

# Python For Data Science Web And Core Uci Division Of

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## **Python Data Analytics** - Fabio Nelli 2018-09-27

Explore the latest Python tools and techniques to help you tackle the world of data acquisition and analysis. You'll review scientific computing with NumPy, visualization with matplotlib, and machine learning with scikit-learn. This revision is fully updated with new content on social media data analysis, image analysis with OpenCV, and deep learning libraries. Each chapter includes multiple examples demonstrating how to work with each library. At its heart lies the coverage of pandas, for high-performance, easy-to-use data structures and tools for data manipulation Author Fabio Nelli expertly demonstrates using Python for data processing, management, and information retrieval. Later chapters apply what you've learned to handwriting recognition and extending graphical capabilities with the JavaScript D3 library. Whether you are dealing with sales data, investment data, medical data, web page usage, or other data sets, Python Data Analytics, Second Edition is an invaluable reference with its examples of storing, accessing, and analyzing data. What You'll Learn Understand the core concepts of data analysis and the Python ecosystem Go in depth with pandas for reading, writing, and processing data Use tools and techniques for data visualization and image analysis Examine popular deep learning libraries Keras, Theano, TensorFlow, and

PyTorch Who This Book Is For Experienced Python developers who need to learn about Pythonic tools for data analysis

## **Mathematics for Machine Learning** - Marc Peter Deisenroth 2020-04-23

The fundamental mathematical tools needed to understand machine learning include linear algebra, analytic geometry, matrix decompositions, vector calculus, optimization, probability and statistics. These topics are traditionally taught in disparate courses, making it hard for data science or computer science students, or professionals, to efficiently learn the mathematics. This self-contained textbook bridges the gap between mathematical and machine learning texts, introducing the mathematical concepts with a minimum of prerequisites. It uses these concepts to derive four central machine learning methods: linear regression, principal component analysis, Gaussian mixture models and support vector machines. For students and others with a mathematical background, these derivations provide a starting point to machine learning texts. For those learning the mathematics for the first time, the methods help build intuition and practical experience with applying mathematical concepts. Every chapter includes worked examples and exercises to test understanding. Programming tutorials are offered on

the book's web site.

**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](http://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.

**Deep Learning for Coders with fastai and PyTorch** - Jeremy Howard 2020-06-29

Deep learning is often viewed as the exclusive domain of math PhDs and big tech companies. But as this hands-on guide demonstrates, programmers comfortable with Python can achieve impressive results in deep learning with little math background, small amounts of data, and minimal code. How? With fastai, the first library to provide a consistent interface to the most frequently used deep learning applications. Authors Jeremy Howard and Sylvain Gugger, the creators of fastai, show you how to train a model on a wide range of tasks using fastai and PyTorch. You'll also dive progressively further into deep learning theory to gain a complete understanding of the algorithms behind the scenes. Train models in computer vision, natural language processing, tabular data, and collaborative filtering Learn the latest deep learning techniques that matter most in practice Improve accuracy, speed, and reliability by understanding how deep learning models work Discover how to turn your models into web applications Implement deep learning algorithms from scratch Consider the ethical implications of your work Gain insight

from the foreword by PyTorch cofounder, Soumith Chintala

**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 Programming** - Fabrizio Romano 2018-06-29

Build a solid foundation in coding by utilizing the language and its core characteristics  
Key Features  
Leverage the features of Python programming through easy-to-follow examples  
Develop a strong set of programming skills that can be applied on all platforms  
Create GUIs and data science-based applications  
Book Description  
Learn Python Programming creates a foundation for those who are interested in developing their skills in Python programming. The book starts with the fundamentals of programming with Python and ends by exploring different topics such as GUIs and real-world apps. You will begin by exploring the foundations of and fundamental topics on Python and learn to manipulate them. Then, you'll explore different programming paradigms that will allow you to find the best approach to a situation, and you'll also understand how to carry out performance optimization as well as effective debugging. As you make your way through the chapters, you'll control the flow of a program, and persist and utilize an interchange format to exchange data. You'll also walk through cryptographic services in Python and understand secure tokens. Throughout, the book covers various types of applications, and it concludes with building real-world applications based on all the concepts that you learned. By the end of the book, you'll have a proper understanding of the Python language and a solid grasp on how to work with data. You'll know how to quickly build a website and harness the power of Python's renowned data science libraries. What you will learn  
Get Python up and running on Windows, Mac, and Linux  
Grasp fundamental concepts of coding using data structures and control flow  
Write elegant, reusable, and efficient code in any situation  
Understand

when to use the functional or object-oriented programming (OOP) approach  
Walk through the basics of security and concurrent/asynchronous programming  
Create bulletproof, reliable software by writing tests  
Explore examples of GUIs, scripting, and data science  
Who this book is for  
Learn Python Programming is for individuals with relatively little experience in coding or Python. It's also ideal for aspiring programmers who need to write scripts or programs to accomplish tasks. The book takes you all the way to creating a full-fledged application.

**Python for Data Science** - Computer Science Academy 2019-12-16

If you are looking to master the fundamental concepts of Data Science driven by the Python programming language to develop a solid understanding of all the latest cutting edge technologies, then this is just that one comprehensive book you have been waiting for. This book is carefully written to help you master the core concepts of Python programming and utilize your coding skills to analyze a large volume of data and uncover valuable information that can otherwise be easily lost in such volume even if you have never learned any programming languages before. Python has been designed primarily to emphasize readability of the programming code and its syntax will enable you to convey ideas using fewer lines of code. If you are looking to learn how to write effective and efficient codes in Python and master this extremely intuitive and flexible programming language that can be used for a variety of coding projects including machine learning algorithms, web applications, data mining and visualization, game development. Then this is just the book that you need. Some of the highlights of this book include: The five major stages of the TDSP lifecycle that outline the interactive steps required for project execution along with the deliverables created at each stage. Installation instructions for Python so you can download and install Python on your operating system and get hands-on coding experience. Python coding concepts such as data types, classes, and objects variables, numbers, constructor functions, Booleans and much more. Learn the functioning of various data science libraries like Scikit-Learn, which has evolved as the gold standard for machine

learning and data analysis. Deep dive into the Matplotlib library, which offers visualization tools and science computing modules supported by SciPy and learn how to create various graphs using Matplotlib and Pandas library. Learn how machine learning allows analysis of large volumes of data and delivers faster and more accurate results. Overview of four different machine learning algorithms that can be used to cater to the available data set and create a desired machine learning model. Learn how companies are able to employ a predictive analytics model to gain an understanding of customer interactions with their products or services based on customer's feelings or emotions shared on the social media platforms. Every concept in this book is explained with examples and exercises so you can learn and test your learning at the same time. There are a variety of real life examples of the application of machine learning technology that has been provided to help you understand the importance of all the cutting edge technologies in shaping our world today. Remember, knowledge is power, and with the great power you will gather from this book, you will be armed to make sound personal and professional technological choices. Your Python programming skillset will improve drastically, and you will be poised to develop your very own machine learning model in no time. So don't wait and click on that BUY NOW button! Then be a good Samaritan, and spread the word to your tech-savvy friends and family, help them get access to this power!

**Artificial Intelligence with Python** - Prateek Joshi 2017-01-27

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.

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

This comprehensive guide provides a step-by-step approach to data collection, cleaning, formatting, and storage, using Python and R.

**Python Machine Learning** - Sebastian Raschka 2015-09-23

Unlock deeper insights into Machine Learning with this vital guide to cutting-edge predictive analytics About This Book Leverage Python's most powerful open-source libraries for deep learning, data wrangling, and data visualization Learn effective strategies and best practices to improve and optimize machine learning systems and algorithms Ask - and answer - tough questions of your data with robust statistical models, built for a range of datasets Who This Book Is For If you want to find out how to use Python to start answering critical questions of your data, pick up Python Machine Learning - whether you want to get started from scratch or want to extend your data science knowledge, this is an essential and unmissable resource. What You Will Learn Explore how to use different machine learning models to ask different questions of your data Learn how to build neural networks using Keras and Theano Find out how to write clean and elegant Python code that will optimize the strength of your algorithms Discover how to embed your machine learning model in a web application for increased accessibility Predict continuous target outcomes using regression analysis Uncover hidden patterns and structures in data with clustering Organize data using effective pre-processing techniques Get to grips with sentiment analysis to delve deeper into textual and social media data In Detail Machine learning and predictive analytics are transforming the way businesses and other organizations operate. Being able to understand trends and patterns in complex data is critical to success, becoming one of the key strategies for unlocking growth in a challenging contemporary marketplace. Python can help you deliver key insights into your data - its unique capabilities as a language let you build sophisticated algorithms and statistical models that can reveal new perspectives and answer key questions that are vital for success. Python Machine Learning gives you access to the world of predictive analytics and demonstrates why Python is one of the world's leading data science languages. If you want to ask better questions of data, or need to improve and extend the capabilities of your machine learning systems, this practical data science book is invaluable. Covering a wide range of powerful Python libraries, including scikit-learn, Theano, and Keras, and featuring guidance and tips on

everything from sentiment analysis to neural networks, you'll soon be able to answer some of the most important questions facing you and your organization. Style and approach Python Machine Learning connects the fundamental theoretical principles behind machine learning to their practical application in a way that focuses you on asking and answering the right questions. It walks you through the key elements of Python and its powerful machine learning libraries, while demonstrating how to get to grips with a range of statistical models.

Python Data Science Essentials - Alberto Boschetti 2016-10-28

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

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

**Practical Statistics for Data Scientists** - Peter Bruce 2017-05-10  
Statistical methods are a key part of of data science, yet very few data scientists have any formal statistics training. Courses and books on basic statistics rarely cover the topic from a data science perspective. This practical guide explains how to apply various statistical methods to data science, tells you how to avoid their misuse, and gives you advice on what's important and what's not. Many data science resources incorporate statistical methods but lack a deeper statistical perspective. If you're familiar with the R programming language, and have some exposure to statistics, this quick reference bridges the gap in an accessible, readable format. With this book, you'll learn: Why exploratory data analysis is a key preliminary step in data science How random sampling can reduce bias and yield a higher quality dataset, even with big data How the principles of experimental design yield definitive answers to questions How to use regression to estimate outcomes and detect anomalies Key classification techniques for predicting which categories a record belongs to Statistical machine learning methods that "learn" from data Unsupervised learning methods for extracting meaning from unlabeled data

*Python for Data Science For Dummies* - John Paul Mueller 2019-01-25  
The fast and easy way to learn Python programming and statistics Python is a general-purpose programming language created in the late 1980s—and named after Monty Python—that's used by thousands of

people to do things from testing microchips at Intel, to powering Instagram, to building video games with the PyGame library. Python For Data Science For Dummies is written for people who are new to data analysis, and discusses the basics of Python data analysis programming and statistics. The book also discusses Google Colab, which makes it possible to write Python code in the cloud. Get started with data science and Python Visualize information Wrangle data Learn from data The book provides the statistical background needed to get started in data science programming, including probability, random distributions, hypothesis testing, confidence intervals, and building regression models for prediction.

Data Science Essentials in Python - Dmitry Zinoviev 2016-08-10  
Go from messy, unstructured artifacts stored in SQL and NoSQL databases to a neat, well-organized dataset with this quick reference for the busy data scientist. Understand text mining, machine learning, and network analysis; process numeric data with the NumPy and Pandas modules; describe and analyze data using statistical and network-theoretical methods; and see actual examples of data analysis at work. This one-stop solution covers the essential data science you need in Python. Data science is one of the fastest-growing disciplines in terms of academic research, student enrollment, and employment. Python, with its flexibility and scalability, is quickly overtaking the R language for data-scientific projects. Keep Python data-science concepts at your fingertips with this modular, quick reference to the tools used to acquire, clean, analyze, and store data. This one-stop solution covers essential Python, databases, network analysis, natural language processing, elements of machine learning, and visualization. Access structured and unstructured text and numeric data from local files, databases, and the Internet. Arrange, rearrange, and clean the data. Work with relational and non-relational databases, data visualization, and simple predictive analysis (regressions, clustering, and decision trees). See how typical data analysis problems are handled. And try your hand at your own solutions to a variety of medium-scale projects that are fun to work on and look good on your resume. Keep this handy quick guide at your side

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

Python for Data Science - Halbert Stevenson 2022-03-23

Are you looking to master the fundamental concepts of Data Science? Do you want to learn the Python programming language? Do you want to develop a solid understanding of all the latest innovative technologies? This is the book for you! This book is essential to help you master the core concepts of Python programming and utilize your coding skills to analyze a large volume of data. This programming language can be used for a variety of coding projects including machine learning algorithms, web applications, data mining and visualization, game development. Some of the highlights of this book include: - The five major stages of the TDSP lifecycle - Installation instructions for Python - Python coding concepts such as data types, classes, and objects variables, numbers, constructor functions, Booleans and much more. - Learn the functioning of various data science libraries like Scikit-Learn, which has evolved as the gold standard for machine learning and data analysis. - Deep dive into the Matplotlib library, which offers visualization tools and science computing modules supported by SciPy and learn how to create various graphs using Matplotlib and Pandas library. - Learn how machine learning allows analysis of large volumes of data and delivers faster and more accurate results. - Overview of four different machine learning algorithms. - Learn how companies are able to employ a predictive analytics model to gain an understanding of customer interactions with their products or services based on customer's feelings or emotions shared on the social media platforms. Every concept in this book is

explained with examples and exercises so you can learn and test your learning at the same time. Remember, knowledge is power! Your Python programming skillset will improve drastically, and you will be poised to develop your very own machine learning model in no time.

**Data Science from Scratch** - Joel Grus 2015-04-14

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

**Core Python Programming** - Wesley J Chun 2006-09-18

Praise for Core Python Programming The Complete Developer's Guide to Python New to Python? The definitive guide to Python development for experienced programmers Covers core language features thoroughly, including those found in the latest Python releases—learn more than just the syntax! Learn advanced topics such as regular expressions, networking, multithreading, GUI, Web/CGI, and Python extensions Includes brand-new material on databases, Internet clients, Java/Jython, and Microsoft Office, plus Python 2.6 and 3 Presents hundreds of code snippets, interactive examples, and practical exercises to strengthen your Python skills Python is an agile, robust, expressive, fully object-

oriented, extensible, and scalable programming language. It combines the power of compiled languages with the simplicity and rapid development of scripting languages. In *Core Python Programming, Second Edition*, leading Python developer and trainer Wesley Chun helps you learn Python quickly and comprehensively so that you can immediately succeed with any Python project. Using practical code examples, Chun introduces all the fundamentals of Python programming: syntax, objects and memory management, data types, operators, files and I/O, functions, generators, error handling and exceptions, loops, iterators, functional programming, object-oriented programming and more. After you learn the core fundamentals of Python, he shows you what you can do with your new skills, delving into advanced topics, such as regular expressions, networking programming with sockets, multithreading, GUI development, Web/CGI programming and extending Python in C. This edition reflects major enhancements in the Python 2.x series, including 2.6 and tips for migrating to 3. It contains new chapters on database and Internet client programming, plus coverage of many new topics, including new-style classes, Java and Jython, Microsoft Office (Win32 COM Client) programming, and much more. Learn professional Python style, best practices, and good programming habits Gain a deep understanding of Python's objects and memory model as well as its OOP features, including those found in Python's new-style classes Build more effective Web, CGI, Internet, and network and other client/server applications Learn how to develop your own GUI applications using Tkinter and other toolkits available for Python Improve the performance of your Python applications by writing extensions in C and other languages, or enhance I/O-bound applications by using multithreading Learn about Python's database API and how to use a variety of database systems with Python, including MySQL, Postgres, and SQLite Features appendices on Python 2.6 & 3, including tips on migrating to the next generation!

[Data Wrangling with R](#) - Bradley C. Boehmke, Ph.D. 2016-11-17

This guide for practicing statisticians, data scientists, and R users and programmers will teach the essentials of preprocessing: data leveraging

the R programming language to easily and quickly turn noisy data into usable pieces of information. Data wrangling, which is also commonly referred to as data munging, transformation, manipulation, janitor work, etc., can be a painstakingly laborious process. Roughly 80% of data analysis is spent on cleaning and preparing data; however, being a prerequisite to the rest of the data analysis workflow (visualization, analysis, reporting), it is essential that one become fluent and efficient in data wrangling techniques. This book will guide the user through the data wrangling process via a step-by-step tutorial approach and provide a solid foundation for working with data in R. The author's goal is to teach the user how to easily wrangle data in order to spend more time on understanding the content of the data. By the end of the book, the user will have learned: How to work with different types of data such as numerics, characters, regular expressions, factors, and dates The difference between different data structures and how to create, add additional components to, and subset each data structure How to acquire and parse data from locations previously inaccessible How to develop functions and use loop control structures to reduce code redundancy How to use pipe operators to simplify code and make it more readable How to reshape the layout of data and manipulate, summarize, and join data sets

**Python for Programmers** - Paul J. Deitel 2019-03-15

The professional programmer's Deitel® guide to Python® with introductory artificial intelligence case studies Written for programmers with a background in another high-level language, Python for Programmers uses hands-on instruction to teach today's most compelling, leading-edge computing technologies and programming in Python—one of the world's most popular and fastest-growing languages. Please read the Table of Contents diagram inside the front cover and the Preface for more details. In the context of 500+, real-world examples ranging from individual snippets to 40 large scripts and full implementation case studies, you'll use the interactive IPython interpreter with code in Jupyter Notebooks to quickly master the latest Python coding idioms. After covering Python Chapters 1-5 and a few key



parts of Chapters 6-7, you'll be able to handle significant portions of the hands-on introductory AI case studies in Chapters 11-16, which are loaded with cool, powerful, contemporary examples. These include natural language processing, data mining Twitter® for sentiment analysis, cognitive computing with IBM® Watson™, supervised machine learning with classification and regression, unsupervised machine learning with clustering, computer vision through deep learning and convolutional neural networks, deep learning with recurrent neural networks, big data with Hadoop®, Spark™ and NoSQL databases, the Internet of Things and more. You'll also work directly or indirectly with cloud-based services, including Twitter, Google Translate™, IBM Watson, Microsoft® Azure®, OpenMapQuest, PubNub and more. Features 500+ hands-on, real-world, live-code examples from snippets to case studies IPython + code in Jupyter® Notebooks Library-focused: Uses Python Standard Library and data science libraries to accomplish significant tasks with minimal code Rich Python coverage: Control statements, functions, strings, files, JSON serialization, CSV, exceptions Procedural, functional-style and object-oriented programming Collections: Lists, tuples, dictionaries, sets, NumPy arrays, pandas Series & DataFrames Static, dynamic and interactive visualizations Data experiences with real-world datasets and data sources Intro to Data Science sections: AI, basic stats, simulation, animation, random variables, data wrangling, regression AI, big data and cloud data science case studies: NLP, data mining Twitter®, IBM® Watson™, machine learning, deep learning, computer vision, Hadoop®, Spark™, NoSQL, IoT Open-source libraries: NumPy, pandas, Matplotlib, Seaborn, Folium, SciPy, NLTK, TextBlob, spaCy, Textatistic, Tweepy, scikit-learn®, Keras and more Accompanying code examples are available here:

[http://ptgmedia.pearsoncmg.com/imprint\\_downloads/informit/bookreg/9780135224335/9780135224335\\_examples.zip](http://ptgmedia.pearsoncmg.com/imprint_downloads/informit/bookreg/9780135224335/9780135224335_examples.zip). Register your product for convenient access to downloads, updates, and/or corrections as they become available. See inside book for more information.

*Data Wrangling with Python* - Dr. Tirthajyoti Sarkar 2019-02-28

Simplify your ETL processes with these hands-on data hygiene tips,

tricks, and best practices. Key Features Focus on the basics of data wrangling Study various ways to extract the most out of your data in less time Boost your learning curve with bonus topics like random data generation and data integrity checks Book Description For data to be useful and meaningful, it must be curated and refined. Data Wrangling with Python teaches you the core ideas behind these processes and equips you with knowledge of the most popular tools and techniques in the domain. The book starts with the absolute basics of Python, focusing mainly on data structures. It then delves into the fundamental tools of data wrangling like NumPy and Pandas libraries. You'll explore useful insights into why you should stay away from traditional ways of data cleaning, as done in other languages, and take advantage of the specialized pre-built routines in Python. This combination of Python tips and tricks will also demonstrate how to use the same Python backend and extract/transform data from an array of sources including the Internet, large database vaults, and Excel financial tables. To help you prepare for more challenging scenarios, you'll cover how to handle missing or wrong data, and reformat it based on the requirements from the downstream analytics tool. The book will further help you grasp concepts through real-world examples and datasets. By the end of this book, you will be confident in using a diverse array of sources to extract, clean, transform, and format your data efficiently. What you will learn Use and manipulate complex and simple data structures Harness the full potential of DataFrames and numpy.array at run time Perform web scraping with BeautifulSoup4 and html5lib Execute advanced string search and manipulation with RegEX Handle outliers and perform data imputation with Pandas Use descriptive statistics and plotting techniques Practice data wrangling and modeling using data generation techniques Who this book is for Data Wrangling with Python is designed for developers, data analysts, and business analysts who are keen to pursue a career as a full-fledged data scientist or analytics expert. Although, this book is for beginners, prior working knowledge of Python is necessary to easily grasp the concepts covered here. It will also help to have rudimentary knowledge of relational database and SQL.

*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

**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 Python uses 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.

**Introducing Data Science** - Davy Cielen 2016-05-02

Summary Introducing Data Science teaches you how to accomplish the fundamental tasks that occupy data scientists. Using the Python language and common Python libraries, you'll experience firsthand the challenges of dealing with data at scale and gain a solid foundation in data science. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Many companies need developers with data science skills to work on projects ranging from social media marketing to machine learning. Discovering what you need to learn to begin a career as a data scientist can seem bewildering. This book is designed to help you get started. About the Book Introducing Data Science Introducing Data Science explains vital data science concepts and teaches you how to accomplish the fundamental tasks that occupy data scientists. You'll explore data visualization, graph databases, the use of NoSQL, and the data science process. You'll use the Python language and common Python libraries as you experience firsthand the challenges of dealing with data at scale. Discover how Python allows you to gain insights from data sets so big that they need to be stored on multiple machines, or from data moving so quickly that no single machine can handle it. This book gives you hands-on experience with the most popular Python data science libraries, Scikit-learn and StatsModels. After reading this book, you'll have the solid foundation you need to start a career in data science. What's Inside Handling large data Introduction to machine learning Using Python to work with data Writing data science algorithms About the Reader This book assumes you're comfortable reading code in Python or a similar language, such as C, Ruby, or JavaScript. No prior experience with data science is required. About the Authors Davy Cielen, Arno D. B. Meysman, and Mohamed Ali are the founders and managing partners of Optimately and Maiton, where they focus on developing data science projects and solutions in various sectors. Table of Contents Data science in a big data world The data science process Machine learning Handling large data on a single computer First steps in big data Join the

NoSQL movement The rise of graph databases Text mining and text analytics Data visualization to the end user

*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

*Advance Core Python Programming* - Meenu Kohli 2021-06-08

Mastering Advanced Python Programming KEY FEATURES ● In-depth coverage on fundamentals of functions, recursion, classes, inheritance, and files. ● Mastery of advanced topics - Database connectivity, Errors and Exception, Testing and Debugging, threads, Data visualization, and Data analysis. ● In-depth coverage of advanced concepts such as data structures, and algorithms. ● Simplifies GUI and Widgets. ● Learn to connect GUI with MySQL to create a complete working application. ● Introduction to Flask. ● Thorough, detailed, and complete coverage of all topics along with ample coding examples and illustrations.

DESCRIPTION Advance Core Python Programming is designed for Programmers who have a good understanding of Python basics and are

ready to take the next steps. For entry-level Python programmers willing to dive deeper into programming, this book provides a path that will help them to add innovative features to their applications. This book starts by introducing you to the concept of Functions and Recursion and then moves on to higher levels of introducing you to OOP concepts, Files, integrating Python with database, threading, errors, exceptions, testing, debugging, data visualization, data analysis, GUI, data structures and algorithms. All these topics are the need of the hour and this book simplifies all these critical and essential concepts of Python for you. Knowledge of these topics will ease the functioning of your envisioned application. Throughout the book, you will have access to several coding examples which will help you to understand the real practical application of advanced Python concepts and you will be able to work on any kind of Python project with confidence. WHAT YOU WILL LEARN ● Learn advanced Python topics in simple language. ● Learn how to code in easy-to-follow steps. ● Learn to create your own classes and functions. ● Learn to work with Files. ● Learn to configure MySQL and make Python programs interact with the MySQL database. ● Get to know different types of errors, exceptions, and ways to test, debug and rectify them. ● Learn how to use Python for Data Visualization and Data Analysis. ● Learn to Create GUI features and add Widgets. ● Learn about data structures and algorithms. ● Learn to create and develop stack, queues, trees, and linked lists. ● Explore Flask, its features, and how to use it to build web applications. ● Learn to work on complex code by following simple step-by-step instructions. ● Prepare for theory and practical exams related to advanced Python Concepts. WHO THIS BOOK IS FOR This book is highly appealing to all tech-savvy students, programming enthusiasts, IT graduates, and computer science professionals who want to build strong proficiency in building Python applications. Prior understanding of Python basic coding concepts like variables, expressions, and control structures is required to begin with this book. You can also read Basic Core Python Programming to develop strong fundamentals before you start with this book. TABLE OF CONTENTS 1. Functions and Recursion 2. Classes, Objects, and Inheritance 3. Files 4.

MySQL for Python 5. Python Threads 6. Errors, Exceptions, Testing, and Debugging 7. Data Visualization and Data Analysis 8. Creating the GUI form and Adding Widgets 9. MySQL and Python Graphical User Interface 10. Stack, Queue, and Deque 11. Linked List 12. Trees 13. Searching and Sorting 14. Getting Started with Flask

*Automate the Boring Stuff with Python, 2nd Edition* - Al Sweigart  
2019-11-12

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* - Seppe vanden Broucke  
2018-04-18

This book provides a complete and modern guide to web scraping, using Python as the programming language, without glossing over important details or best practices. Written with a data science audience in mind, the book explores both scraping and the larger context of web technologies in which it operates, to ensure full understanding. The authors recommend web scraping as a powerful tool for any data scientist's arsenal, as many data science projects start by obtaining an appropriate data set. Starting with a brief overview on scraping and real-life use cases, the authors explore the core concepts of HTTP, HTML, and CSS to provide a solid foundation. Along with a quick Python primer, they cover Selenium for JavaScript-heavy sites, and web crawling in detail. The book finishes with a recap of best practices and a collection of examples that bring together everything you've learned and illustrate various data science use cases. What You'll Learn Leverage well-established best practices and commonly-used Python packages Handle today's web, including JavaScript, cookies, and common web scraping mitigation techniques Understand the managerial and legal concerns regarding web scraping Who This Book is For A data science oriented audience that is probably already familiar with Python or another programming language or analytical toolkit (R, SAS, SPSS, etc). Students or instructors in university courses may also benefit. Readers unfamiliar with Python will appreciate a quick Python primer in chapter 1 to catch up with the basics and provide pointers to other guides as well.

*Introduction to Data Science* - Laura Igual 2017-02-22

This accessible and classroom-tested textbook/reference presents an introduction to the fundamentals of the emerging and interdisciplinary field of data science. The coverage spans key concepts adopted from statistics and machine learning, useful techniques for graph analysis and parallel programming, and the practical application of data science for

such tasks as building recommender systems or performing sentiment analysis. Topics and features: provides numerous practical case studies using real-world data throughout the book; supports understanding through hands-on experience of solving data science problems using Python; describes techniques and tools for statistical analysis, machine learning, graph analysis, and parallel programming; reviews a range of applications of data science, including recommender systems and sentiment analysis of text data; provides supplementary code resources and data at an associated website.

**Practical Web Scraping for Data Science** - Seppe vanden Broucke  
2018-06-10

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 for R Users* - Ajay Ohri 2017-11-13

The definitive guide for statisticians and data scientists who understand the advantages of becoming proficient in both R and Python The first book of its kind, *Python for R Users: A Data Science Approach* makes it easy for R programmers to code in Python and Python users to program in R. Short on theory and long on actionable analytics, it provides readers with a detailed comparative introduction and overview of both languages and features concise tutorials with command-by-command translations—complete with sample code—of R to Python and Python to R. Following an introduction to both languages, the author cuts to the chase with step-by-step coverage of the full range of pertinent programming features and functions, including data input, data inspection/data quality, data analysis, and data visualization. Statistical modeling, machine learning, and data mining—including supervised and unsupervised data mining methods—are treated in detail, as are time series forecasting, text mining, and natural language processing. • Features a quick-learning format with concise tutorials and actionable analytics • Provides command-by-command translations of R to Python and vice versa • Incorporates Python and R code throughout to make it easier for readers to compare and contrast features in both languages • Offers numerous comparative examples and applications in both programming languages • Designed for use for practitioners and students that know one language and want to learn the other • Supplies slides useful for teaching and learning either software on a companion website *Python for R Users: A Data Science Approach* is a valuable working resource for computer scientists and data scientists that know R and would like to learn Python or are familiar with Python and want to learn R. It also functions as textbook for students of computer science and statistics. A. Ohri is the founder of [Decisionstats.com](http://Decisionstats.com) and currently works as a senior data scientist. He has advised multiple startups in analytics off-shoring, analytics services, and analytics education, as well as using social media to enhance buzz for analytics products. Mr. Ohri's research interests include spreading open source analytics, analyzing social media manipulation with mechanism design, simpler interfaces for

cloud computing, investigating climate change and knowledge flows. His other books include *R for Business Analytics* and *R for Cloud Computing*.

[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 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.

**R for Data Science** - Hadley Wickham 2016-12-12

Learn how to use R to turn raw data into insight, knowledge, and understanding. This book introduces you to R, RStudio, and the tidyverse, a collection of R packages designed to work together to make data science fast, fluent, and fun. Suitable for readers with no previous programming experience, *R for Data Science* is designed to get you doing data science as quickly as possible. Authors Hadley Wickham and Garrett Grolemund guide you through the steps of importing, wrangling, exploring, and modeling your data and communicating the results. You'll get a complete, big-picture understanding of the data science cycle, along with basic tools you need to manage the details. Each section of the book is paired with exercises to help you practice what you've learned along the way. You'll learn how to: Wrangle—transform your datasets into a form convenient for analysis Program—learn powerful R tools for solving data problems with greater clarity and ease Explore—examine your data, generate hypotheses, and quickly test them Model—provide a low-dimensional summary that captures true "signals" in your dataset Communicate—learn R Markdown for integrating prose, code, and results

*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.

**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

*Machine Learning for the Web* - Andrea Isoni 2016-07-29

Explore the web and make smarter predictions using Python About This Book Targets two big and prominent markets where sophisticated web apps are of need and importance. Practical examples of building machine learning web application, which are easy to follow and replicate. A comprehensive tutorial on Python libraries and frameworks to get you up and started. Who This Book Is For The book is aimed at upcoming and new data scientists who have little experience with machine learning or

users who are interested in and are working on developing smart (predictive) web applications. Knowledge of Django would be beneficial. The reader is expected to have a background in Python programming and good knowledge of statistics. What You Will Learn Get familiar with the fundamental concepts and some of the jargons used in the machine learning community Use tools and techniques to mine data from websites Grasp the core concepts of Django framework Get to know the most useful clustering and classification techniques and implement them in Python Acquire all the necessary knowledge to build a web application with Django Successfully build and deploy a movie recommendation system application using the Django framework in Python In Detail Python is a general purpose and also a comparatively easy to learn programming language. Hence it is the language of choice for data scientists to prototype, visualize, and run data analyses on small and medium-sized data sets. This is a unique book that helps bridge the gap between machine learning and web development. It focuses on the difficulties of implementing predictive analytics in web applications. We focus on the Python language, frameworks, tools, and libraries, showing you how to build a machine learning system. You will explore the core machine learning concepts and then develop and deploy the data into a web application using the Django framework. You will also learn to carry out web, document, and server mining tasks, and build recommendation engines. Later, you will explore Python's impressive Django framework and will find out how to build a modern simple web app with machine learning features. Style and approach Instead of being overwhelmed with multiple concepts at once, this book provides a step-by-step approach that will guide you through one topic at a time. An intuitive step-by-step guide that will focus on one key topic at a time. Building upon the acquired knowledge in each chapter, we will connect the fundamental theory and practical tips by illustrative visualizations and hands-on code examples.

*Python for Data Mining Quick Syntax Reference* - Valentina Porcu 2018-12-19

Learn how to use Python and its structures, how to install Python, and

which tools are best suited for data analyst work. This book provides you with a handy reference and tutorial on topics ranging from basic Python concepts through to data mining, manipulating and importing datasets, and data analysis. Python for Data Mining Quick Syntax Reference covers each concept concisely, with many illustrative examples. You'll be introduced to several data mining packages, with examples of how to use each of them. The first part covers core Python including objects, lists, functions, modules, and error handling. The second part covers Python's most important data mining packages: NumPy and SciPy for mathematical functions and random data generation, pandas for dataframe management and data import, Matplotlib for drawing charts, and scikitlearn for machine learning. What You'll Learn Install Python and choose a development environment Understand the basic concepts of object-oriented programming Import, open, and edit files Review the differences between Python 2.x and 3.x Who This Book Is For Programmers new to Python's data mining packages or with experience in other languages, who want a quick guide to Pythonic tools and techniques.

*Python for Data Science* - Computer Science Academy 2021-02-13

!! 55% OFF for Bookstores!! NOW at 29,95 instead of 39.95 !! Are you looking to master the fundamental concepts of Data Science? Do you want to learn the Python programming language? Do you want to develop a solid understanding of all the latest innovative technologies? Your Customers Never Stop to Use this Complete Guide! This book is essential to help you master the core concepts of Python programming and utilize your coding skills to analyze a large volume of data. This programming language can be used for a variety of coding projects including machine learning algorithms, web applications, data mining and visualization, game development. Some of the highlights of this book include: - The five major stages of the TDSP lifecycle - Installation instructions for Python - Python coding concepts such as data types, classes, and objects variables, numbers, constructor functions, Booleans and much more. - Learn the functioning of various data science libraries like Scikit-Learn, which has evolved as the gold standard for machine

learning and data analysis. - Deep dive into the Matplotlib library, which offers visualization tools and science computing modules supported by SciPy and learn how to create various graphs using Matplotlib and Pandas library. - Learn how machine learning allows analysis of large volumes of data and delivers faster and more accurate results. - Overview of four different machine learning algorithms. - Learn how companies are able to employ a predictive analytics model to gain an understanding of customer interactions with their products or services based on customer's feelings or emotions shared on the social media platforms. Every concept in this book is explained with examples and exercises so you can learn and test your learning at the same time. Remember, knowledge is power! Your Python programming skillset will improve drastically, and you will be poised to develop your very own machine learning model in no time. Buy it NOW and let your customers get addicted to this awesome book!

*Advanced Data Science and Analytics with Python* - Jesus Rogel-Salazar 2020-05-05

Advanced Data Science and Analytics with Python enables data scientists to continue developing their skills and apply them in business as well as academic settings. The subjects discussed in this book are complementary and a follow-up to the topics discussed in Data Science and Analytics with Python. The aim is to cover important advanced areas in data science using tools developed in Python such as SciKit-learn, Pandas, Numpy, Beautiful Soup, NLTK, NetworkX and others. The model development is supported by the use of frameworks such as Keras, TensorFlow and Core ML, as well as Swift for the development of iOS and MacOS applications. Features: Targets readers with a background in programming, who are interested in the tools used in data analytics and data science Uses Python throughout Presents tools, alongside solved examples, with steps that the reader can easily reproduce and adapt to their needs Focuses on the practical use of the tools rather than on lengthy explanations Provides the reader with the opportunity to use the book whenever needed rather than following a sequential path The book can be read independently from the previous volume and each of the



chapters in this volume is sufficiently independent from the others, providing flexibility for the reader. Each of the topics addressed in the book tackles the data science workflow from a practical perspective, concentrating on the process and results obtained. The implementation and deployment of trained models are central to the book. Time series analysis, natural language processing, topic modelling, social network analysis, neural networks and deep learning are comprehensively covered. The book discusses the need to develop data products and addresses the subject of bringing models to their intended audiences – in this case, literally to the users’ fingertips in the form of an iPhone app.

About the Author Dr. Jesús Rogel-Salazar is a lead data scientist in the field, working for companies such as Tympa Health Technologies, Barclays, AKQA, IBM Data Science Studio and Dow Jones. He is a visiting researcher at the Department of Physics at Imperial College London, UK and a member of the School of Physics, Astronomy and Mathematics at the University of Hertfordshire, UK.

#### **Python Data Science Essentials** - Luca Massaron 2018-09-28

Gain useful insights from your data using popular data science tools

**Key Features**

- A one-stop guide to Python libraries such as pandas and NumPy
- Comprehensive coverage of data science operations such as data cleaning and data manipulation
- Choose scalable learning algorithms for your data science tasks

**Book Description** Fully expanded and upgraded, the latest edition of Python Data Science Essentials will help you succeed in data science operations using the most common Python libraries. This book offers up-to-date insight into the core of Python, including the latest versions of the Jupyter Notebook, NumPy, pandas, and scikit-learn. The book covers detailed examples and large hybrid datasets to help you grasp essential statistical techniques for data collection, data munging and analysis, visualization, and reporting activities. You will also gain an understanding of advanced data science topics such as machine learning algorithms, distributed computing, tuning predictive models, and natural language processing. Furthermore, You'll also be introduced to deep learning and gradient boosting solutions such as XGBoost, LightGBM, and CatBoost. By the end of the book, you will have gained a complete

overview of the principal machine learning algorithms, graph analysis techniques, and all the visualization and deployment instruments that make it easier to present your results to an audience of both data science experts and business users

**What you will learn**

- Set up your data science toolbox on Windows, Mac, and Linux
- Use the core machine learning methods offered by the scikit-learn library
- Manipulate, fix, and explore data to solve data science problems
- Learn advanced explorative and manipulative techniques to solve data operations
- Optimize your machine learning models for optimized performance
- Explore and cluster graphs, taking advantage of interconnections and links in your data

**Who this book is for** If you're a data science entrant, data analyst, or data engineer, this book will help you get ready to tackle real-world data science problems without wasting any time. Basic knowledge of probability/statistics and Python coding experience will assist you in understanding the concepts covered in this book.

#### *The Python Workshop* - Corey Wade 2022-11-18

Gain proficiency, productivity, and power by working on projects and kick-starting your career in Python with this comprehensive, hands-on guide.

**Key Features**

- Understand and utilize Python syntax, objects, methods, and best practices
- Explore Python's many features and libraries through real-world problems and big data
- Use your newly acquired Python skills in machine learning as well as web and software development

**Book Description** Python is among the most popular programming languages in the world. It's ideal for beginners because it's easy to read and write, and for developers, because it's widely available with a strong support community, extensive documentation, and phenomenal libraries – both built-in and user-contributed. This project-based course has been designed by a team of expert authors to get you up and running with Python. You'll work through engaging projects that'll enable you to leverage your newfound Python skills efficiently in technical jobs, personal projects, and job interviews. The book will help you gain an edge in data science, web development, and software development, preparing you to tackle real-world challenges in Python and pursue advanced topics on your own. Throughout the chapters, each

component has been explicitly designed to engage and stimulate different parts of the brain so that you can retain and apply what you learn in the practical context with maximum impact. By completing the course from start to finish, you'll walk away feeling capable of tackling any real-world Python development problem. What you will learn

- Write efficient and concise functions using core Python methods and libraries
- Build classes to address different business needs
- Create visual graphs to communicate key data insights
- Organize big data and use machine learning to make regression and classification predictions
- Develop web pages and programs with Python tools and packages
- Automate essential

tasks using Python scripts in real-time execution

Who this book is for  
This book is for professionals, students, and hobbyists who want to learn Python and apply it to solve challenging real-world problems. Although this is a beginner's course, you'll learn more easily if you already have an understanding of standard programming topics like variables, if-else statements, and functions. Experience with another object-oriented program, though not essential, will also be beneficial. If Python is your first attempt at computer programming, this book will help you understand the basics with adequate detail for a motivated student.