

Learning The Pandas Library Python Tools For Data Munging Analysis And Visual

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.

A Tour of Data Science: Learn R and Python in Parallel covers the fundamentals of data science, including programming, statistics, optimization, and machine learning in a single short book. It does not cover everything, but rather, teaches the key concepts and topics in Data Science. It also covers two of the most popular programming languages used in Data Science, R and Python, in one source. Key features: Allows you to learn R and Python in parallel Cover statistics, programming, optimization and predictive modelling, and the popular data manipulation tools – data.table and pandas Provides a concise and accessible presentation Includes machine learning algorithms implemented from scratch, linear regression, lasso, ridge, logistic regression, gradient boosting trees, etc. Appealing to data scientists, statisticians, quantitative analysts, and others who want to learn programming with R and Python from a data science perspective. Written for statisticians, computer scientists, geographers, research and applied scientists, and others interested in visualizing data, this book presents a unique foundation for producing almost every quantitative graphic found in scientific journals, newspapers, statistical packages, and data visualization systems. It was designed for a distributed computing environment, with special attention given to conserving computer code and system resources. While the tangible result of this work is a Java production graphics library, the text focuses on the deep structures involved in producing quantitative graphics from data. It investigates the rules that underlie pie charts, bar charts, scatterplots, function plots, maps, mosaics, and radar charts. These rules are abstracted from the work of Bertin, Cleveland, Kosslyn, MacEachren, Pinker, Tufte, Tukey, Tobler, and other theorists of quantitative graphics.

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*.

Perform advanced data manipulation tasks using pandas and become an expert data analyst. Key Features Manipulate and analyze your data expertly using the power of pandas Work with missing data and time series data and become a true pandas expert Includes expert tips and techniques on making your data analysis tasks easier Book Description pandas is a popular Python library used by data scientists and analysts worldwide to manipulate and analyze their data. This book presents useful data manipulation techniques in pandas to perform complex data analysis in various domains. An update to our highly successful previous edition with new features, examples, updated code, and more, this book is an in-depth guide to get the most out of pandas for data analysis. Designed for both intermediate users as well as seasoned practitioners, you will learn advanced data manipulation techniques, such as multi-indexing, modifying data structures, and sampling your data, which allow for powerful analysis and help you gain accurate insights from it. With the help of this book, you will apply pandas to different domains, such as Bayesian statistics, predictive analytics, and time series analysis using an example-based approach. And not just that; you will also learn how to prepare powerful, interactive business reports in pandas using the Jupyter notebook. By the end of this book, you will learn how to perform efficient data analysis using pandas on complex data, and become an expert data analyst or data scientist in the process. What you will learn Speed up your data analysis by importing data into pandas Keep relevant data points by selecting

subsets of your data Create a high-quality dataset by cleaning data and fixing missing values Compute actionable analytics with grouping and aggregation in pandas Master time series data analysis in pandas Make powerful reports in pandas using Jupyter notebooks Who this book is for This book is for data scientists, analysts and Python developers who wish to explore advanced data analysis and scientific computing techniques using pandas. Some fundamental understanding of Python programming and familiarity with the basic data analysis concepts is all you need to get started with this book.

This book is intended for Python programmers, mathematicians, and analysts who already have a basic understanding of Python and wish to learn about its data analysis capabilities in depth.

Learn Julia language for data science and data analytics About This Book Set up Julia's environment and start building simple programs Explore the technical aspects of Julia and its potential when it comes to speed and data processing Write efficient and high-quality code in Julia Who This Book Is For This book allows existing programmers, statisticians and data scientists to learn the Julia and take its advantage while building applications with complex numerical and scientific computations. Basic knowledge of mathematics is needed to understand the various methods that will be used or created in the book to exploit the capabilities for which Julia is made. What You Will Learn Understand Julia's ecosystem and create simple programs Master the type system and create your own types in Julia Understand Julia's type system, annotations, and conversions Define functions and understand meta-programming and multiple dispatch Create graphics and data visualizations using Julia Build programs capable of networking and parallel computation Develop real-world applications and use connections for RDBMS and NoSQL Learn to interact with other programming languages—C and Python—using Julia In Detail Julia is a highly appropriate language for scientific computing, but it comes with all the required capabilities of a general-purpose language. It allows us to achieve C/Fortran-like performance while maintaining the concise syntax of a scripting language such as Python. It is perfect for building high-performance and concurrent applications. From the basics of its syntax to learning built-in object types, this book covers it all. This book shows you how to write effective functions, reduce code redundancies, and improve code reuse. It will be helpful for new programmers who are starting out with Julia to explore its wide and ever-growing package ecosystem and also for experienced developers/statisticians/data scientists who want to add Julia to their skill-set. The book presents the fundamentals of programming in Julia and in-depth informative examples, using a step-by-step approach. You will be taken through concepts and examples such as doing simple mathematical operations, creating loops, metaprogramming, functions, collections, multiple dispatch, and so on. By the end of the book, you will be able to apply your skills in Julia to create and explore applications of any domain. Style and approach This book demonstrates the basics of Julia along with

some data structures and testing tools that will give you enough material to get started with the language from an application standpoint.

*****Free eBook for customers who purchase the print book from Amazon***** Are you thinking of becoming a data analyst using Python? If you are looking for a complete guide to data analysis using Python language and its library that will help you to become an effective data scientist, this book is for you. From AI Sciences Publisher Our books may be the best one for beginners; it's a step-by-step guide for any person who wants to start learning Artificial Intelligence and Data Science from scratch. It will help you in preparing a solid foundation and learn any other high-level courses. To get the most out of the concepts that would be covered, readers are advised to adopt hands on approach, which would lead to better mental representations. Step By Step Guide and Visual Illustrations and Examples The Book give complete instructions for manipulating, processing, cleaning, modeling and crunching datasets in Python. This is a hands-on guide with practical case studies of data analysis problems effectively. You will learn pandas, NumPy, IPython, and Jupiter in the Process. Target Users This book is a practical introduction to data science tools in Python. It is ideal for analyst's beginners to Python and for Python programmers new to data science and computer science. Instead of tough math formulas, this book contains several graphs and images. What's Inside This Book? Introduction Why Choose Python for Data Science & Machine Learning Prerequisites & Reminders Python Quick Review Overview & Objectives A Quick Example Getting & Processing Data Data Visualization Supervised & Unsupervised Learning Regression Simple Linear Regression Multiple Linear Regression Decision Tree Random Forest Classification Logistic Regression K-Nearest Neighbors Decision Tree Classification Random Forest Classification Clustering Goals & Uses of Clustering K-Means Clustering Anomaly Detection Association Rule Learning Explanation Apriori Reinforcement Learning What is Reinforcement Learning Comparison with Supervised & Unsupervised Learning Applying Reinforcement Learning Neural Networks An Idea of How the Brain Works Potential & Constraints Here's an Example Natural Language Processing Analyzing Words & Sentiments Using NLTK Model Selection & Improving Performance Sources & References Frequently Asked Questions Q: Is this book for me and do I need programming experience? A: if you want to smash Python for data analysis, this book is for you. Little programming experience is required. If you already wrote a few lines of code and recognize basic programming statements, you'll be OK. Q: Does this book include everything I need to become a data science expert? A: Unfortunately, no. This book is designed for readers taking their first steps in data analysis and further learning will be required beyond this book to master all aspects. Q: Can I have a refund if this book is not fitted for me? A: Yes, Amazon refund you if you aren't satisfied, for more information about the amazon refund service please go to the amazon help platform. We will also be happy to help you if you send us an email at

contact@aisciences.net. AI Sciences Company offers you a free eBooks at <http://aisciences.net/free/>
With detailed notes, tables, and examples, this handy reference will help you navigate the basics of structured machine learning. Author Matt Harrison delivers a valuable guide that you can use for additional support during training and as a convenient resource when you dive into your next machine learning project. Ideal for programmers, data scientists, and AI engineers, this book includes an overview of the machine learning process and walks you through classification with structured data. You'll also learn methods for clustering, predicting a continuous value (regression), and reducing dimensionality, among other topics. This pocket reference includes sections that cover: Classification, using the Titanic dataset Cleaning data and dealing with missing data Exploratory data analysis Common preprocessing steps using sample data Selecting features useful to the model Model selection Metrics and classification evaluation Regression examples using k-nearest neighbor, decision trees, boosting, and more Metrics for regression evaluation Clustering Dimensionality reduction Scikit-learn pipelines

Get to grips with pandas—a versatile and high-performance Python library for data manipulation, analysis, and discovery
About This Book Get comfortable using pandas and Python as an effective data exploration and analysis tool Explore pandas through a framework of data analysis, with an explanation of how pandas is well suited for the various stages in a data analysis process A comprehensive guide to pandas with many of clear and practical examples to help you get up and using pandas Who This Book Is For This book is ideal for data scientists, data analysts, Python programmers who want to plunge into data analysis using pandas, and anyone with a curiosity about analyzing data. Some knowledge of statistics and programming will be helpful to get the most out of this book but not strictly required. Prior exposure to pandas is also not required. What You Will Learn Understand how data analysts and scientists think about of the processes of gathering and understanding data Learn how pandas can be used to support the end-to-end process of data analysis Use pandas Series and DataFrame objects to represent single and multivariate data Slicing and dicing data with pandas, as well as combining, grouping, and aggregating data from multiple sources How to access data from external sources such as files, databases, and web services Represent and manipulate time-series data and the many of the intricacies involved with this type of data How to visualize statistical information How to use pandas to solve several common data representation and analysis problems within finance In Detail You will learn how to use pandas to perform data analysis in Python. You will start with an overview of data analysis and iteratively progress from modeling data, to accessing data from remote sources, performing numeric and statistical analysis, through indexing and performing aggregate analysis, and finally to visualizing statistical data and applying pandas to finance. With the knowledge you gain from this book, you will quickly learn pandas and how it can empower you in the exciting world of data manipulation,

analysis and science. Style and approach Step-by-step instruction on using pandas within an end-to-end framework of performing data analysis Practical demonstration of using Python and pandas using interactive and incremental examples

Treading on Python is designed to bring developers and others who are anxious to learn Python up to speed quickly. Not only does it teach the basics of syntax, but it condenses years of experience. You will learn warts, gotchas, best practices and hints that have been gleaned through the years in days. You will hit the ground running and running in the right way. The only way to master a skill is to practice. In Python Workout, author Reuven M. Lerner guides you through 50 carefully selected exercises that invite you to flex your programming muscles. As you take on each new challenge, you'll build programming skill and confidence. Summary The only way to master a skill is to practice. In Python Workout, author Reuven M. Lerner guides you through 50 carefully selected exercises that invite you to flex your programming muscles. As you take on each new challenge, you'll build programming skill and confidence. The thorough explanations help you lock in what you've learned and apply it to your own projects. Along the way, Python Workout provides over four hours of video instruction walking you through the solutions to each exercise and dozens of additional exercises for you to try on your own. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology To become a champion Python programmer you need to work out, building mental muscle with your hands on the keyboard. Each carefully selected exercise in this unique book adds to your Python prowess—one important skill at a time. About the book Python Workout presents 50 exercises that focus on key Python 3 features. In it, expert Python coach Reuven Lerner guides you through a series of small projects, practicing the skills you need to tackle everyday tasks. You'll appreciate the clear explanations of each technique, and you can watch Reuven solve each exercise in the accompanying videos. What's inside 50 hands-on exercises and solutions Coverage of all Python data types Dozens more bonus exercises for extra practice About the reader For readers with basic Python knowledge. About the author Reuven M. Lerner teaches Python and data science to companies around the world. Table of Contents 1 Numeric types 2 Strings 3 Lists and tuples 4 Dictionaries and sets 5 Files 6 Functions 7 Functional programming with comprehensions 8 Modules and packages 9 Objects 10 Iterators and generators

An Introduction to Statistical Learning provides an accessible overview of the field of statistical learning, an essential toolset for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. This book presents some of the most important modeling and prediction techniques, along with relevant applications. Topics include linear regression, classification, resampling methods, shrinkage approaches, tree-based methods, support vector machines, clustering, and more. Color graphics

and real-world examples are used to illustrate the methods presented. Since the goal of this textbook is to facilitate the use of these statistical learning techniques by practitioners in science, industry, and other fields, each chapter contains a tutorial on implementing the analyses and methods presented in R, an extremely popular open source statistical software platform. Two of the authors co-wrote *The Elements of Statistical Learning* (Hastie, Tibshirani and Friedman, 2nd edition 2009), a popular reference book for statistics and machine learning researchers. *An Introduction to Statistical Learning* covers many of the same topics, but at a level accessible to a much broader audience. This book is targeted at statisticians and non-statisticians alike who wish to use cutting-edge statistical learning techniques to analyze their data. The text assumes only a previous course in linear regression and no knowledge of matrix algebra.

Are you looking for a super-fast computer programming course? Would you like to learn the Python Programming Language in 7 days? Do you want to increase your business thanks to the web applications? If so, keep reading: this bundle book is for you! Finally on launch the most complete Python guide with 3 Manuscripts in 1 book: 1-Python for beginners 2-Python for Data Science 4-Python Crash Course Python will introduce you many selected practices for coding . You will discover as a beginner the world of data science, machine learning and artificial intelligence. The following list is just a tiny fraction of what you will learn in this collection bundle. 1) Python for beginners ? The basics of Python programming ? Differences among programming languages ? Vba, SQL, R, Python ? Game creation with Python ? Easy-to-follow steps for reading and writing codes. ? Control flow statements and Error handling ? 4 best strategies with NumPy, Pandas, Matplotlib 2) Python for Data science ? 4 reason why Python is fundamental for Data Science ? Python design patterns ? How to use Python Data Analysis in your business ? Data visualization optimal tools and techniques ? Analysis of popular Python projects templates ? How to set up the Python environment for Data Science ? Most important Machine Learning Algorithms ? How to leverage Data Science in the Cloud 3) Python Crash Course * A Proven Method to Write your First Program in 7 Days * 5 Common Mistakes to Avoid when You Start Coding * A Simple Strategy to Write Clean, Understandable and Flexible Codes * The One Thing You Need to Debug your Codes in Python * 5 Practical exercises to start programming Even if you have never written a programming code before, you will quickly grasp the basics thanks to visual charts and guidelines for coding. Examples and step-by-step guides will guide you during the code-writing learning process. The description of each topic is crystal-clear and you can easily practice with related exercises. You will also learn all the best tricks of writing codes with point by point descriptions of the code elements. If you really wish to to learn Python and master its language, please click the BUY NOW button.

This book is a practical, hands-on guide that takes you through the techniques of web scraping using Beautiful Soup. Getting Started with Beautiful Soup is great for anybody who is interested in website scraping and extracting information.

However, a basic knowledge of Python, HTML tags, and CSS is required for better understanding.

Introducing Your Guide to Learning Python Illustrated Guide to Learning Python is designed to bring developers and others who are anxious to learn Python up to speed quickly. Not only does it teach the basics of syntax, but it condenses years of experience. You will learn warts, gotchas, best practices and hints that have been gleaned through the years in days. You will hit the ground running and running in the right way. Learn Python Quickly Python is an incredible language. It is powerful and applicable in many areas. It is used for automation of simple or complex tasks, numerical processing, web development, interactive games and more. Whether you are a programmer coming to Python from another language, managing Python programmers or wanting to learn to program, it makes sense to cut to the chase and learn Python the right way. You could scour blogs, websites and much longer tomes if you have time. Treading on Python lets you learn the hints and tips to be Pythonic quickly. Packed with Useful Hints and Tips You'll learn the best practices without wasting time searching or trying to force Python to be like other languages. I've collected all the gems I've gleaned over years of writing and teaching Python for you. A No Nonsense Guide to Mastering Basic Python Python is a programming language that lets you work more quickly and integrate your systems more effectively. You can learn to use Python and see almost immediate gains in productivity and lower maintenance costs. What you will learn: Distilled best practices and tips How interpreted languages work Using basic types such as Strings, Integers, and Floats Best practices for using the interpreter during development The difference between mutable and immutable data Sets, Lists, and Dictionaries, and when to use each Gathering keyboard input How to define a class Looping constructs Handling Exceptions in code Slicing sequences Creating modular code Using libraries Laying out code Community prescribed conventions

Pandas has rapidly become one of Python's most popular data analysis libraries. With pandas you can efficiently sort, analyze, filter and munge almost any type of data. Pandas in Action shows you how to master this versatile tool and take the next steps in your data science career. Pandas has rapidly become one of Python's most popular data analysis libraries. With pandas you can efficiently sort, analyze, filter and munge almost any type of data. Pandas in Action shows you how to master this versatile tool and take the next steps in your data science career. Pandas in Action makes it easy to dive into Python-based data analysis. You'll learn to use pandas to automate repetitive spreadsheet functionality and derive insight from data by sorting columns, filtering data subsets, and creating multi-leveled indices. Each chapter is a self-contained tutorial, letting you dip in when you need to troubleshoot tricky problems. Best of all, you won't be learning from sterile or randomly created data. You'll start with a variety of datasets that are big, small, incomplete, broken, and messy and learn how to clean and format them for proper analysis. Purchase of the print book includes a free eBook in

PDF, Kindle, and ePub formats from Manning Publications.

Learning the Pandas Library Python Tools for Data Munging, Analysis, and Visual Createspace Independent Publishing Platform

If you are interested in quantitative finance, financial modeling, and trading, or simply want to learn how Python and pandas can be applied to finance, then this book is ideal for you. Some knowledge of Python and pandas is assumed. Interest in financial concepts is helpful, but no prior knowledge is expected.

The Python ecosystem with scikit-learn and pandas is required for operational machine learning. Python is the rising platform for professional machine learning because you can use the same code to explore different models in R&D then deploy it directly to production. In this Ebook, learn exactly how to get started and apply machine learning using the Python ecosystem.

This practical guide provides nearly 200 self-contained recipes to help you solve machine learning challenges you may encounter in your daily work. If you're comfortable with Python and its libraries, including pandas and scikit-learn, you'll be able to address specific problems such as loading data, handling text or numerical data, model selection, and dimensionality reduction and many other topics. Each recipe includes code that you can copy and paste into a toy dataset to ensure that it actually works. From there, you can insert, combine, or adapt the code to help construct your application. Recipes also include a discussion that explains the solution and provides meaningful context. This cookbook takes you beyond theory and concepts by providing the nuts and bolts you need to construct working machine learning applications. You'll find recipes for: Vectors, matrices, and arrays Handling numerical and categorical data, text, images, and dates and times Dimensionality reduction using feature extraction or feature selection Model evaluation and selection Linear and logical regression, trees and forests, and k-nearest neighbors Support vector machines (SVM), naïve Bayes, clustering, and neural networks Saving and loading trained models

Understand and implement big data analysis solutions in pandas with an emphasis on performance. This book strengthens your intuition for working with pandas, the Python data analysis library, by exploring its underlying implementation and data structures. Thinking in Pandas introduces the topic of big data and demonstrates concepts by looking at exciting and impactful projects that pandas helped to solve. From there, you will learn to assess your own projects by size and type to see if pandas is the appropriate library for your needs. Author Hannah Stepanek explains how to load and normalize data in pandas efficiently, and reviews some of the most commonly used loaders and several of their most powerful options. You will then learn how to access and transform data efficiently, what methods to avoid, and when to employ more advanced performance techniques. You will also go over basic data access and munging in

pandas and the intuitive dictionary syntax. Choosing the right DataFrame format, working with multi-level DataFrames, and how pandas might be improved upon in the future are also covered. By the end of the book, you will have a solid understanding of how the pandas library works under the hood. Get ready to make confident decisions in your own projects by utilizing pandas—the right way. What You Will Learn Understand the underlying data structure of pandas and why it performs the way it does under certain circumstances Discover how to use pandas to extract, transform, and load data correctly with an emphasis on performance Choose the right DataFrame so that the data analysis is simple and efficient. Improve performance of pandas operations with other Python libraries Who This Book Is For Software engineers with basic programming skills in Python keen on using pandas for a big data analysis project. Python software developers interested in big data.

Python Data Analytics will help you tackle the world of data acquisition and analysis using the power of the Python language. At the heart of this book lies the coverage of pandas, an open source, BSD-licensed library providing high-performance, easy-to-use data structures and data analysis tools for the Python programming language. Author Fabio Nelli expertly shows the strength of the Python programming language when applied to processing, managing and retrieving information. Inside, you will see how intuitive and flexible it is to discover and communicate meaningful patterns of data using Python scripts, reporting systems, and data export. This book examines how to go about obtaining, processing, storing, managing and analyzing data using the Python programming language. You will use Python and other open source tools to wrangle data and tease out interesting and important trends in that data that will allow you to predict future patterns. Whether you are dealing with sales data, investment data (stocks, bonds, etc.), medical data, web page usage, or any other type of data set, Python can be used to interpret, analyze, and glean information from a pile of numbers and statistics. This book is an invaluable reference with its examples of storing and accessing data in a database; it walks you through the process of report generation; it provides three real world case studies or examples that you can take with you for your everyday analysis needs.

Python Machine Learning for Beginners Machine Learning (ML) and Artificial Intelligence (AI) are here to stay. Yes, that's right. Based on a significant amount of data and evidence, it's obvious that ML and AI are here to stay. Consider any industry today. The practical applications of ML are really driving business results. Whether it's healthcare, e-commerce, government, transportation, social media sites, financial services, manufacturing, oil and gas, marketing and sales You name it. The list goes on. There's no doubt that ML is going to play a decisive role in every domain in the future. But what does a Machine Learning professional do? A Machine Learning specialist develops intelligent algorithms that learn from data and also adapt to the data quickly. Then, these high-end algorithms make accurate predictions. Python Machine

Learning for Beginners presents you with a hands-on approach to learn ML fast. How Is This Book Different? AI Publishing strongly believes in learning by doing methodology. With this in mind, we have crafted this book with care. You will find that the emphasis on the theoretical aspects of machine learning is equal to the emphasis on the practical aspects of the subject matter. You'll learn about data analysis and visualization in great detail in the first half of the book. Then, in the second half, you'll learn about machine learning and statistical models for data science. Each chapter presents you with the theoretical framework behind the different data science and machine learning techniques, and practical examples illustrate the working of these techniques. When you buy this book, your learning journey becomes so much easier. The reason is you get instant access to all the related learning material presented with this book--references, PDFs, Python codes, and exercises--on the publisher's website. All this material is available to you at no extra cost. You can download the ML datasets used in this book at runtime, or you can access them via the Resources/Datasets folder. You'll also find the short course on Python programming in the second chapter immensely useful, especially if you are new to Python. Since this book gives you access to all the Python codes and datasets, you only need access to a computer with the internet to get started. The topics covered include: Introduction and Environment Setup Python Crash Course Python NumPy Library for Data Analysis Introduction to Pandas Library for Data Analysis Data Visualization via Matplotlib, Seaborn, and Pandas Libraries Solving Regression Problems in ML Using Sklearn Library Solving Classification Problems in ML Using Sklearn Library Data Clustering with ML Using Sklearn Library Deep Learning with Python TensorFlow 2.0 Dimensionality Reduction with PCA and LDA Using Sklearn Click the BUY NOW button to start your Machine Learning journey.

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

Master Powerful Off-the-Shelf Business Solutions for AI and Machine Learning Pragmatic AI will help you solve real-world problems with contemporary machine learning, artificial intelligence, and cloud computing tools. Noah Gift demystifies all the concepts and tools you need to get results—even if you don't have a strong background in math or data science. Gift illuminates powerful off-the-shelf cloud offerings from Amazon, Google, and Microsoft, and demonstrates proven techniques using the Python data science ecosystem. His workflows and examples help you streamline and simplify every step, from deployment to production, and build exceptionally scalable solutions. As you learn how machine language (ML) solutions work, you'll gain a more intuitive understanding of what you can achieve with them and how to maximize their value. Building on these fundamentals, you'll walk step-by-step through building cloud-based AI/ML applications to address realistic issues in sports marketing, project management, product pricing, real estate, and beyond. Whether you're a business professional, decision-maker, student, or programmer, Gift's expert guidance and wide-ranging case studies will prepare you to solve data science problems in virtually any environment. Get and configure all the tools you'll need Quickly review all the Python you need to start building machine learning applications Master the AI and ML toolchain and project lifecycle Work with Python data science tools such as IPython, Pandas, Numpy, Jupyter Notebook, and Sklearn Incorporate a pragmatic feedback loop that continually improves the efficiency of your workflows and systems Develop cloud AI solutions with Google Cloud Platform, including TPU, Colaboratory, and Datalab services Define Amazon Web Services cloud AI workflows, including spot instances, code pipelines, boto, and more Work with Microsoft Azure AI APIs Walk through building six real-world AI applications, from start to finish Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

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

Summary Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Machine learning has made remarkable progress in recent years. We went from near-unusable speech and image recognition, to near-human accuracy. We went from machines that couldn't beat a serious Go player, to defeating a world champion. Behind this progress is deep learning—a combination of engineering advances, best practices, and theory that enables a wealth of previously impossible smart applications. About the Book Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. You'll explore challenging concepts and practice with applications in computer vision, natural-language processing, and generative models. By the time you finish, you'll have the knowledge and hands-on skills to apply deep learning in your own projects. What's Inside Deep learning from first principles Setting up your own deep-learning environment Image-classification models Deep learning for text and sequences Neural style transfer, text generation, and image generation About the Reader Readers need intermediate Python skills. No previous experience with Keras, TensorFlow, or machine learning is required. About the Author François Chollet works on deep learning at Google in Mountain View, CA. He is the creator of the Keras deep-learning library, as well as a contributor to the TensorFlow machine-learning framework. He also does deep-learning research, with a focus on computer vision and the application of machine learning to formal reasoning. His papers have been published at major conferences in the field, including the Conference on Computer Vision and Pattern Recognition (CVPR), the Conference and Workshop on Neural Information Processing Systems (NIPS), the International Conference on Learning Representations (ICLR), and others. Table of Contents PART 1 - FUNDAMENTALS OF DEEP LEARNING What is deep learning? Before we begin: the mathematical building blocks of neural networks Getting started with neural networks Fundamentals of machine learning PART 2 - DEEP LEARNING IN PRACTICE Deep learning for computer vision Deep learning for text and sequences Advanced deep-learning best practices Generative deep learning Conclusions appendix A - Installing Keras and its dependencies on Ubuntu appendix B - Running Jupyter notebooks on an EC2 GPU instance

Master these effective techniques to reduce costs and run times, handle huge datasets, and implement complex machine learning applications efficiently in Python. Fast Python for Data Science is a hands-on guide to writing Python code that can process more data, faster, and with less resources. It takes a holistic approach to Python performance, showing you how your code, libraries, and computing architecture interact and can be optimized together. Written for experienced practitioners, Fast Python for Data Science dives right into practical solutions for improving computation and storage efficiency. You'll experiment with fun and interesting examples such as rewriting games in lower-level Cython and implementing a MapReduce framework from scratch.

Finally, you'll go deep into Python GPU computing and learn how modern hardware has rehabilitated some former antipatterns and made counterintuitive ideas the most efficient way of working. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Get to grips with the most popular Python packages that make data analysis possible

Key Features

- Explore the tools you need to become a data analyst
- Discover practical examples to help you grasp data processing concepts
- Walk through hierarchical indexing and grouping for data analysis

Book Description

Python, a multi-paradigm programming language, has become the language of choice for data scientists for visualization, data analysis, and machine learning. Hands-On Data Analysis with NumPy and Pandas starts by guiding you in setting up the right environment for data analysis with Python, along with helping you install the correct Python distribution. In addition to this, you will work with the Jupyter notebook and set up a database. Once you have covered Jupyter, you will dig deep into Python's NumPy package, a powerful extension with advanced mathematical functions. You will then move on to creating NumPy arrays and employing different array methods and functions. You will explore Python's pandas extension which will help you get to grips with data mining and learn to subset your data. Last but not the least you will grasp how to manage your datasets by sorting and ranking them. By the end of this book, you will have learned to index and group your data for sophisticated data analysis and manipulation. What you will learn

- Understand how to install and manage Anaconda
- Read, sort, and map data using NumPy and pandas
- Find out how to create and slice data arrays using NumPy
- Discover how to subset your DataFrames using pandas
- Handle missing data in a pandas DataFrame
- Explore hierarchical indexing and plotting with pandas

Who this book is for

Hands-On Data Analysis with NumPy and Pandas is for you if you are a Python developer and want to take your first steps into the world of data analysis. No previous experience of data analysis is required to enjoy this book.

Over 95 hands-on recipes to leverage the power of pandas for efficient scientific computation and data analysis

About This Book

Use the power of pandas to solve most complex scientific computing problems with ease

- Leverage fast, robust data structures in pandas to gain useful insights from your data
- Practical, easy to implement recipes for quick solutions to common problems in data using pandas

Who This Book Is For

This book is for data scientists, analysts and Python developers who wish to explore data analysis and scientific computing in a practical, hands-on manner. The recipes included in this book are suitable for both novice and advanced users, and contain helpful tips, tricks and caveats wherever necessary. Some understanding of pandas will be helpful, but not mandatory. What You Will Learn

- Master the fundamentals of pandas to quickly begin exploring any dataset
- Isolate any subset of data by properly selecting and querying the data
- Split data into independent groups before applying aggregations and transformations to each group
- Restructure data into tidy form to make data analysis and visualization easier
- Prepare real-world messy datasets for machine learning
- Combine and merge data from different sources through pandas SQL-like operations
- Utilize pandas unparalleled time series functionality
- Create beautiful and insightful visualizations through pandas direct hooks to Matplotlib and Seaborn

In Detail

This book will provide you with unique, idiomatic, and fun recipes for both fundamental and advanced data manipulation tasks with pandas. Some recipes focus on achieving a deeper understanding of basic principles, or

comparing and contrasting two similar operations. Other recipes will dive deep into a particular dataset, uncovering new and unexpected insights along the way. The pandas library is massive, and it's common for frequent users to be unaware of many of its more impressive features. The official pandas documentation, while thorough, does not contain many useful examples of how to piece together multiple commands like one would do during an actual analysis. This book guides you, as if you were looking over the shoulder of an expert, through practical situations that you are highly likely to encounter. Many advanced recipes combine several different features across the pandas library to generate results. Style and approach The author relies on his vast experience teaching pandas in a professional setting to deliver very detailed explanations for each line of code in all of the recipes. All code and dataset explanations exist in Jupyter Notebooks, an excellent interface for exploring data.

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

Leverage the numerical and mathematical modules in Python and its standard library as well as popular open source numerical Python packages like NumPy, SciPy, FiPy, matplotlib and more. This fully revised edition, updated with the latest details of each package and changes to Jupyter projects, demonstrates how to numerically compute solutions and mathematically model applications in big data, cloud computing, financial engineering, business management and more. Numerical Python, Second Edition, presents many brand-new case study examples of applications in data science and statistics using Python, along with extensions to many previous examples. Each of these demonstrates the power of Python for rapid development and exploratory computing due to its simple and high-level syntax and multiple options for data analysis. After reading this book, readers will be familiar with many computing techniques including array-based and symbolic computing, visualization and numerical file I/O, equation solving, optimization, interpolation and integration, and domain-specific computational problems, such as differential equation solving, data analysis, statistical modeling and machine learning. What You'll Learn Work with vectors and matrices using NumPy Plot and visualize data with Matplotlib Perform data analysis tasks with Pandas and SciPy Review statistical modeling and machine learning with statsmodels and scikit-learn Optimize Python code using Numba and Cython Who This Book Is For Developers who want to understand how to use Python and its related ecosystem for numerical computing.

Download Free Learning The Pandas Library Python Tools For Data Munging Analysis And Visual

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

Master the Python Programming Language and Data Analysis With This Comprehensive Guide! If you would like to... Grow your business Get an amazing job Make great business decisions Get rid of the competition... This book will teach you how to achieve all that with the help of data analysis and data science. It might sound like a lot of work, but with proper guidance, you don't need to spend hours bent over textbooks and trying to make sense of a huge amount of information. The goal of this book is not only to learn about data analysis but to go from this theoretical to practical knowledge and application. In other words, you'll be able to complete your own analysis, implement its methods in your business, and master the Python Programming Language! Here's what you'll learn with this book: The importance of data analysis and why every successful business and industry are using it How to process data with tools and techniques used by data scientists The concepts behind Python programming How to use the "data munging" process How to use Python libraries such as Pandas and NumPy for data analysis The importance of data visualization How to create the right analytical algorithm for predicting the market trends How to write codes, and create programs and databases And much more! Even if this is the first time you're hearing about Data Analysis and Python, you can still successfully learn everything this book offers. The instructions are incredibly simple, the methods explained to the finest details and the guides are presented in a step-by-step way. You don't have to be a computer or math expert to develop this skill. You simply need a straightforward guide on the steps you have to take, with clear background explanations to help you understand those steps. If you want to modernize your company and your skills, make the most of your data and become a competitive force on the market, Get Your Copy Now! Do you want to take your Python to the next level? Python is easy to learn. You can learn the basics in a day and be productive with it. But there are more advanced constructs that you will eventually run across if you spend enough time with it. Don't be confused by these. Learn them, embrace them, and improve your code and others.

The financial industry has adopted Python at a tremendous rate recently, with some of the largest investment banks and hedge funds using it to build core trading and risk management systems. This hands-on guide helps both developers and quantitative analysts get started with Python, and guides you through the most important aspects of using Python for quantitative finance. Using practical examples through the book, author Yves Hilpisch also shows you how to develop a full-fledged framework for Monte Carlo simulation-based derivatives and risk analytics, based on a large, realistic case study. Much of the book uses interactive IPython Notebooks, with topics that include: Fundamentals: Python data structures, NumPy array handling, time series analysis with pandas, visualization with matplotlib, high performance I/O operations with PyTables, date/time information handling, and selected best practices Financial topics: mathematical

techniques with NumPy, SciPy and SymPy such as regression and optimization; stochastics for Monte Carlo simulation, Value-at-Risk, and Credit-Value-at-Risk calculations; statistics for normality tests, mean-variance portfolio optimization, principal component analysis (PCA), and Bayesian regression Special topics: performance Python for financial algorithms, such as vectorization and parallelization, integrating Python with Excel, and building financial applications based on Web technologies

Knowing how to work with data to extract insights generates significant value. This book will help you to develop data analysis skills using a hands-on approach and real-world data. You'll get up to speed with pandas 1.x in no time and build some software engineering skills in the process, vastly expanding your data science toolbox.

Python is one of the top 3 tools that Data Scientists use. One of the tools in their arsenal is the Pandas library. This tool is popular because it gives you so much functionality out of the box. In addition, you can use all the power of Python to make the hard stuff easy! Learning the Pandas Library is designed to bring developers and aspiring data scientists who are anxious to learn Pandas up to speed quickly. It starts with the fundamentals of the data structures. Then, it covers the essential functionality. It includes many examples, graphics, code samples, and plots from real world examples. The Content Covers: Installation Data Structures Series CRUD Series Indexing Series Methods Series Plotting Series Examples DataFrame Methods DataFrame Statistics Grouping, Pivoting, and Reshaping Dealing with Missing Data Joining DataFrames DataFrame Examples Preliminary Reviews This is an excellent introduction benefitting from clear writing and simple examples. The pandas documentation itself is large and sometimes assumes too much knowledge, in my opinion. Learning the Pandas Library bridges this gap for new users and even for those with some pandas experience such as me. -Garry C. I have finished reading Learning the Pandas Library and I liked it... very useful and helpful tips even for people who use pandas regularly. -Tom Z.

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

[Copyright: 67cda8d7a4c35b20af953652fcd3b382](https://www.udacity.com/course/learning-the-pandas-library-python-tools-for-data-munging-analysis-and-visualization)