapter covers the material for one week of a college course and includes exercises to help you practice what you've learned. Learn one concept at a time: tackle complex topics in a series of small steps with examples Understand how to formulate problems, think creatively about solutions, and write programs clearly and accurately Determine which development techniques work best for you, and practice the important skill of debugging Learn relationships among input and output, decisions and loops, classes and methods, strings and arrays Work on exercises involving word games, graphics, puzzles, and playing cards

Python Data Science - Computer Programming Academy 2020-02-10
Would you like to learn to use Python extracting meaningful insight from data to grow your business but you reckon it will be too complex? Or perhaps you want to know how to analyze data to solve simple domestic issues but you don't know how to do it? Here's the deal... As a beginner you will be probably afraid that programming is difficult... Learning data analysis and data mining can take months, and the possibility to give up before mastering them could be high. So, if you have a project to develop you could think on hiring a professional analyst to shorten the time. This may seem like a good solution but it is certainly very expensive and if the analyst you chose doesn't perform a proper job you still have to pay for it. The best solution is a complete programming manual with hands-on projects and practical exercises. Computer Programming Academy structured this guide as a course with seven chapters for seven days and studied special exercises for each section to apply what you learned step-by-step. This protocol, tested on both total beginners and people who were already familiar with coding, takes advantage of the principle of diving, concentrating learning in one week. The result of this method has been one for both categories of students: the content of the course was learned faster and remembered longer respect the average. Inside this book, you will go through a first section in which fundamental and basic notions of data science are discussed, to get to the next chapters crafted specifically to help you learn all the advance data analysis concepts required to produce valuable outcomes from a large volume of data. In the detail, you will learn: The importance of data science technologies in our daily lives What are the most common mistakes to avoid when you start dealing with Python for data science The 5 stages of the data science lifecycle at the basis of most used applications 3 important actions required to gain insights from big data What are the advantages of the data mining process in resolving real world problems The data analysis tools that will make your life easier 3 key frameworks that you have to know to transform unstructured and unorganized data in significant insight How to download and use the main Python based data analysis libraries A simple method to implement predictive analytics to resolve a business issue in less than 7 days A proven strategy to develop predictive models to analyze customers' behavior Exercises and quizzes at the end of every chapter to review immediately what you've learned Extra content that you will appreciate as curious technology enthusiast Why is this book different for? Most of the books on the market only take a brief look into data science, showing some of the topics but never going deep concretely. The best way to learn data analysis and data mining is by doing and with this manual you will work through applicable projects in order to

solidify your knowledge and obtain a huge sense of achievement. This is what this guide offers to you, even if you're completely new to programming in 2020 or you are looking to widen your skills as programmer. Would You Like To Know More? Scroll up to the top of the page and select the BUY NOW button. The key to become a Python master is one click away!

Machine Learning with Python for Everyone - Mark Fenner 2019-07-30
The Complete Beginner's Guide to Understanding and Building Machine Learning Systems with Python Machine Learning with Python for Everyone will help you master the processes, patterns, and strategies you need to build effective learning systems, even if you're an absolute beginner. If you can write some Python code, this book is for you, no matter how little college-level math you know. Principal instructor Mark E. Fenner relies on plain-English stories, pictures, and Python examples to communicate the ideas of machine learning. Mark begins by discussing machine learning and what it can do; introducing key mathematical and computational topics in an approachable manner; and walking you through the first steps in building, training, and evaluating learning systems. Step by step, you'll fill out the components of a practical learning system, broaden your toolbox, and explore some of the field's most sophisticated and exciting techniques. Whether you're a student, analyst, scientist, or hobbyist, this guide's insights will be applicable to every learning system you ever build or use. Understand machine learning algorithms, models, and core machine learning concepts Classify examples with classifiers, and quantify examples with regressors Realistically assess performance of machine learning systems Use feature engineering to smooth rough data into useful forms Chain multiple components into one system and tune its performance Apply machine learning techniques to images and text Connect the core concepts to neural networks and graphical models Leverage the Python scikit-learn library and other powerful tools Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

How to Code in Python 3 - Lisa Tagliaferri 2018
This educational book introduces emerging developers to computer programming through the Python software development language, and serves as a reference book for experienced developers looking to learn a new language or re-familiarize themselves with computational logic and syntax.

Python - Andy Vickler 2021-07-30
Are you thinking about learning how to use the Python programming language? Thinking about getting started on a programming career? Are you thinking about learning data science? This book is for you!

Practices of the Python Pro - Dane Hillard 2019-12-22
Summary Professional developers know the many benefits of writing application code that's clean, well-organized, and easy to maintain. By learning and following established patterns and best practices, you can take your code and your career to a new level. With Practices of the Python Pro, you'll learn to design professional-level, clean, easily maintainable software at scale using the incredibly popular programming language, Python. You'll find easy-to-grok examples that use pseudocode and Python to introduce software development best practices, along with dozens of instantly useful techniques that will help you code like a pro. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Professional-quality code does more than just run without bugs. It's clean, readable, and easy to maintain. To step up from a capable Python coder to a professional developer, you need to learn industry standards for coding style, application design, and development process. That's where this book is indispensable. About the book Practices of the Python Pro teaches you to design and write professional-quality software that's understandable, maintainable, and extensible. Dane Hillard is a Python pro who has helped many dozens of developers make this step, and he knows what it takes. With helpful examples and exercises, he teaches you when, why, and how to modularize your code, how to improve quality by reducing complexity, and much more. Embrace these core principles, and your code will become easier for you and others to read, maintain, and reuse. What's inside Organizing large Python projects Achieving the right levels of abstraction Writing clean, reusable code Inheritance and composition Considerations for testing and performance About the reader For readers familiar with the basics of Python, or another OO language. About the author Dane Hillard has spent the majority of his development career using Python to build web applications. Table of Contents: PART 1 WHY IT ALL MATTERS 1 ¦ The

bigger picture PART 2 FOUNDATIONS OF DESIGN 2 ¦ Separation of concerns 3 ¦ Abstraction and encapsulation 4 ¦ Designing for high performance 5 ¦ Testing your software PART 3 NAILING DOWN LARGE SYSTEMS 6 ¦ Separation of concerns in practice 7 ¦ Extensibility and flexibility 8 ¦ The rules (and exceptions) of inheritance 9 ¦ Keeping things lightweight 10 ¦ Achieving loose coupling PART 4 WHAT'S NEXT? 11 ¦ Onward and upward

Think Python - Allen B. Downey 2015-12-02
If you want to learn how to program, working with Python is an excellent way to start. This hands-on guide takes you through the language a step at a time, beginning with basic programming concepts before moving on to functions, recursion, data structures, and object-oriented design. This second edition and its supporting code have been updated for Python 3. Through exercises in each chapter, you'll try out programming concepts as you learn them. Think Python is ideal for students at the high school or college level, as well as self-learners, home-schooled students, and professionals who need to learn programming basics. Beginners just getting their feet wet will learn how to start with Python in a browser. Start with the basics, including language syntax and semantics Get a clear definition of each programming concept Learn about values, variables, statements, functions, and data structures in a logical progression Discover how to work with files and databases Understand objects, methods, and object-oriented programming Use debugging techniques to fix syntax, runtime, and semantic errors Explore interface design, data structures, and GUI-based programs through case studies

Practical Data Science with Python - Nathan George 2021-09-30
Learn to effectively manage data and execute data science projects from start to finish using Python Key FeaturesUnderstand and utilize data science tools in Python, such as specialized machine learning algorithms and statistical modelingBuild a strong data science foundation with the best data science tools available in PythonAdd value to yourself, your organization, and society by extracting actionable insights from raw dataBook 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 learnUse Python data science packages effectivelyClean and prepare data for data science work, including feature engineering and feature selectionData modeling, including classic statistical models (such as t-tests), and essential machine learning algorithms, such as random forests and boosted modelsEvaluate model performanceCompare and understand different machine learning methodsInteract with Excel spreadsheets through PythonCreate automated data science reports through PythonGet to grips with text analytics techniquesWho 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.

Introduction to Networking - Charles Severance 2015-05-29
This book demystifies the amazing architecture and protocols of computers as they communicate over the Internet. While very complex, the Internet operates on a few relatively simple concepts that anyone can understand. Networks and networked applications are embedded in our lives. Understanding how these

technologies work is invaluable. This book was written for everyone - no technical knowledge is required!While this book is not specifically about the Network+ or CCNA certifications, it as a way to give students interested in these certifications a starting point.

Head First Python - Paul Barry 2016-11-21

Want to learn the Python language without slogging your way through how-to manuals? With Head First Python, you'll quickly grasp Python's fundamentals, working with the built-in data structures and functions. Then you'll move on to building your very own webapp, exploring database management, exception handling, and data wrangling. If you're intrigued by what you can do with context managers, decorators, comprehensions, and generators, it's all here. This second edition is a complete learning experience that will help you become a bonafide Python programmer in no time. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Pythonuses a visually rich format to engage your mind, rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multi-sensory learning experience is designed for the way your brain really works.

Python Programming for Kids - Simon Weber 2019-06-23

Did you always want to learn computer programming, but you had to give up because you thought it was difficult? Did you ever believe programming could be fun? If the answer is yes to those questions, you have come to the right place. This book will change the way you think about programming. This book is NOT JUST FOR KIDS. Many adults benefit from a beginner's level, especially with programming. Python is an expressive and powerful language that is very easy to learn and is fun to work with. Most books that will teach you about programming with Python are boring and dull; that's why nobody has fun while learning the language. Luckily, this book will introduce you to the world of programming. It covers the basics of programming with Python and uses examples that feature wizards, monsters, ravens, and much more. You will learn new terms and understand the nitty-gritty of coding as well. Many chapters in the book come with some exercises that you can perform to improve your programming skills and deepen your understanding of the language. You will also learn how to draw using Python in the end. Furthermore, the book will help you: - Work with data structures like lists, tuples, and maps - Organize the statements in the code using functions and modules - Draw different patterns and shapes using the Turtle module - Create some games and applications using Python Why should only adults have all the fun? Grab a copy of the book and enter the world of programming!

Python for Kids - Jason Briggs 2012-12-12

Python is a powerful, expressive programming language that's easy to learn and fun to use! But books about learning to program in Python can be kind of dull, gray, and boring, and that's no fun for anyone. Python for Kids brings Python to life and brings you (and your parents) into the world of programming. The ever-patient Jason R. Briggs will guide you through the basics as you experiment with unique (and often hilarious) example programs that feature ravenous monsters, secret agents, thieving ravens, and more. New terms are defined; code is colored, dissected, and explained; and quirky, full-color illustrations keep things on the lighter side. Chapters end with programming puzzles designed to stretch your brain and strengthen your understanding. By the end of the book you'll have programmed two complete games: a clone of the famous Pong and "Mr. Stick Man Races for the Exit"—a platform game with jumps, animation, and much more. As you strike out on your programming adventure, you'll learn how to: –Use fundamental data structures like lists, tuples, and maps –Organize and reuse your code with functions and modules –Use control structures like loops and conditional statements –Draw shapes and patterns with Python's turtle module –Create games, animations, and other graphical wonders with tkinter Why should serious adults have all the fun? Python for Kids is your ticket into the amazing world of computer programming. For kids ages 10+ (and their parents) The code in this book runs on almost anything: Windows, Mac, Linux, even an OLPC laptop or Raspberry Pi!

Python Programming - Reema Thareja 2019

Python Programming is designed as a textbook to fulfil the requirements of the first-level course in Python programming. It is suited for undergraduate degree students of computer science engineering, IT as well as computer applications. This book will enable students to apply the Python programming concepts in solving real-world problems. The book begins with an introduction to computers, problem solving approaches, programming languages, object oriented programming, and Python programming. Separate chapters dealing with the important constructs of Python language such as control statements, functions, strings, files, data structures, classes and objects, inheritance, operator overloading, and exceptions are provided in the book.

Python for Data Analytics - Alex Root 2019-09-06

Learn data analysis using Python with this easy to follow beginners guide. It covers all aspects of processing, manipulation, crunching, and cleaning data using Python programming language. It has been designed to prepare you for: analyzing data creating relevant data visualizations carrying out statistical analyses for large data estimating the upcoming future trends by using current data and lots more! This book will help you learn the various parts of Python programming language, its libraries, and scientific computation using Python. Learn to practically solve extensive sets of problems related to data analysis. Python is on par with other programming languages like MATLAB, Stata, R, SAS, and others when it comes to data analysis and data visualization. Python's rich set of libraries (mainly Pandas) has grown rapidly in recent years and is considered one of the best among its competitors for tasks related to data manipulation. When combined with Python's own internal solidity, as a general purpose programming language, we can say that it is an excellent choice to build data centric web applications. You will learn how to use the essential Python libraries required for data analysis like NumPy, Pandas, matplotlib, IPython, and SciPy. Each one of them performs a particular functionality for data analysis and you will be surprised at how easy it is. So what are you waiting for? Now is your chance to learn hands on Python with ease. Click the BUY NOW button to get started on your Python journey.

HT THINK LIKE A COMPUTER SCIEN - Jeffrey Elkner 2016-10-04

The goal of this book is to teach you to think like a computer scientist. This way of thinking combines some of the best features of mathematics, engineering, and natural science. Like mathematicians, computer scientists use formal languages to denote ideas (specifically computations). Like engineers, they design things, assembling components into systems and evaluating tradeoffs among alternatives. Like scientists, they observe the behavior of complex systems, form hypotheses, and test predictions. The single most important skill for a computer scientist is problem solving. Problem solving means the ability to formulate problems, think creatively about solutions, and express a solution clearly and accurately. As it turns out, the process of learning to program is an excellent opportunity to practice problem-solving skills. That's why this chapter is called, The way of the program. On one level, you will be learning to program, a useful skill by itself. On another level, you will use programming as a means to an end. As we go along, that end will become clearer.

Hands-On Data Science and Python Machine Learning - Frank Kane 2017-07-31

This book covers the fundamentals of machine learning with Python in a concise and dynamic manner. It covers data mining and large-scale machine learning using Apache Spark. About This Book Take your first steps in the world of data science by understanding the tools and techniques of data analysis Train efficient Machine Learning models in Python using the supervised and unsupervised learning methods Learn how to use Apache Spark for processing Big Data efficiently Who This Book Is For If you are a budding data scientist or a data analyst who wants to analyze and gain actionable insights from data using Python, this book is for you. Programmers with some experience in Python who want to enter the lucrative world of Data Science will also find this book to be very useful, but you don't need to be an expert Python coder or mathematician to get the most from this book. What You Will Learn Learn how to clean your data and ready it for analysis Implement the popular clustering and regression methods in Python Train efficient machine learning models using decision trees and random forests Visualize the results of your analysis using Python's Matplotlib library Use Apache Spark's MLlib package to perform machine learning on large datasets In Detail Join Frank Kane, who worked on Amazon and IMDb's machine learning algorithms, as he guides you on your first steps into the world of data science. Hands-On Data Science and Python Machine Learning gives you the tools that you need to understand and explore the core topics in the field, and the confidence and practice to build and analyze your own machine learning models. With the help of interesting and easy-to-follow practical examples, Frank Kane explains potentially complex topics such as

Bayesian methods and K-means clustering in a way that anybody can understand them. Based on Frank's successful data science course, Hands-On Data Science and Python Machine Learning empowers you to conduct data analysis and perform efficient machine learning using Python. Let Frank help you unearth the value in your data using the various data mining and data analysis techniques available in Python, and to develop efficient predictive models to predict future results. You will also learn how to perform large-scale machine learning on Big Data using Apache Spark. The book covers preparing your data for analysis, training machine learning models, and visualizing the final data analysis. Style and approach This comprehensive book is a perfect blend of theory and hands-on code examples in Python which can be used for your reference at any time.

Learn Python 3 the Hard Way - Zed A. Shaw 2017-06-26
You Will Learn Python 3! Zed Shaw has perfected the world's best system for learning Python 3. Follow it and you will succeed—just like the millions of beginners Zed has taught to date! You bring the discipline, commitment, and persistence; the author supplies everything else. In Learn Python 3 the Hard Way, you'll learn Python by working through 52 brilliantly crafted exercises. Read them. Type their code precisely. (No copying and pasting!) Fix your mistakes. Watch the programs run. As you do, you'll learn how a computer works; what good programs look like; and how to read, write, and think about code. Zed then teaches you even more in 5+ hours of video where he shows you how to break, fix, and debug your code—live, as he's doing the exercises. Install a complete Python environment Organize and write code Fix and break code Basic mathematics Variables Strings and text Interact with users Work with files Looping and logic Data structures using lists and dictionaries Program design Object-oriented programming Inheritance and composition Modules, classes, and objects Python packaging Automated testing Basic game development Basic web development It'll be hard at first. But soon, you'll just get it—and that will feel great! This course will reward you for every minute you put into it. Soon, you'll know one of the world's most powerful, popular programming languages. You'll be a Python programmer. This Book Is Perfect For Total beginners with zero programming experience Junior developers who know one or two languages Returning professionals who haven't written code in years Seasoned professionals looking for a fast, simple, crash course in Python 3

The Hitchhiker's Guide to Python - Kenneth Reitz 2016-08-30
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.

Mastering Machine Learning with Python in Six Steps - Manohar Swamynathan 2019-10-01
Explore fundamental to advanced Python 3 topics in six steps, all designed to make you a worthy practitioner. This updated version's approach is based on the "six degrees of separation" theory, which states that everyone and everything is a maximum of six steps away and presents each topic in two parts: theoretical concepts and practical implementation using suitable Python 3 packages. You'll start with the fundamentals of Python 3 programming language, machine learning history, evolution, and the system development frameworks. Key data mining/analysis concepts, such as exploratory analysis, feature dimension reduction, regressions, time series forecasting and their efficient implementation in Scikit-learn are covered as well. You'll also learn commonly used model diagnostic and tuning techniques. These include optimal probability cutoff point for class creation, variance, bias, bagging, boosting, ensemble voting, grid search, random search, Bayesian optimization, and the noise reduction technique for IoT data. Finally, you'll review advanced text mining techniques, recommender systems, neural networks, deep learning, reinforcement learning techniques and their implementation. All the code presented in the book will be available in the form of iPython notebooks to enable you to try out these examples and extend them to your advantage. What You'll Learn Understand machine learning development and frameworksAssess model diagnosis and tuning in machine learningExamine text mining, natuarl language processing (NLP),

and recommender systemsReview reinforcement learning and CNN Who This Book Is For Python developers, data engineers, and machine learning engineers looking to expand their knowledge or career into machine learning area.

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 for Everyone, 3e - Cay S. Horstmann 2019-01-03

Python For Everyone - Cay S. Horstmann 2019-02-21
Python for Everyone, 3rd Edition is an introduction to programming designed to serve a wide range of student interests and abilities, focused on the essentials, and on effective learning. It is suitable for a first course in programming for computer scientists, engineers, and students in other disciplines. This text requires no prior programming experience and only a modest amount of high school algebra. Objects are used where appropriate in early chapters and students start designing and implementing their own classes in Chapter 9. New to this edition are examples and exercises that focus on various aspects of data science.

Python Crash Course - Eric Matthes 2015-11-01
Python Crash Course is a fast-paced, thorough introduction to Python that will have you writing programs, solving problems, and making things that work in no time. In the first half of the book, you'll learn about basic programming concepts, such as lists, dictionaries, classes, and loops, and practice writing clean and readable code with exercises for each topic. You'll also learn how to make your programs interactive and how to test your code safely before adding it to a project. In the second half of the book, you'll put your new knowledge into practice with three substantial projects: a Space Invaders–inspired arcade game, data visualizations with Python's super-handy libraries, and a simple web app you can deploy online. As you work through Python Crash Course you'll learn how to: –Use powerful Python libraries and tools, including matplotlib, NumPy, and Pygal –Make 2D games that respond to keypresses and mouse clicks, and that grow more difficult as the game progresses –Work with data to generate interactive visualizations –Create and customize Web apps and deploy them safely online –Deal with mistakes and errors so you can solve your own programming problems If you've been thinking seriously about digging into programming, Python Crash Course will get you up to speed and have you writing real programs fast. Why wait any longer? Start your engines and code! Uses Python 2 and 3

Python Made Easy - Nilabh Nishchhal 2020-10-20
Python Made Easy: Beginners Guide to Programming and Data Analysis using Python Get comprehensive learning of Python Programming starting from the very basics and going up to utilizing python libraries for data analysis and Visualization. Based on the author's journey to master Python, this book will help you to quickly start with writing programs and solving your problems using Python. It provides an ideal and elegant way to start learning Python, both for a newcomer to the programming world and a professional developer expert in other languages. This book comes loaded with illustrations and real-life examples. It gives you exercises which challenge you to refresh your conceptual clarity and write better codes. It is super easy to follow and will work as a self-paced tutorial to get you started with the latest and best in Python. All the advanced Python features to date are included. • Get to know the history, present, and

future of Data Science • Get introduced to the basics of Computer Programming • Explore the exciting world of Python using Anaconda • Learn how to install and use Python on your computer • Create your Variables, Objects and learn Syntax of operations • Explore Python's built-in object types like Lists, dictionaries, Tuples, Strings and sets • Learn to make your codes reusable by using functions • Organize your codes, functions and other objects into larger components with Modules • Explore Classes – the Object-Oriented Programming tool for elegant codes • Write complex codes and learn how to handle Errors and Exceptions • Learn about NumPy arrays and operations on them • Explore data analysis using pandas on a real-life data set • Dive into the exciting world of Visualization with 3 chapters on Visualization and Matplotlib • Experience the Power of What you learnt by 3 projects • Learn to make your own application complete with GUI by using API