

## The Ultimate Python Seaborn Tutorial Gotta Catch Em All

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.

Feature engineering is a crucial step in the machine-learning pipeline, yet this topic is rarely examined on its own. With this practical book, you'll learn techniques for extracting and transforming features—the numeric representations of raw data—into formats for machine-learning models. Each chapter guides you through a single data problem, such as how to represent text or image data. Together, these examples illustrate the main principles of feature engineering. Rather than simply teach these principles, authors Alice Zheng and Amanda Casari focus on practical application with exercises throughout the book. The closing chapter brings everything together by tackling a real-world, structured dataset with several feature-engineering techniques. Python packages including numpy, Pandas, Scikit-learn, and Matplotlib are used in code examples. You'll examine: Feature engineering for numeric data: filtering, binning, scaling, log transforms, and power transforms Natural text techniques: bag-of-words, n-grams, and phrase detection Frequency-based filtering and feature scaling for eliminating uninformative features Encoding techniques of categorical variables, including feature hashing and bin-counting Model-based feature engineering with principal component analysis The concept of model stacking, using k-means as a featurization technique Image feature extraction with manual and deep-learning techniques

\*Start your Data Science career using Python today!\* Are you ready to start your new exciting career? Ready to crush your machine learning career goals? Are you overwhelmed with complexity of the books on this subject?Then let this breezy and fun little book on Python and machine learning models make you a data scientist in 7 days! First part of this book introduces Python basics including: 1) Data Structures like Pandas 2) Foundational libraries like Numpy, Seaborn and Scikit-Learn Second part of this book shows you how to build predictive machine learning models step by step using techniques such as: 1) Regression analysis 2) Decision tree analysis 3) Training and testing data models 4) And much more! After reading this book you will be able to: 1) Code in Python with confidence 2) Build new machine learning models from scratch 3) Know how to clean and prepare your data for analytics 4) Speak confidently about statistical analysis techniques Data Science was ranked the fast-growing field by LinkedIn and Data Scientist is one of the most highly sought after and lucrative careers in the world! If you are on the fence about making the leap to a new and lucrative career, this is the book for you! What sets this book apart from other books on the topic of Python and Machine learning: 1) Step by step code examples and explanation 2) Complex concepts explained visually 3) Real world applicability of the machine learning models introduced 4) Bonus free code samples that you can try yourself without any prior experience in Python! What do I need to get started? You will have a step by step action plan in place once you finish this book and finally feel that you, can master data science and machine learning and start lucrative and rewarding career! Ready to dive in to the exciting world of Python and Machine Learning? Then scroll up to the top and hit that BUY BUTTON!

\*\*\*\*\*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 analysts' 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](mailto:contact@aisciences.net). AI Sciences Company offers you a free eBooks at <http://aisciences.net/free/>

The Ultimate Beginners' Guide to Learning Python Data Science Step by Step

Synthesizing Actionable Insights from Data

Practical Data Science with Python 3

Python Data Visualization

Artificial Intelligence and Neural Network Concepts Explained in Simple Terms

Python for Data Science

A Plain English Introduction

"This textbook is a well-rounded, rigorous, and informative work presenting the mathematics behind modern machine learning techniques. It hits all the right notes: the choice of topics is up-to-date and perfect for a course on data science for mathematics students at the advanced undergraduate or early graduate level. This book fills a sorely-needed gap in the existing literature by not sacrificing depth for breadth, presenting proofs of major theorems and subsequent derivations, as well as providing a copious amount of Python code. I only wish a book like this had been around when I first began my journey!" -Nicholas Hoell, University of Toronto "This is a well-written book that provides a deeper dive into data-scientific methods than many introductory texts. The writing is clear, and the text logically builds up regularization, classification, and decision trees. Compared to its probable competitors, it carves out a unique niche. -Adam Loy, Carleton College The purpose of Data Science and Machine Learning: Mathematical and Statistical Methods is to provide an accessible, yet comprehensive textbook intended for students interested in gaining a better understanding of the mathematics and statistics that underpin the rich variety of ideas and machine learning algorithms in data science. Key Features: Focuses on mathematical understanding. Presentation is self-contained, accessible, and comprehensive. Extensive list of exercises and worked-out examples. Many concrete algorithms with Python code. Full color throughout. The Authors: Dirk P. Kroese, PhD, is a Professor of Mathematics and Statistics at The University of Queensland. He has published over 120 articles and five books in a wide range of areas in mathematics, statistics, data science, machine learning, and Monte Carlo methods. He is a pioneer of the well-known Cross-Entropy method-an adaptive Monte Carlo technique, which is being used around the world to help solve difficult estimation and optimization problems in science, engineering, and finance. Zdravko Botev, PhD, is an Australian Mathematical Science Institute Lecturer in Data Science and Machine Learning with an appointment at the University of New South Wales in Sydney, Australia. He is the recipient of the 2018 Christopher Heyde Medal of the Australian Academy of Science for distinguished research in the Mathematical Sciences. Thomas Taimre, PhD, is a Senior Lecturer of Mathematics and Statistics at The University of Queensland. His research interests range from applied probability and Monte Carlo methods to applied physics and the remarkably universal self-mixing effect in lasers. He has published over 100 articles, holds a patent, and is the coauthor of Handbook of Monte Carlo Methods (Wiley). Radislav Vaisman, PhD, is a Lecturer of Mathematics and Statistics at The University of Queensland. His research interests lie at the intersection of applied probability, machine learning, and computer science. He has published over 20 articles and two books. 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

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.

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 Basics

Pandas for Everyone

Data Analysis from Scratch with Python

50 Essential Concepts

Feature Engineering for Machine Learning

Learning pandas

A Step-by-Step Breakdown with Data, Algorithms, Codes, and Applications

**Gain insight into essential data science skills in a holistic manner using data engineering and associated scalable computational methods. This book covers the most popular Python 3 frameworks for both local and distributed (in premise and cloud based) processing. Along the way, you will be introduced to many popular open-source frameworks, like, SciPy, scikitlearn, Numba, Apache Spark, etc. The book is structured around examples, so you will grasp core concepts via case studies and Python 3 code. As data science projects gets continuously larger and more complex, software engineering knowledge and experience is crucial to produce evolvable solutions. You'll see how to create maintainable software for data science and how to document data engineering practices. This book is a good starting point for people who want to gain practical skills to perform data science. All the code will be available in the form of IPython notebooks and Python 3 programs, which allow you to reproduce all analyses from the book and customize them for your own purpose. You'll also benefit from advanced topics like Machine Learning, Recommender Systems, and Security in Data Science. Practical Data Science with Python will empower you analyze data, formulate proper questions, and produce actionable insights, three core stages in most data science endeavors. What You'll LearnPlay the role of a data scientist when completing increasingly challenging exercises using Python 3Work work with proven data science techniques/technologies Review scalable software engineering practices to ramp up data analysis abilities in the realm of Big Data Apply theory of probability, statistical inference, and algebra to understand the data science practicesWho This Book Is For** Anyone who would like to embark into the realm of data science using Python 3.

**Make the Leap From Beginner to Intermediate in Python... Python Basics: A Practical Introduction to Python 3 Your Complete Python Curriculum-With Exercises, Interactive Quizzes, and Sample Projects** What should you learn about Python in the beginning to get a strong foundation? With Python Basics, you'll not only cover the core concepts you really need to know, but you'll also learn them in the most efficient order with the help of practical exercises and interactive quizzes. You'll know enough to be dangerous with Python, fast! Who Should Read This Book If you're new to Python, you'll get a practical, step-by-step roadmap on developing your foundational skills. You'll be introduced to each concept and language feature in a logical order. Every step in this curriculum is explained and illustrated with short, clear code samples. Our goal with this book is to educate, not to impress or intimidate. If you're familiar with some basic programming concepts, you'll get a clear and well-tested introduction to Python. This is a practical introduction to Python that jumps right into the meat and potatoes without sacrificing substance. If you have prior experience with languages like VBA, PowerShell, R, Perl, C, C++, C#, Java, or Swift the numerous exercises within each chapter will fast-track your progress. If you're a seasoned developer, you'll get a Python 3 crash course that brings you up to speed with modern Python programming. Mix and match the chapters that interest you the most and use the interactive quizzes and review exercises to check your learning progress as you go along. If you're a self-starter completely new to coding, you'll get practical and motivating examples. You'll begin by installing Python and setting up a coding environment on your computer from scratch, and then continue from there. We'll get you coding right away so that you become competent and knowledgeable enough to solve real-world problems, fast. Develop a passion for programming by solving interesting problems with Python every day! If you're looking to break into a coding or data-science career, you'll pick up the practical foundations with this book. We won't just dump a boat load of theoretical information on you so you can "sink or swim"-instead you'll learn from hands-on, practical examples one step at a time. Each concept is broken down for you so you'll always know what you can do with it in practical terms. If you're interested in teaching others "how to Python," this will be your guidebook. If you're looking to stoke the coding flame in your coworkers, kids, or relatives-use our material to teach them. All the sequencing has been done for you so you'll always know what to cover next and how to explain it. What Python Developers Say About The Book: "Go forth and learn this amazing language using this great book." - Michael Kennedy, Talk Python "The wording is casual, easy to understand, and makes the information flow well." - Thomas Wong, Pythonista "I floundered for a long time trying to teach myself. I slogged through dozens of incomplete online tutorials. I snoozed through hours of boring screencasts. I gave up on countless cruffy books from big-time publishers. And then I found Real Python. The easy-to-follow, step-by-step instructions break the big concepts down into bite-sized chunks written in plain English. The authors never forget their audience and are consistently thorough and detailed in their explanations. I'm up and running now, but I constantly refer to the material for guidance." - Jared Nielsen, Pythonista

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, and other theorists of quantitative graphics.

Machine Learning Guide for Oil and Gas Using Python: A Step-by-Step Breakdown with Data, Algorithms, Codes, and Applications delivers a critical training and resource tool to help engineers understand machine learning theory and practice, specifically referencing use cases in oil and gas. The reference moves from explaining how Python works to step-by-step examples of utilization in various oil and gas scenarios, such as well testing, shale reservoirs and production optimization. Petroleum engineers are quickly applying machine learning techniques to their data challenges, but there is a lack of references beyond the math or heavy theory of machine learning. Machine Learning Guide for Oil and Gas Using Python details the open-source tool Python by explaining how it works at an introductory level then bridging into how to apply the algorithms into different oil and gas scenarios. While similar resources are often too mathematical, this book balances theory with applications, including use cases that help solve different oil and gas data challenges. Helps readers understand how open-source Python can be utilized in practical oil and gas challenges Covers the most commonly used algorithms for both supervised and unsupervised learning Presents a balanced approach of both theory and practicality while progressing from introductory to advanced analytical techniques

Dive Into Deep Learning

MATLAB For Dummies

An Easy Introduction to Data Visualization in Python with Matplotlib, Pandas, and Seaborn

The Grammar of Graphics

Recipes for Scientific Computing, Time Series Analysis and Data Visualization using Python

Ultimate Step by Step Guide to Machine Learning Using Python

A Python data science handbook for data collection, wrangling, analysis, and visualization

Get to grips with pandas-a versatile and high-performance Python library for data manipulation, analysis, and discovery Key FeaturesPerform efficient data analysis and manipulation tasks using pandasApply pandas to different real-world domains using step-by-step demonstrationsGet accustomed to using pandas as an effective data exploration toolBook Description Data analysis has become a necessary skill in a variety of positions where knowing how to work with data and extract insights can generate significant value. Hands-On Data Analysis with Pandas will show you how to analyze your data, get started with machine learning, and work effectively with Python libraries often used for data science, such as pandas, NumPy, matplotlib, seaborn, and scikit-learn. Using real-world datasets, you will learn how to use the powerful pandas library to perform data wrangling to reshape, clean, and aggregate your data. Then, you will learn how to conduct exploratory data analysis by calculating summary statistics and visualizing the data to find patterns. In the concluding chapters, you will explore some applications of anomaly detection, regression, clustering, and classification, using scikit-learn, to make predictions based on past data. By the end of this book, you will be equipped with the skills you need to use pandas to ensure the veracity of your data, visualize it for effective decision-making, and reliably reproduce analyses across multiple datasets. What you will learnUnderstand how data analysts and scientists gather and analyze dataPerform data analysis and data wrangling in PythonCombine, group, and aggregate data from multiple sourcesCreate data visualizations with pandas, matplotlib, and seabornApply machine learning (ML) algorithms to identify patterns and make predictionsUse Python data science libraries to analyze real-world datasetsUse pandas to solve common data representation and analysis problemsBuild Python scripts, modules, and packages for reusable analysis codeWho this book is for This book is for data analysts, data science beginners, and Python developers who want to explore each stage of data analysis and scientific computing using a wide range of datasets. You will also find this book useful if you are a data scientist who is looking to implement pandas in machine learning. Working knowledge of Python programming language will be beneficial. 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 Create learning experiences that transform not only learning, but life itself. Learn about, improve, and expand your world of learning. This hands-on companion to the runaway best-seller, Deep Learning: Engage the World Change the World, provides an essential roadmap for building capacity in teachers, schools, districts, and systems to design deep learning, measure progress, and assess conditions needed to activate and sustain innovation. Loaded with tips, tools, protocols, and real-world examples, the easy-to-use guide has everything educators need to construct and drive meaningful deep learning experiences that give purpose, unleash student potential, and prepare students to become problem-solving change agents in a global society. Get to grips with pandas by working with real datasets and master data discovery, data manipulation, data preparation, and handling data for analytical tasks Key FeaturesPerform efficient data analysis and manipulation tasks using pandas 1.xApply pandas to different real-world domains with the help of step-by-step examplesMake the most of pandas as an effective data exploration toolBook Description Extracting valuable business insights is no longer a 'nice-to-have', but an essential skill for anyone who handles data in their enterprise. Hands-On Data Analysis with Pandas is here to help beginners and those who are migrating their skills into data science get up to speed in no time. This book will show you how to analyze your data, get started with machine learning, and work effectively with the Python libraries often used for data science, such as pandas, NumPy, matplotlib, seaborn, and scikit-learn. Using real-world datasets, you will learn how to use the pandas library to perform data wrangling to reshape, clean, and aggregate your data. Then, you will learn how to conduct exploratory data analysis by calculating summary statistics and visualizing the data to find patterns. In the concluding chapters, you will explore some applications of anomaly detection, regression, clustering, and classification using scikit-learn to make predictions based on past data. This updated edition will equip you with the skills you need to use pandas 1.x to efficiently perform various data manipulation tasks, reliably reproduce analyses, and visualize your data for effective decision making - valuable knowledge that can be applied across multiple domains. What you will learnUnderstand how data analysts and scientists gather and analyze dataPerform data analysis and data wrangling using PythonCombine, group, and aggregate data from multiple sourcesCreate data visualizations with pandas, matplotlib, and seabornApply machine learning algorithms to identify patterns and make predictionsUse Python data science libraries to analyze real-world datasetsSolve common data representation and analysis problems using pandasBuild Python scripts, modules, and packages for reusable analysis codeWho this book is for This book is for data science beginners, data analysts, and Python developers who want to explore each stage of data analysis and scientific computing using a wide range of datasets. Data scientists looking to implement pandas in their machine learning workflow will also find plenty of valuable know-how as they progress. You'll find it easier to follow along with this book if you have a working knowledge of the Python programming language, but a Python crash-course tutorial is provided in the code bundle for anyone who needs a refresher.

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Step-By-Step Guide

Practical Machine Learning with Python

Python for Finance

A Practical Introduction to Python 3

Impractical Python Projects

Write Concise, Eloquent Python Like a Professional

Master the intricacies of Tableau to create effective data visualizations About This Book Arm yourself with an arsenal of advanced chart types and geocoding to efficiently and engagingly present information Map a grid over a network node diagram and use that grid to demonstrate loads, processing time, and more in Tableau Integrate R with Tableau by utilizing R functions, libraries, and saved models Who This Book Is For If you are a business analyst without developer-level programming skills, then this book is for you. You are expected to have at least a fundamental understanding of Tableau and basic knowledge of joins, however SQL knowledge is not assumed. You should have basic computer skills, including at least moderate Excel proficiency. What You Will Learn Create a worksheet that can display the current balance for any given period in time Recreate a star schema from in a data warehouse in Tableau Combine level of detail calculations with table calculations, sets, and parameters Create custom polygons to build filled maps for area codes in the USA Visualize data using a set of analytical and advanced charting techniques Know when to use Tableau instead of PowerPoint Build a dashboard and export it to PowerPoint In Detail Tableau has emerged as one of the most popular Business Intelligence solutions in recent times, thanks to its powerful and interactive data visualization capabilities. This book will empower you to become a master in Tableau by exploiting the many new features introduced in Tableau 10.0. You will embark on this exciting journey by getting to know the valuable methods of utilizing advanced calculations to solve complex problems. These techniques include creative use of different types of calculations such as row-level, aggregate-level, and more. You will discover how almost any data visualization challenge can be met in Tableau by getting a proper understanding of the tool's inner workings and creatively exploring possibilities. You'll be armed with an arsenal of advanced chart types and techniques to enable you to efficiently and engagingly present information to a variety of audiences through the use of clear, efficient, and engaging dashboards. Explanations and examples of efficient and inefficient visualization techniques, well-designed and poorly designed dashboards, and compromise options when Tableau consumers will not embrace data visualization will build on your understanding of Tableau and how to use it efficiently. By the end of the book, you will be equipped with all the information you need to create effective dashboards and data visualization solutions using Tableau. Style and approach This book takes a direct approach, to systematically evolve to more involved functionalities such as advanced calculation, parameters & sets, data blending and R integration. This book will help you gain skill in building visualizations previously beyond your capacity.

If you understand basic mathematics and know how to program with Python, you're ready to dive into signal processing. While most resources start with theory to teach this complex subject, this practical book introduces techniques by showing you how they're applied in the real world. In the first chapter alone, you'll be able to decompose a sound into its harmonics, modify the harmonics, and generate new sounds. Author Allen Downey explains techniques such as spectral decomposition, filtering, convolution, and the Fast Fourier Transform. This book also provides exercises and code examples to help you understand the material. You'll explore: Periodic signals and their spectrums Harmonic structure of simple waveforms Chirps and other sounds whose spectrum changes over time Noise signals and natural sources of noise The autocorrelation function for estimating pitch The discrete cosine transform (DCT) for compression The Fast Fourier Transform for spectral analysis Relating operations in time to filters in the frequency domain Linear time-invariant (LTI) system theory Amplitude modulation (AM) used in radio Other books in this series include Think Stats and Think Bayes, also by Allen Downey.

Using the Pi Camera and a Raspberry Pi board, expand and replicate interesting machine learning (ML) experiments. This book provides a solid overview of ML and a myriad of underlying topics to further explore. Non-technical discussions temper complex technical explanations to make the hottest and most complex topic in the hobbyist world of computing understandable and approachable. Machine learning, also commonly referred to as deep learning (DL), is currently being integrated into a multitude of commercial products as well as widely being used in industrial, medical, and military applications. It is hard to find any modern human activity, which has not been "touched" by artificial intelligence (AI) applications. Building on the concepts first presented in Beginning Artificial Intelligence with the Raspberry Pi, you'll go beyond simply understanding the concepts of AI into working with real machine learning experiments and applying practical deep learning concepts to experiments with the Pi board and computer vision. What you learn with Machine Learning with the Raspberry Pi can then be moved on to other platforms to go even further in the world of AI and ML to better your hobbyist or commercial projects. What You'll Learn Acquire a working knowledge of current ML Use the Raspberry Pi to implement ML techniques and algorithms Apply AI and ML tools and techniques to your own work projects and studies Who This Book Is For Engineers and scientists but also experienced makers and hobbyists. Motivated high school students who desire to learn about ML can benefit from this material with determination.

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

Efficiently perform data collection, wrangling, analysis, and visualization using Python

Building Machine Learning and Deep Learning Models on Google Cloud Platform

Experiments with Data and Computer Vision

The Book

Machine Learning for Absolute Beginners

Cracking the Data Science Interview

Your Guide to the Python 3 Interpreter

*Get your guided tour through the Python 3.9 interpreter: Unlock the inner workings of the Python language, compile the Python interpreter from source code, and participate in the development of CPython. Are there certain parts of Python that just seem like magic? This book explains the concepts, ideas, and technicalities of the Python interpreter in an approachable and hands-on fashion. Once you see how Python works at the interpreter level, you can optimize your applications and fully leverage the power of Python. By the End of the Book You'll Be Able To: Read and navigate the CPython 3.9 interpreter source code. You'll deeply comprehend and appreciate the inner workings of concepts like lists, dictionaries, and generators. Make changes to the Python syntax and compile your own version of CPython, from scratch. You'll customize the Python core data types with new functionality and run CPython's automated test suite. Master Python's memory management capabilities and scale your Python code with parallelism and concurrency. Debug C and Python code like a true professional. Profile and benchmark the performance of your Python code and the runtime. Participate in the development of CPython and know how to contribute to future versions of the Python interpreter and standard library. How great would it feel to give back to the community as a "Python Core Developer?" With this book you'll cover the critical concepts behind the internals of CPython and how they work with visual explanations as you go along. Each page in the book has been carefully laid out with beautiful typography, syntax highlighting for code examples. What Python Developers Say About The Book: "It's the book that I wish existed years ago when I started my Python journey. [...] After reading this book your skills will grow and you will be able solve even more complex problems that can improve our world." - Carol Willing, CPython Core Developer & Member of the CPython Steering Council "CPython Internals is a great (and unique) resource for anybody looking to take their knowledge of Python to a deeper level." - Dan Bader, Author of Python Tricks "There are a ton of books on Python which teach the language, but I haven't really come across anything that would go about explaining the internals to those curious minded." - Milan Patel, Vice President at (a major investment bank)*

*Data Visualization using Python for Beginners Are you looking for a hands-on approach to learn Python for Data Visualization Fast? Do you need to start learning Python for Data Visualization from Scratch? This book is for you. This book works as guide to present fundamental Python Libraries and basis related to Data Visualization using Python. Data science and data visualization are two different but interrelated concepts. Data science refers to the science of extracting and exploring data in order to find patterns that can be used for decision making at different levels. Data visualization can be considered as a subdomain of data science where you visualize data with the help of graphs and tables in order to find out which data is most significant and can help in the identification of important patterns. This book is dedicated to data visualization and explains how to perform data visualization on a variety of datasets using various data visualization libraries written in the Python programming language. It is suggested that you use this book for data visualization purposes only and not for decision making. For decision making and pattern identification, read this book in conjunction with a dedicated book on machine learning and data science. We will start by digging into Python programming as all the projects are developed using it, and it is currently the most used programming language in the world. We will also explore the most-famous libraries for Data Visualization such as Pandas, Numpy, Matplotlib, Seaborn, etc . What this book offers... You will learn all about python in three modules, one for Plotting with Matplotlib, one for Plotting with Seaborn, and a final one Pandas for Data Visualization. All three modules will contain hands-on projects using real-world datasets and a lot of exercises. Clear and Easy to Understand Solutions All solutions in this book are extensively tested by a group of beta readers. The solutions provided are simplified as much as possible so that they can serve as examples for you to refer to when you are learning a new skill. What this book aims to do... This book is written with one goal in mind - to help beginners overcome their initial obstacles to learning Data Visualization using Python. A lot of times, newbies tend to feel intimidated by coding and data. The goal of this book is to isolate the different concepts so that beginners can gradually gain competency in the fundamentals of Python before working on a project. Beginners in Python coding and Data Science does not have to be scary or frustrating when you take one step at a time. Ready to start practicing and visualizing your data using Python? Click the BUY button now to download this book Topics Covered: Basic Plotting with Matplotlib Advanced Plotting with Matplotlib Introduction to the Python Seaborn Library Advanced Plotting with Seaborn Introduction to Pandas Library for Data Analysis Pandas for Data Visualization 3D Plotting with Matplotlib Interactive Data Visualization with Bokeh Interactive Data Visualization with Plotly Hands-on Project Exercises Click the BUY button and download the book now to start learning and coding Python for Data Visualization. \*\* MONEY BACK GUARANTEE BY AMAZON \*\* If you aren't satisfied, for more information about the amazon refund service please go to the amazon help platform or contact us by sending an email at contact@aispublishing.net. \*\*GET YOUR COPY NOW, the price will be 19.99\$ soon\*\**

*Data Visualization is the presentation of data in graphical format.In this tutorial for beginners, you will learn how to present data graphically with Python, Matplotlib, and Seaborn. If you need a short book to master data visualisation from scratch, this guide is for you. Get your copy now!!!Book ObjectivesThis book is an exploration of data visualization in Python programming language. Here are the objectives of the book: To help you understand the need for data visualization and appreciate its power in data analysis. To help you learn the various types of plots that you can create to visualize your data. To help you know the various tools that you can use for data visualization, including basic, specialized and advanced tools. To help you make the right decision in choosing the tool and the kind of plot to use to visualize your data. To help you learn the power of Python in data visualization. To equip you with data visualization skills in Python programming language. To help you learn the various Python libraries that you can use for data visualization. Who this Book is for? The author targets the following groups of people: Anyone who needs to know the need for data visualization in an organization. Any individual who needs to know the various tools they can use for data visualization. Any individual who needs to know the various types of graphics they can use to represent their data and how to interpret the graphics. Anybody who needs to learn data visualization in Python using various libraries such as Pandas, Matplotlib, Seaborn and Folium. Anyone who needs to learn how to visualize different types of data including textual, numerical and geospatial data. RequirementsThe author expects you to have a computer installed with an operating system such as Linux, Windows or Mac OS X. What is inside the book? BASICS OF DATA VISUALIZATION BASIC AND SPECIALIZED DATA VISUALIZATION TOOLS ADVANCED VISUALIZATIONS TOOLSEXPLORING THE LIBRARIES DATA VISUALIZATION WITH MATPLOTLIBDATA VISUALIZATION WITH PANDAS DATA VISUALIZATION WITH SEABORN CREATING MAPS AND VISUALIZING GEOSPATIAL DATA The author has discussed everything related to data visualization. You are first familiarized with the fundamentals of data visualization to help you know what it is and why it is of importance to any organization. The author has then discussed the various types of tools that can be used for data visualization. These tools include the basic, specialized and advanced ones. Practically, the author focuses on how to visualize data in the Python programming language. The process of plotting different types of data using different types of plots has been discussed. You will learn how to plot textual, numerical and geospatial data in Python using different libraries such as Pandas, Matplotlib, Seaborn and Folium. Python codes have been provided alongside images of the expected outputs and the corresponding code descriptions.*

*Take a systematic approach to understanding the fundamentals of machine learning and deep learning from the ground up and how they are applied in practice. You will use this comprehensive guide for building and deploying learning models to address complex use cases while leveraging the computational resources of Google Cloud Platform. Author Ekaba Bisong shows you how machine learning tools and techniques are used to predict or classify events based on a set of interactions between variables known as features or attributes in a particular dataset. He teaches you how deep learning extends the machine learning algorithm of neural networks to learn complex tasks that are difficult for computers to perform, such as recognizing faces and understanding languages. And you will know how to leverage cloud computing to accelerate data science and machine learning deployments. Building Machine Learning and Deep Learning Models on Google Cloud Platform is divided into eight parts that cover the fundamentals of machine learning and deep learning, the concept of data science and cloud services, programming for data science using the Python stack, Google Cloud Platform (GCP) infrastructure and products, advanced analytics on GCP, and deploying end-to-end machine learning solution pipelines on GCP. What You'll Learn Understand the principles and fundamentals of machine learning and deep learning, the algorithms, how to use them, when to use them, and how to interpret your resultsKnow the programming concepts relevant to machine and deep learning design and development using the Python stack Build and interpret machine and deep learning models Use Google Cloud Platform tools and services to develop and deploy large-scale machine learning and deep learning products Be aware of the different facets and design choices to consider when modeling a learning problem Productionalize machine learning models into software products Who This Book Is For Beginners to the practice of data science and applied machine learning, data scientists at all levels, machine learning engineers, Google Cloud Platform data engineers/architects, and software developers*

Practical Statistics for Data Scientists

Think DSP

Mathematical and Statistical Methods

Tools for Engagement

Principles and Techniques for Data Scientists

Machine Learning with the Raspberry Pi

Digital Signal Processing in Python

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 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 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 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 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 in 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 inferences 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 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 applications and 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.

Cracking the Data Science Interview is the first book that attempts to capture the essence of data science in a concise, compact, and clean manner. In a Cracking the Coding Interview style, Cracking the Data Science Interview first introduces the relevant concepts, then presents your understanding and prepare you for your next interview. Topics include: - Necessary Prerequisites (statistics, probability, linear algebra, and computer science) - 18 Big Ideas in Data Science (such as Occam's Razor, Overfitting, Bias/Variance Tradeoff, Cloud Computing, and Cross-validation) (exploratory data analysis, feature engineering, data cleaning and visualization) - Machine Learning Models (such as k-NN, random forests, boosting, neural networks, k-means clustering, PCA, and more) - Reinforcement Learning (Q-Learning and Deep Q-Learning) - Non-Machine Learning (programming) - Case Studies (a look at what data science means at companies like Amazon and Uber) Maverick holds a bachelor's degree from the College of Engineering at Cornell University in operations research and information engineering (ORIE) and a minor in computer science from Cornell University. Science Cheatsheet and Data Engineering Cheatsheet on GCP and has previous experience in data science consulting for a Fortune 500 company focusing on fraud analytics.

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—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 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 data 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 effective machine learning models Statistics is a pillar of machine learning. You cannot develop a deep understanding and application of machine learning without it. Cut through the equations, Greek letters, and confusion, and discover the topics in statistics that you need to know. Using clear explanations, stand-alone lessons, you will discover the importance of statistical methods to machine learning, summary stats, hypothesis testing, nonparametric stats, resampling methods, and much more.

Python One-Liners

Predictive Modelling Concepts Explained in Simple Terms for Beginners

Python Data Analysis

CPython Internals

101+ Data Science Questions & Solutions

Artificial Intelligence with Python

Mastering matplotlib

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

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

\*Start your Data Science career using Python today!\*Are you ready to start your new exciting career? Ready to master artificial intelligence and deep learning concepts?Are you overwhelmed with complexity of the books on this subject?Then let this breezy Python, Machine Learning and Deep Learning models make you a Data Scientist in 7 days!This book continues from where the first book in the series, Ultimate Step by Step Guide to Machine Learning Using Python, left of. In the first book you were introduced to concepts such as: -Data Structures like Pandas -Foundational libraries like Numpy, Seaborn and Scikit-Learn-Regression analysis-Classification-Clustering-Association Learning-Dimension ReductionThis book builds on those concepts to expand on Machine Learning algorithms like: -Linear and Logistical regression-Decision tree-Support vector machines (SVM)After that, this book takes you on a journey into Deep Learning and Neural Networks with important concepts and libraries like: -Convolutional and Recurrent Neural Networks-TensorFlow-Keras-PyTorch-Keras-Apache MXNet-Microsoft Cognitive Toolkit (CNTK)The final part of the book covers all foundational concepts that are required for Amazon Web Services (AWS) Certified Machine Learning Specialization by explaining how to deploy models at scale on Cloud technologies. While AWS is used in the book for illustrative purposes, Microsoft Azure and Google Cloud are also introduced as alternative cloud technologies. After reading this book you will be able to: -Code in Python with confidence for machine learning and deep learning models from scratch-Know how to clean and prepare your data for analytics-Speak confidently about statistical analysis techniquesData Science was ranked the fast-growing field by LinkedIn and Data Scientist is one of the most sought after and lucrative careers in the world!If you are on the fence about making the leap to a new and lucrative career, this is the book for you!What sets this book apart from other books on the topic of Python and Machine learning: -Step by step code explanations-Complex concepts explained visually-Real world applicability of the machine learning and deep learning models introducedWhat do I need to get started?You will have a step by step action plan in place once you finish this book and finally feel that you are a data science and artificial intelligence and start a lucrative and rewarding career! Ready to dive in to the exciting world of Python and Deep Learning?Then scroll up to the top and hit that BUY BUTTON!

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

This book is a comprehensive guide for beginners to learn Python Programming, especially its application for Data Science. While the lessons in this book are targeted at the absolute beginner to programming, people at various levels of proficiency in Python and other programming languages can also learn some basics and concepts of data science. A few Python libraries are introduced, including NumPy, Pandas, Matplotlib, and Seaborn for data analysis and visualisation. To make the lessons more intuitive and relatable, practical examples and applications of each lesson are given. The reader is equally encouraged to practise the techniques via exercises, within and at the end of the relevant chapters. To help the reader get a full learning experience, there are references to relevant reading material and the reader is encouraged to click these links and explore the possibilities they offer. It is expected that with consistency in learning and practicing the reader can master Python and the basics of its application in data science. The only limitation to the book, however, is themselves!

Python Machine Learning  
Playful Programming Activities to Make You Smarter  
Data Wrangling with Pandas, NumPy, and IPython  
Statistical Methods for Machine Learning  
Data Science and Machine Learning  
Python for Data Analysis

A Problem-Solver's Guide to Building Real-World Intelligent Systems

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

Impractical Python Projects is a collection of fun and educational projects designed to entertain programmers while enhancing their Python skills. It picks up where the complete beginner books leave off, expanding on existing concepts and introducing new tools that you'll use every day. And to keep things interesting, each project includes a zany twist featuring historical incidents, pop culture references, and literary allusions. You'll flex your problem-solving skills and employ Python's many useful libraries to do things like: - Help James Bond crack a high-tech safe with a hill-climbing algorithm - Write haiku poems using Markov Chain Analysis - Use genetic algorithms to breed a race of gigantic rats - Crack the world's most successful military cipher using cryptanalysis - Derive the anagram, "I am Lord Voldemort" using linguistic sieves - Plan your parents' secure retirement with Monte Carlo simulation - Save the sorceress Zatanna from a stabby death using paligrams - Model the Milky Way and calculate our odds of detecting alien civilizations - Help the world's smartest woman win the Monty Hall problem argument - Reveal Jupiter's Great Red Spot using optical stacking - Save the head of Mary, Queen of Scots with steganography - Foil corporate security with invisible electronic ink Simulate volcanoes, map Mars, and more, all while gaining valuable experience using free modules like Tkinter, matplotlib, Cprofile, Pylint, Pygame, Pillow, and Python-Docx. Whether you're looking to pick up some new Python skills or just need a pick-me-up, you'll find endless educational, geeky fun with Impractical Python Projects.

Summary Dask is a native parallel analytics tool designed to integrate seamlessly with the libraries you're already using, including Pandas, NumPy, and Scikit-Learn. With Dask you can crunch and work with huge datasets, using the tools you already have.

And Data Science with Python and Dask is your guide to using Dask for your data projects without changing the way you work! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. You'll find registration instructions inside the print book. About the Technology An efficient data pipeline means everything for the success of a data science project. Dask is a flexible library for parallel computing in Python that makes it easy to build intuitive workflows for ingesting and analyzing large, distributed datasets. Dask provides dynamic task scheduling and parallel collections that extend the functionality of NumPy, Pandas, and Scikit-learn, enabling users to scale their code from a single laptop to a cluster of hundreds of machines with ease. About the Book Data Science with Python and Dask teaches you to build scalable projects that can handle massive datasets. After meeting the Dask framework, you'll analyze data in the NYC Parking Ticket database and use DataFrames to streamline your process. Then, you'll create machine learning models using Dask-ML, build interactive visualizations, and build clusters using AWS and Docker. What's inside Working with large, structured and unstructured datasets Visualization with Seaborn and Datashader Implementing your own algorithms Building distributed apps with Dask Distributed Packaging and deploying Dask apps About the Reader For data scientists and developers with experience using Python and the PyData stack. About the Author Jesse Daniel is an experienced Python developer. He taught Python for Data Science at the University of Denver and leads a team of data scientists at a Denver-based media technology company. Table of Contents PART 1 - The Building Blocks of scalable computing Why scalable computing matters Introducing Dask PART 2 - Working with Structured Data using Dask DataFrames Introducing Dask DataFrames Loading data into DataFrames Cleaning and transforming DataFrames Summarizing and analyzing DataFrames Visualizing DataFrames with Seaborn Visualizing location data with Datashader PART 3 - Extending and deploying Dask Working with Bags and Arrays Machine learning with Dask-ML Scaling and deploying Dask

matplotlib is a Python plotting library that provides a large feature set for a multitude of platforms. Given the depth of the library's legacy and the variety of related open source projects, gaining expert knowledge can be a time-consuming and often confusing process. You'll begin your exciting journey learning about the skills that are necessary in leading technical teams for a visualization project or to become a matplotlib contributor. Supported by highly-detailed IPython Notebooks, this book takes you through the conceptual components underlying the library and then provides a detailed overview of its APIs. From there, you will learn about event handling and how to code for interactive plots. Next you will move on to customization techniques, local configuration of matplotlib, and then deployments in Cloud environments. The adventure culminates in an exploration of big data visualization and matplotlib clustering.

Pandas Cookbook  
Mastering Tableau

Python Tutorial  
Discover how to Transform Data into Knowledge with Python  
Data Science with Python and Dask  
Ultimate Step by Step Guide to Deep Learning Using Python  
A Comprehensive Guide for Beginners

*Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming. Python's elegant syntax and dynamic typing, together with its interpreted nature, make it an ideal language for scripting and rapid application development in many areas on most platforms. The Python interpreter and the extensive standard library are freely available in source or binary form for all major platforms from the Python Web site, <https://www.python.org/>, and may be freely distributed. The same site also contains distributions of and pointers to many free third party Python modules, programs and tools, and additional documentation. The Python interpreter is easily extended with new functions and data types implemented in C or C++ (or other languages callable from C). Python is also suitable as an extension language for customizable applications. This tutorial introduces the reader informally to the basic concepts and features of the python language and system. It helps to have a Python interpreter handy for hands-on experience, but all examples are self contained, so the tutorial can be read off-line as well. For a description of standard objects and modules, see [library-index](#). [reference-index](#) gives a more formal definition of the language. To write extensions in C or C++, read [extending-index](#) and [c-api-index](#). There are also several books covering Python in depth. This tutorial does not attempt to be comprehensive and cover every single feature, or even every commonly used feature. Instead, it introduces many of Python's most noteworthy features, and will give you a good idea of the language's flavor and style. After reading it, you will be able to read and write Python modules and programs, and you will be ready to learn more about the various Python library modules described in [library-index](#). The Glossary is also worth going through.*

*Go from total MATLAB newbie to plotting graphs and solving equations in a flash! MATLAB is one of the most powerful and commonly used tools in the STEM field. But did you know it doesn't take an advanced degree or a ton of computer experience to learn it? MATLAB For Dummies is the roadmap you've been looking for to simplify and explain this feature-filled tool. This handy reference walks you through every step of the way as you learn the MATLAB language and environment inside-and-out. Starting with straightforward basics before moving on to more advanced material like Live Functions and Live Scripts, this easy-to-read guide shows you how to make your way around MATLAB with screenshots and newly updated procedures. It includes: A comprehensive introduction to installing MATLAB, using its interface, and creating and saving your first file Fully updated to include the 2020 and 2021 updates to MATLAB, with all-new screenshots and up-to-date procedures Enhanced debugging procedures and use of the Symbolic Math Toolbox Brand new instruction on working with Live Scripts and Live Functions, designing classes, creating apps, and building projects Intuitive walkthroughs for MATLAB's advanced features, including importing and exporting data and publishing your work Perfect for STEM students and new professionals ready to master one of the most powerful tools in the fields of engineering, mathematics, and computing, MATLAB For Dummies is the simplest way to go from complete newbie to power user faster than you would have thought possible.*

*"The manner in which computers are now able to mimic human thinking to process information is rapidly exceeding human capabilities in everything from chess to picking the winner of a song contest. In the modern age of machine learning, computers do not strictly need to receive an 'input command' to perform a task, but rather 'input data'. From the input of data they are able to form their own decisions and take actions virtually as a human world. But given it is a machine, it can consider many more scenarios and execute far more complicated calculations to solve complex problems. This is the element that excites data scientists and machine learning engineers the most. The ability to solve complex problems never before attempted. This book will dive in to introduce machine learning, and is ideal for beginners starting out in machine learning."--page 4 of cover.*

*Python programmers will improve their computer science skills with these useful one-liners. Python One-Liners will teach you how to read and write "one-liners": concise statements of useful functionality packed into a single line of code. You'll learn how to systematically unpack and understand any line of Python code, and write eloquent, powerfully compressed Python like an expert. The book's five chapters cover tips and tricks, regular expressions, machine learning, core data science topics, and useful algorithms. Detailed explanations of one-liners introduce key computer science concepts and boost your coding and analytical skills. You'll learn about advanced Python features such as list comprehension, slicing, lambda functions, regular expressions, map and reduce functions, and slice assignments. You'll also learn how to:*

- Leverage data structures to solve real-world problems, like using Boolean indexing to find cities with above-average pollution
- Use NumPy basics such as array, shape, axis, type, broadcasting, advanced indexing, slicing, sorting, searching, aggregating, and statistics
- Calculate basic statistics of multidimensional data arrays and the K-Means algorithms for unsupervised learning
- Create more advanced regular expressions using grouping and named groups, negative lookaheads, escaped characters, whitespaces, character sets (and negative characters sets), and greedy/nongreedy operators
- Understand a wide range of computer science topics, including anagrams, palindromes, supersets, permutations, factorials, prime numbers, Fibonacci numbers, obfuscation, searching, and algorithmic sorting

*By the end of the book, you'll know how to write Python at its most refined, and create concise, beautiful pieces of "Python art" in merely a single line.*

Mastering Data-Driven Finance  
Python Data Science Handbook  
Machine Learning Guide for Oil and Gas Using Python  
Essential Tools for Working with Data  
Python Tricks  
Hands-On Data Analysis with Pandas  
Data Visualization with Python for Beginners: Visualize Your Data Using Pandas, Matplotlib and Seaborn