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Advanced Data Science and Analytics with Python enables data scientists to continue developing their skills and apply them in business as well as academic settings. The subjects discussed in this book are complementary and a follow-up to the topics discussed in Data Science and Analytics with Python. The aim is to cover important advanced areas in data science using tools developed in Python such as SciKit-learn, Pandas, Numpy, Beautiful Soup, NLTK, NetworkX and others. The model development is supported by the use of frameworks such as Keras, TensorFlow and Core ML, as well as Swift for the development of iOS and MacOS applications. Features: Targets readers with a background in programming, who are interested in the tools used in data analytics and data science Uses Python throughout Presents tools, alongside solved examples, with steps that the reader can easily reproduce and adapt to their needs Focuses on the practical use of the tools rather than on lengthy explanations Provides the reader with the opportunity to use the book whenever needed rather than following a sequential path The book can be read independently from the previous volume and each of the chapters in this volume is sufficiently independent from the others, providing flexibility for the reader. Each of the topics addressed in the book tackles the data science workflow from a practical perspective, concentrating on the process and results obtained. The implementation and deployment of trained models are central to the book. Time series analysis, natural language processing, topic modelling, social network analysis, neural networks and deep learning are comprehensively covered. The book discusses the need to develop data products and addresses the subject of bringing models to their intended audiences – in this case, literally to the users' fingertips in the form of an iPhone app. About the Author Dr. Jesús Rogel-Salazar is a lead data scientist in the field, working for companies such as Tympa Health Technologies, Barclays, AKQA, IBM Data Science Studio and Dow Jones. He is a visiting researcher at the Department of Physics at Imperial College London, UK and a member of the School of Physics, Astronomy and Mathematics at the University of Hertfordshire, UK. Text Analytics with Python Text analytics is all about obtaining relevant and useful information from some unstructured data. Text analytics techniques can be of great importance and can provide amazing help for various organizations that aim to derive some potentially valuable business insights from an amazingly large collection of text-based content like social media streams, emails or word documents. Sure, text analytics using natural language processing, machine learning, and statistical modeling can be very challenging since human language is commonly inconsistent. It contains various ambiguities mainly caused by inconsistent semantics and syntax. Fortunately, text analytics software can easily help you by transposing phrases and words contained in unstructured data into some numerical values that you later link with structured data contained in data set. It is more than apparent that major enterprises are increasingly and rapidly turning to text analytics techniques in order to improve their businesses as well as overall customer satisfaction. We are witnessing that amazing variety and volume when it comes to data generated across different feedback channels which continues to grow and expand providing various businesses with a wealth of valuable information regarding their customers. It is more than apparent that sifting through all available content would be amazingly time-consuming to be done manually. However, understanding those insights held in data is more than critical when it comes to getting an accurate view of the customer's voice. We are also witnessing the next chapter of text analytics approach since it's already developing that solid ground. It will also continue to be among other technical necessities today and into the future. In order to keep up with the future, embark on your own text analytics journey having this book by your side as your best companion. In this book ou will learn: Text analytics process How to build a corpus and analyze sentiment Named entity extraction with Groningen meaning bank corpus How to train your system Getting started with NLTK How to search syntax and tokenize sentences Automatic text summarization Stemming word and topic modeling with NLTK Using scikit-learn for text classification Part of speech tagging and POS tagging models in NLTK And much, much more... Get this book NOW and learn more about Text Analytics with Python! Supercharge options analytics and hedging using the power of Python Derivatives Analytics with Python shows you how to implement market-consistent valuation and hedging approaches using advanced financial models, efficient numerical techniques, and the powerful capabilities of the Python programming language. This unique guide offers detailed explanations of all theory, methods, and processes, giving you the background and tools necessary to value stock index options from a sound foundation. You'll find and use self-contained Python scripts and modules and learn how to apply Python to advanced data and derivatives analytics as you benefit from the 5,000+ lines of code that are provided to help you reproduce the results and graphics presented. Coverage includes market data analysis, risk-neutral valuation, Monte Carlo simulation, model calibration, valuation, and dynamic hedging, with models that exhibit stochastic volatility, jump components, stochastic short rates, and more. The companion website features all code and IPython Notebooks for immediate execution and automation. Python is gaining ground in the derivatives analytics space, allowing institutions to quickly and efficiently deliver portfolio, trading, and risk management results. This book is the finance professional's guide to exploiting Python's capabilities for efficient and performing derivatives analytics. Reproduce major stylized facts of equity and options markets yourself Apply Fourier transform techniques and advanced Monte Carlo pricing Calibrate advanced option pricing models to market data Integrate advanced models and numeric methods to dynamically hedge options Recent developments in the Python ecosystem enable analysts to implement analytics tasks as performing as with C or C++, but using only about one-tenth of the code or even less. Derivatives Analytics with Python — Data Analysis, Models, Simulation, Calibration and Hedging shows you what you need to know to supercharge your derivatives and risk analytics efforts. The Book has been written completely as per AICTE recommended syllabus on "Data Sciences". SALIENT FEATURES OF THE BOOK: Explains how data is collected, managed and stored for data science. With complete courseware for understand the key concepts in data science including their real-world applications and the toolkit used by data scientists. Implement data collection and management. Provided with state of the arts subjectwise. With all required tutorials on R, Python and Bokeh, Anaconda, IBM SPSS-21 and Matplotlib. Data Mining for Business Analytics: Concepts, Techniques, and Applications in Python presents an applied approach to data mining concepts and methods, using Python software for illustration Readers will learn how to implement a variety of popular data mining algorithms in Python (a free and open-source software) to tackle business problems and opportunities. This is the sixth version of this successful text, and the first using Python. It covers both statistical and machine learning algorithms for prediction, classification, visualization, dimension reduction, recommender systems, clustering, text mining and network analysis. It also includes: A new co-author, Peter Gedeck, who brings both experience teaching business analytics courses using Python, and expertise in the application of machine learning methods to the drug-discovery process A new section on ethical issues in data mining Updates and new material based on feedback from instructors teaching MBA, undergraduate, diploma and executive courses, and from their students More than a dozen case studies demonstrating applications for the data mining techniques described End-of-chapter exercises that help readers gauge and expand their comprehension and competency of the material presented A companion website with more than two dozen data sets, and instructor materials including exercise solutions, PowerPoint slides, and case solutions Data Mining for Business Analytics: Concepts, Techniques, and Applications in Python is an ideal textbook for graduate and upper-undergraduate level courses in data mining, predictive analytics, and business analytics. This new edition is also an excellent reference for analysts, researchers, and practitioners working with quantitative methods in the fields of business, finance, marketing, computer science, and information technology. "This book has by far the most comprehensive review of business analytics methods that I have ever seen, covering everything from classical approaches such as linear and logistic regression, through to modern methods like neural networks, bagging and boosting, and even much more business specific procedures such as social network analysis and text mining. If not the bible, it is at the least a definitive manual on the subject." —Gareth M. James, University of Southern California and co-author (with Witten, Hastie and Tibshirani) of the best-selling book An Introduction to Statistical Learning, with Applications in R A practical guide to data-intensive humanities research using the Python programming language The use of quantitative methods in the humanities and related social sciences has increased considerably in recent years, allowing researchers to discover patterns in a vast range of source materials. Despite this growth, there are few resources addressed to students and scholars who wish to take advantage of these powerful tools. Humanities Data Analysis offers the first intermediate-level guide to quantitative data analysis for humanities students and scholars using the Python programming language. This practical textbook, which assumes a basic knowledge of Python, teaches readers the necessary skills for conducting humanities research in the rapidly developing digital environment. The book begins with an overview of the place of data science in the humanities, and proceeds to cover data carpentry: the essential techniques for gathering, cleaning, representing, and transforming textual and tabular data. Then, drawing from real-world, publicly available data sets that cover a variety of scholarly domains, the book delves into detailed case studies. Focusing on textual data analysis, the authors explore such diverse topics as network analysis, genre theory, onomastics, literacy, author attribution, mapping, stylometry, topic modeling, and time series analysis. Exercises and resources for further reading are provided at the end of each chapter. An ideal resource for humanities students and scholars aiming to take their Python skills to the next level, Humanities Data Analysis illustrates the benefits that quantitative methods can bring to complex research questions. Appropriate for advanced undergraduates, graduate students, and scholars with a basic knowledge of Python Applicable to many humanities disciplines, including history, literature, and sociology Offers real-world case studies using publicly available data sets Provides exercises at the end of each chapter for students to test acquired skills Emphasizes visual storytelling via data visualizations Learn a modern approach to data analysis using Python to harness the power of programming and AI across your data. Detailed case studies bring this modern approach to life across visual data, social media, graph algorithms, and time series analysis. Key FeaturesBridge your data analysis with the power of programming, complex algorithms, and AIUse Python and its extensive libraries to power your way to new levels of data insightWork with AI algorithms, TensorFlow, graph algorithms, NLP, and financial time seriesExplore this modern approach across with key industry case studies and hands-on projectsBook Description Data Analysis with Python offers a modern approach to data analysis so that you can work with the latest and most powerful Python tools, AI techniques, and open source libraries. Industry expert David Taieb shows you how to bridge data science with the power of programming and algorithms in Python. You'll be working with complex algorithms, and cutting-edge AI in your data analysis. Learn how to analyze data with hands-on examples using Python-based tools and Jupyter Notebook. You'll find the right balance of theory and practice, with extensive code files that you can integrate right into your own data projects. Explore the power of this approach to data analysis by then working with it across key industry case studies. Four fascinating and full projects connect you to the most critical data analysis challenges you're likely to meet in today. The first of these is an image recognition application with TensorFlow – embracing the importance today of AI in your data analysis. The second industry project analyses social media trends, exploring big data issues and AI approaches to natural language processing. The third case study is a financial portfolio analysis application that engages you with time series analysis - pivotal to many data science applications today. The fourth industry use case dives you into graph algorithms and the power of programming in modern data science. You'll wrap up with a thoughtful look at the future of data science and how it will harness the power of algorithms and artificial intelligence. What you will learnA new toolset that has been carefully crafted to meet for your data analysis challengesFull and detailed case studies of the toolset across several of today's key industry contextsBecome super productive with a new toolset across Python and Jupyter NotebookLook into the future of data science and which directions to develop your skills nextWho this book is for This book is for developers wanting to bridge the gap between them and data scientists. Introducing PixieDust from its creator, the book is a great desk companion for the accomplished Data Scientist. Some fluency in data interpretation and visualization is assumed. It will be helpful to have some knowledge of Python, using Python libraries, and some proficiency in web development. Unlock the programming skills you need to prepare for a lucrative career in Data Science with this comprehensive introduction to Python programming for data analytics! Are you completely new to programming and want to learn how to code, but don't know where to begin? Are you looking to upgrade your data wrangling skills to future-proof your career and break into Data Science and Analytics? If you answered yes to any of the questions above, then keep reading... Data analysis has become a huge industry with tons of career potential and will remain relevant far into the foreseeable future. With the exponential growth and explosion of new data and the focus on using data to improve customer experiences and carry out research, data analysts will be needed to process and make sense of large amounts of information, with Python being the language of choice because of its versatility. In this guide, you're going to be shown everything you need to break into the world of Data Analysis with Python. Filled with tutorials for powerful libraries and practical, hands-on exercises, you're going to learn how to aggregate, munge, analyze and visualize data in Python. Here's a sample of what you're going to discover in Python Data Analytics: Why Python is the perfect language to learn if you want to break into Big Data and data analytics Core statistical models and computation methods you need to know about as a budding data analyst How to master the CSV library for reading, writing and handling tabular data Using the Xlrd library to extract data from Microsoft Excel files How to convert text to speech using the powerful Win32.com library How to use the NumPy library to carry out fundamental and basic scientific and technical computing How to use the SciPy library to carry out advanced scientific and highly technical computing Surefire ways to manipulate the easy-to-use data structures of the Pandas framework for high-performance data analysis How to plot complex data, create figures and visualize data using the Python Matplotlib library ...and tons more! If you're completely new to programming and have never written a single line of code, but want to get started, this guide is perfect for as a crash guide to getting up to speed with programming in general. Whether you're a programmer looking to switch into an exciting new field with lots of potential for the future, or a regular data analyst looking to acquire the skills needed to remain relevant in a fast-changing world, this guide will teach you how to master powerful libraries used in the real-world by experienced data scientists. So what are you waiting for? Scroll to the top of the page and click the "Buy Now" button to get started today! This book provides an introduction to quantitative marketing with Python. The book presents a hands-on approach to using Python for real marketing questions, organized by key topic areas. Following the Python scientific computing movement toward reproducible research, the book presents all analyses in Colab notebooks, which integrate code, figures, tables, and annotation in a single file. The code notebooks for each chapter may be copied, adapted, and reused in one's own analyses. The book also introduces the usage of machine learning predictive models using the Python sklearn package in the context of marketing research. This book is designed for three groups of readers: experienced marketing researchers who wish to learn to program in Python, coming from tools and languages such as R, SAS, or SPSS; analysts or students who already program in Python and wish to learn about marketing applications; and undergraduate or graduate marketing students with little or no programming background. It presumes only an introductory level of familiarity with formal statistics and contains a minimum of mathematics. Data Science and Analytics with Python is designed for practitioners in data science and data analytics in both academic and business environments. The aim is to present the reader with the main concepts used in data science using tools developed in Python, such as SciKit-learn, Pandas, Numpy, and others. The use of Python is of particular interest, given its recent popularity in the data science community. The book can be used by seasoned programmers and newcomers alike. The book is organized in a way that individual chapters are sufficiently independent from each other so that the reader is comfortable using the contents as a reference. The book discusses what data science and analytics are, from the point of view of the process and results obtained. Important features of Python are also covered, including a Python primer. The basic elements of machine learning, pattern recognition, and artificial intelligence that underpin the algorithms and implementations used in the rest of the book also appear in the first part of the book. Regression analysis using Python, clustering techniques, and classification algorithms are covered in the second part of the book. Hierarchical clustering, decision trees, and ensemble techniques are also explored, along with dimensionality reduction techniques and recommendation systems. The support vector machine algorithm and the Kernel trick are discussed in the last part of the book. About the Author Dr. Jesús Rogel-Salazar is a Lead Data scientist with experience in the field working for companies such as AKQA, IBM Data Science Studio, Dow Jones and others. He is a visiting researcher at the Department of Physics at Imperial College London, UK and a member of the School of Physics, Astronomy and Mathematics at the University of Hertfordshire, UK, He obtained his doctorate in physics at Imperial College London for work on quantum atom optics and ultra-cold matter. He has held a position as senior lecturer in mathematics as well as a consultant in the financial industry since 2006. He is the author of the book Essential Matlab and Octave, also published by CRC Press. His interests include mathematical modelling, data science, and optimization in a wide range of applications including optics, quantum mechanics, data journalism, and finance. Data Science and Analytics with Python is designed for practitioners in data science and data analytics in both academic and business environments. The aim is to present the reader with the main concepts used in data science using tools developed in Python, such as SciKit-learn, Pandas, Numpy, and others. The use of Python is

of particular interest, given its recent popularity in the data science community. The book can be used by seasoned programmers and newcomers alike. The book is organized in a way that individual chapters are sufficiently independent from each other so that the reader is comfortable using the contents as a reference. The book discusses what data science and analytics are, from the point of view of the process and results obtained. Important features of Python are also covered, including a Python primer. The basic elements of machine learning, pattern recognition, and artificial intelligence that underpin the algorithms and implementations used in the rest of the book also appear in the first part of the book. Regression analysis using Python, clustering techniques, and classification algorithms are covered in the second part of the book. Hierarchical clustering, decision trees, and ensemble techniques are also explored, along with dimensionality reduction techniques and recommendation systems. The support vector machine algorithm and the Kernel trick are discussed in the last part of the book. About the Author Dr. Jesús Rogel-Salazar is a Lead Data scientist with experience in the field working for companies such as AKQA, IBM Data Science Studio, Dow Jones and others. He is a visiting researcher at the Department of Physics at Imperial College London, UK and a member of the School of Physics, Astronomy and Mathematics at the University of Hertfordshire, UK, He obtained his doctorate in physics at Imperial College London for work on quantum atom optics and ultra-cold matter. He has held a position as senior lecturer in mathematics as well as a consultant in the financial industry since 2006. He is the author of the book Essential Matlab and Octave, also published by CRC Press. His interests include mathematical modelling, data science, and optimization in a wide range of applications including optics, quantum mechanics, data journalism, and finance. Gain a broad foundation of advanced data analytics concepts and discover the recent revolution in databases such as Neo4j, Elasticsearch, and MongoDB. This book discusses how to implement ETL techniques including topical crawling, which is applied in domains such as high-frequency algorithmic trading and goal-oriented dialog systems. You'll also see examples of machine learning concepts such as semi-supervised learning, deep learning, and NLP. Advanced Data Analytics Using Python also covers important traditional data analysis techniques such as time series and principal component analysis. After reading this book you will have experience of every technical aspect of an analytics project. You'll get to know the concepts using Python code, giving you samples to use in your own projects. What You Will Learn Work with data analysis techniques such as classification, clustering, regression, and forecasting Handle structured and unstructured data, ETL techniques, and different kinds of databases such as Neo4j, Elasticsearch, MongoDB, and MySQL Examine the different big data frameworks, including Hadoop and Spark Discover advanced machine learning concepts such as semi-supervised learning, deep learning, and NLP Who This Book Is For Data scientists and software developers interested in the field of data analytics. This easy-to-follow guide provides R and Python recipes to help you learn and apply the top languages in the field of data analytics to your work in Microsoft Power BI. Data analytics expert and author Ryan Wade shows you how to use R and Python to perform tasks that are extremely hard to do, if not impossible, using native Power BI tools without Power BI Premium capacity. For example, you will learn to score Power BI data using custom data science models, including powerful models from Microsoft Cognitive Services. The R and Python languages are powerful complements to Power BI. They enable advanced data transformation techniques that are difficult to perform in Power BI in its default configuration, but become easier through the application of data wrangling features that languages such as R and Python support. If you are a BI developer, business analyst, data analyst, or a data scientist who wants to push Power BI and transform it from being just a business intelligence tool into an advanced data analytics tool, then this is the book to help you to do that. What You Will Learn Create advanced data visualizations through R using the ggplot2 package Ingest data using R and Python to overcome the limitations of Power Query Apply machine learning models to your data using R and Python Incorporate advanced AI in Power BI via Microsoft Cognitive Services, IBM Watson, and pre-trained models in SQL Server Machine Learning Services Perform string manipulations not otherwise possible in Power BI using R and Python Who This Book Is For Power users, data analysts, and data scientists who want to go beyond Power BI's built-in functionality to create advanced visualizations, transform data in ways not otherwise supported, and automate data ingestion from sources such as SQL Server and Excel in a more succinct way Understand, evaluate, and visualize data About This Book Learn basic steps of data analysis and how to use Python and its packages A step-by-step guide to predictive modeling including tips, tricks, and best practices Effectively visualize a broad set of analyzed data and generate effective results Who This Book Is For This book is for Python Developers who are keen to get into data analysis and wish to visualize their analyzed data in a more efficient and insightful manner. What You Will Learn Get acquainted with NumPy and use arrays and array-oriented computing in data analysis Process and analyze data using the time-series capabilities of Pandas Understand the statistical and mathematical concepts behind predictive analytics algorithms Data visualization with Matplotlib Interactive plotting with NumPy, Scipy, and MKL functions Build financial models using Monte-Carlo simulations Create directed graphs and multi-graphs Advanced visualization with D3 In Detail You will start the course with an introduction to the principles of data analysis and supported libraries, along with NumPy basics for statistics and data processing. Next, you will overview the Pandas package and use its powerful features to solve data-processing problems. Moving on, you will get a brief overview of the Matplotlib API .Next, you will learn to manipulate time and data structures, and load and store data in a file or database using Python packages. You will learn how to apply powerful packages in Python to process raw data into pure and helpful data using examples. You will also get a brief overview of machine learning algorithms, that is, applying data analysis results to make decisions or building helpful products such as recommendations and predictions using Scikit-learn. After this, you will move on to a data analytics specialization—predictive analytics. Social media and IOT have resulted in an avalanche of data. You will get started with predictive analytics using Python. You will see how to create predictive models from data. You will get balanced information on statistical and mathematical concepts, and implement them in Python using libraries such as Pandas, scikit-learn, and NumPy. You'll learn more about the best predictive modeling algorithms such as Linear Regression, Decision Tree, and Logistic Regression. Finally, you will master best practices in predictive modeling. After this, you will get all the practical guidance you need to help you on the journey to effective data visualization. Starting with a chapter on data frameworks, which explains the transformation of data into information and eventually knowledge, this path subsequently cover the complete visualization process using the most popular Python libraries with working examples This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: Getting Started with Python Data Analysis, Phuong Vo.T.H &Martin Czygan Learning Predictive Analytics with Python, Ashish Kumar Mastering Python Data Visualization, Kirthi Raman Style and approach The course acts as a step-by-step guide to get you familiar with data analysis and the libraries supported by Python with the help of real-world examples and datasets. It also helps you gain practical insights into predictive modeling by implementing predictive-analytics algorithms on public datasets with Python. The course offers a wealth of practical guidance to help you on this journey to data visualization Data Analytics With Python Data is the foundation of this digital age that we live in. With this book, you are going to learn how to organize and analyze data and how to interpret vast sources of information. This book covers various topics on data analytics such as data analytics applications, data analytics process, using Python for data analytics, Python libraries for data analytics and many other that will help you kick-start your data analytics journey from the very beginning. In this book you are going to learn how to use Python its tools in order to interpret data and examine those interesting data trends and information, which are important in predicting the future. Whether you are dealing with some medical data, sales data, web page data, you can use Python in order to interpret data, analyze it and obtain this valuable information. You can also use this data for creating data analytics models and predictions. Here Is A Brief Preview of What You'll Learn In This Book… -Data analytics applications -Data analytics process -How to install and run Python -Python data structures and Python libraries -Python conditional construct and iteration -Data exploration using Pandas -Pandas series and dataframes -Data munging and distribution analysis -Carrying out binary operations -Data manipulation and categorical variable analysis -How to build a predictive model -And of course much, much more! Get this book NOW and learn more about Data Analytics With Python! Derive useful insights from your data using Python. You will learn both basic and advanced concepts, including text and language syntax, structure, and semantics. You will focus on algorithms and techniques, such as text classification, clustering, topic modeling, and text summarization. Text Analytics with Python teaches you the techniques related to natural language processing and text analytics, and you will gain the skills to know which technique is best suited to solve a particular problem. You will look at each technique and algorithm with both a bird's eye view to understand how it can be used as well as with a microscopic view to understand the mathematical concepts and to implement them to solve your own problems. What You Will Learn: Understand the major concepts and techniques of natural language processing (NLP) and text analytics, including syntax and structure Build a text classification system to categorize news articles, analyze app or game reviews using topic modeling and text summarization, and cluster popular movie synopses and analyze the sentiment of movie reviews Implement Python and popular open source libraries in NLP and text analytics, such as the natural language toolkit (nltk), gensim, scikit-learn, spaCy and Pattern Who This Book Is For : IT professionals, analysts, developers, linguistic experts, data scientists, and anyone with a keen interest in linguistics, analytics, and generating insights from textual data Get complete instructions for manipulating, processing, cleaning, and crunching datasets in Python. Updated for Python 3.6, the second edition of this hands-on guide is packed with practical case studies that show you how to solve a broad set of data analysis problems effectively. You'll learn the latest versions of pandas, NumPy, IPython, and Jupyter in the process. Written by Wes McKinney, the creator of the Python pandas project, this book is a practical, modern introduction to data science tools in Python. It's ideal for analysts new to Python and for Python programmers new to data science and scientific computing. Data files and related material are available on GitHub. Use the IPython shell and Jupyter notebook for exploratory computing Learn basic and advanced features in NumPy (Numerical Python) Get started with data analysis tools in the pandas library Use flexible tools to load, clean, transform, merge, and reshape data Create informative visualizations with matplotlib Apply the pandas groupby facility to slice, dice, and summarize datasets Analyze and manipulate regular and irregular time series data Learn how to solve real-world data analysis problems with thorough, detailed examples Python has become the language of choice for most fields in the scientific community, and this is expanding to businesses investing in analytics resources. Fundamentals of Data Analytics in Python LiveLessons is a coherent, narrative tutorial that strikes the right balance between teaching the "how" and the "why" of data analytics in Python. This video begins with an abbreviated primer on Python, and then proceeds to cover open source Python tools relevant to solving day-to-day scientific and engineering programming problems. Visit wakari.io/training for additional content and commentary on this LiveLesson. About the Authors: Peter Wang is co-founder and president of Continuum Analytics. Peter holds a B.A. in Physics from Cornell University and has been developing applications professionally using Python since 2001. Before co-founding Continuum Analytics in 2011, Peter spent seven years at Enthought designing and developing applications for a variety of companies, including investment bankers, high-frequency trading firms, oil companies, and others. In 2007, Peter was named Director of Technical Architecture and served as client liaison on high-profile projects. Peter also developed Chaco, an open-source, Python-based toolkit for interactive data visualization. Peter's roles at Continuum Analytics include product design and development, software management, business strategy, and training. Aron Ahmadia is a research scientist at Continuum Analytics. Aron holds a Ph.D. in Applied Mathematics from Columbia University and has been working with Python for technical computing since 2003. Aron is one of the lead developers of PyClaw, an open-source, Python-based toolkit for modeling wave propagation at large scale. His software is used in academia, industry, and government, and runs on workstations, the cloud, and 65,536-core supercomputers. Aron has extensive experience teaching Python to industrial, academic, and government users, and has taught it as part of the curriculum for Software Carpentry courses across four continents. ?? 55% OFF for Bookstores! NOW at $ 34.95 instead of $ 54.19 ?? Are You Looking For The Best Beginners Guide To Discovering Data Analysis And Analytics With Python?Do You Want To Enter The World Of Data Science And How To Leverage Python For It?Do Want To Get A Thorough Introduction To Machine Learning? If yes, then this Guide is for you! This is the Top Guide to learning Data Analysis & Analytics. Talking about the IT world, there are many options when you have to choose language programming to learn and then to use for developing your career, especially if you want to become a Data Scientist. This Handbook will not only give you reasons on why you need to learn data science, but it will also tell you why learning data science with Python training is the better option. In this book you will: Have a Clear and Exhaustive Explanation About Data Analysis and Why It Is So Important Today in The Business World; organizations of all sizes rely on the insights they extract from the data they have to measure progress, make informed decisions, plan for the future, and so on. Data scientists are the people who process and organize the data with scientific methods, algorithms, and other techniques. Understand Why Python is Preferred to Use For Data Analysis Over Other Tools and the reasons why all the benefits of using Python made it the best tool to learn data science. Learn How to Carry Out Work More and More Complex and Difficult to be updated on new themes and trends in the sector and carry out small independent jobs to finance your projects. ...& Lot More! Your Customers will never stop to use this book. Are you completely new to programming and want to learn how to code, but don't know where to begin? Are you looking to upgrade your data wrangling skills to future-proof your career and break into Data Science and Analytics? Python is one of the most valuable and interesting languages for data analysis. Therefore, the popularity of Python is growing day by day, especially in the world of data analysis or data sciences. This Definitive Guide will combine Data Analysis and Python to to help your customer build amazing products and help businesses Buy it NOW and let your customers get addicted to this amazing book! Turbocharge your marketing plans by making the leap from simple descriptive statistics in Excel to sophisticated predictive analytics with the Python programming language Key FeaturesUse data analytics and machine learning in a sales and marketing contextGain insights from data to make better business decisionsBuild your experience and confidence with realistic hands-on practiceBook Description Unleash the power of data to reach your marketing goals with this practical guide to data science for business. This book will help you get started on your journey to becoming a master of marketing analytics with Python. You'll work with relevant datasets and build your practical skills by tackling engaging exercises and activities that simulate real-world market analysis projects. You'll learn to think like a data scientist, build your problem-solving skills, and discover how to look at data in new ways to deliver business insights and make intelligent data-driven decisions. As well as learning how to clean, explore, and visualize data, you'll implement machine learning algorithms and build models to make predictions. As you work through the book, you'll use Python tools to analyze sales, visualize advertising data, predict revenue, address customer churn, and implement customer segmentation to understand behavior. By the end of this book, you'll have the knowledge, skills, and confidence to implement data science and machine learning techniques to better understand your marketing data and improve your decision-making. What you will learnLoad, clean, and explore sales and marketing data using pandasForm and test hypotheses using real data sets and analytics toolsVisualize patterns in customer behavior using MatplotlibUse advanced machine learning models like random forest and SVMUse various unsupervised learning algorithms for customer segmentationUse supervised learning techniques for sales predictionEvaluate and compare different models to get the best outcomesOptimize models with hyperparameter tuning and SMOTEWho this book is for This marketing book is for anyone who wants to learn how to use Python for cutting-edge marketing analytics. Whether you're a developer who wants to move into marketing, or a marketing analyst who wants to learn more sophisticated tools and techniques, this book will get you on the right path. Basic prior knowledge of Python and experience working with data will help you access this book more easily. Understand, evaluate, and visualize data About This Book - Learn basic steps of data analysis and how to use Python and its packages - A step-by-step guide to predictive modeling including tips, tricks, and best practices - Effectively visualize a broad set of analyzed data and generate effective results Who This Book Is For This book is for Python Developers who are keen to get into data analysis and wish to visualize their analyzed data in a more efficient and insightful manner. What You Will Learn - Get acquainted with NumPy and use arrays and array-oriented computing in data analysis - Process and analyze data using the time-series capabilities of Pandas - Understand the statistical and mathematical concepts behind predictive analytics algorithms - Data visualization with Matplotlib - Interactive plotting with NumPy, Scipy, and MKL functions - Build financial models using Monte-Carlo simulations - Create directed graphs and multi-graphs - Advanced visualization with D3 In Detail You will start the course with an introduction to the principles of data analysis and supported libraries, along with NumPy basics for statistics and data processing. Next, you will overview the Pandas package and use its powerful features to solve data-processing problems. Moving on, you will get a brief overview of the Matplotlib API .Next, you will learn to manipulate time and data structures, and load and store data in a file or database using Python packages. You will learn how to apply powerful packages in Python to process raw data into pure and helpful data using examples. You will also get a brief overview of machine learning algorithms, that is, applying data analysis results to make decisions or building helpful products such as recommendations and predictions using Scikit-learn. After this, you will move on to a data analytics specialization-predictive analytics. Social media and IOT have resulted in an avalanche of data. You will get started with predictive analytics using Python. You will see how to create predictive models from data. You will get balanced information on statistical and mathematical concepts, and implement them in Python using libraries such as Pandas, scikit-learn, and NumPy. You'll learn more about the best predictive modeling algorithms such as Linear Regression, Decision Tree, and Logistic Regression. Finally, you will master best practices in predictive modeling. After this, you will get all the practical guidance you need to help you on the journey to effective data visualization. Starting with a chapter on data frameworks, which explains the transformation of data into information and eventually knowledge, this path subsequently cover the complete visualization process using the most popular Python libraries with working examples This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: ? Getting Started with Python Data Analysis, Phuong Vo.T.H &Martin Czygan ? Learning Predictive Analytics with Python, Ashish Kumar ? Mastering Python Data Visualization, Kirthi Raman Style and approach The course acts as a step-by-step guide to get you familiar with data analysis and the libraries supported by Python with the help of real-world examples and datasets. It also helps you gain practical insights into predictive modeling by implementing predictive-analytics algorithms on public datasets with Python. The course offers a wealth of practical guidance to help you on this journey to data visualization 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 LearnUnderstand 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 Solve Data Analytics Problems with Spark, PySpark, and Related Open Source Tools Spark is at the heart of today's Big Data revolution, helping data professionals supercharge efficiency and performance in a wide range of data processing and analytics tasks. In this guide, Big Data expert Jeffrey Aven covers all you need to know to leverage Spark, together with its extensions, subprojects, and wider ecosystem. Aven combines a language-agnostic introduction to foundational Spark concepts with extensive programming examples utilizing the popular and intuitive PySpark development environment. This guide's focus on Python makes it widely accessible to large audiences of data professionals, analysts, and developers—even those with little Hadoop or Spark experience. Aven's broad coverage ranges from basic to advanced Spark programming, and Spark SQL to machine learning. You'll learn how to efficiently manage all forms of data with Spark: streaming, structured, semi-structured, and unstructured. Throughout, concise topic overviews quickly get you up to speed, and extensive hands-on exercises prepare you to solve real problems. Coverage includes: • Understand Spark's evolving role in the Big Data and Hadoop ecosystems • Create Spark clusters using various deployment modes • Control and optimize the operation of Spark clusters and applications • Master Spark Core RDD API programming techniques • Extend, accelerate, and optimize Spark routines with advanced API platform constructs, including shared variables, RDD storage, and partitioning • Efficiently integrate Spark with both SQL and nonrelational data stores • Perform stream processing and messaging with Spark Streaming and Apache Kafka • Implement predictive modeling with SparkR and Spark MLlib Learn data science by doing data science! Data Science Using Python and R will get you plugged into the world's two most widespread open-source platforms for data science: Python and R. Data science is hot. Bloomberg called data scientist "the hottest job in America." Python and R are the top two open-source data science tools in the world. In Data Science Using Python and R, you will learn step-by-step how to produce hands-on solutions to real-world business problems, using state-of-the-art techniques. Data Science Using Python and R is written for the general reader with no previous analytics or programming experience. An entire chapter is dedicated to learning the basics of Python and R. Then, each chapter presents step-by-step instructions and walkthroughs for solving data science problems using Python and R. Those with analytics experience will appreciate having a one-stop shop for learning how to do data science using Python and R. Topics covered include data preparation, exploratory data analysis, preparing to model the data, decision trees, model evaluation, misclassification costs, naïve Bayes classification, neural networks, clustering, regression modeling, dimension reduction, and association rules mining. Further, exciting new topics such as random forests and general linear models are also included. The book emphasizes data-driven error costs to enhance profitability, which avoids the common pitfalls that may cost a company millions of dollars. Data Science Using Python and R provides exercises at the end of every chapter, totaling over 500 exercises in the book. Readers will therefore have plenty of opportunity to test their newfound data science skills and expertise. In the Hands-on Analysis exercises, readers are challenged to solve interesting business problems using real-world data sets. Practical Machine Learning for Data Analysis Using Python is a problem solver's guide for creating real-world intelligent systems. It provides a comprehensive approach with concepts, practices, hands-on examples, and sample code. The book teaches readers the vital skills required to understand and solve different problems with machine learning. It teaches machine learning techniques necessary to become a successful practitioner, through the presentation of real-world case studies in Python machine learning ecosystems. The book also focuses on building a foundation of machine learning knowledge to solve different real-world case studies across various fields, including biomedical signal analysis, healthcare, security, economics, and finance. Moreover, it covers a wide range of machine learning models, including regression, classification, and forecasting. The goal of the book is to help a broad range of readers, including IT professionals, analysts, developers, data scientists, engineers, and graduate students, to solve their own real-world problems. Offers a comprehensive overview of the application of machine learning tools in data analysis across a wide range of subject areas Teaches readers how to apply machine learning techniques to biomedical signals, financial data, and healthcare data Explores important classification and regression algorithms as well as other machine learning techniques Explains how to use Python to handle data extraction, manipulation, and exploration techniques, as well as how to visualize data spread across multiple dimensions and extract useful features Step-by-step guide to build high performing predictive applications Key FeaturesUse the Python data analytics ecosystem to implement end-to-end predictive analytics projectsExplore advanced predictive modeling algorithms with an emphasis on theory with intuitive explanationsLearn to deploy a predictive model's results as an interactive applicationBook Description Predictive analytics is an applied field that employs a variety of quantitative methods using data to make predictions. It involves much more than just throwing data onto a computer to build a model. This book provides practical coverage to help you understand the most important concepts of predictive analytics. Using practical, step-by-step examples, we build predictive analytics solutions while using cutting-edge Python tools and packages. The book's step-by-step approach starts by defining the problem and moves on to identifying relevant data. We will also be performing data preparation, exploring and visualizing relationships, building models, tuning, evaluating, and deploying model. Each stage has relevant practical examples and efficient Python code. You will work with models such as KNN, Random Forests, and neural networks using the most important libraries in Python's data science stack: NumPy, Pandas, Matplotlib, Seaborn, Keras, Dash, and so on. In addition to hands-on code examples, you will find intuitive explanations of the inner workings of the main techniques and algorithms used in predictive analytics. By the end of this book, you will be all set to build high-performance predictive analytics

solutions using Python programming. What you will learnGet to grips with the main concepts and principles of predictive analyticsLearn about the stages involved in producing complete predictive analytics solutionsUnderstand how to define a problem, propose a solution, and prepare a datasetUse visualizations to explore relationships and gain insights into the datasetLearn to build regression and classification models using scikit-learnUse Keras to build powerful neural network models that produce accurate predictionsLearn to serve a model's predictions as a web applicationWho this book is for This book is for data analysts, data scientists, data engineers, and Python developers who want to learn about predictive modeling and would like to implement predictive analytics solutions using Python's data stack. People from other backgrounds who would like to enter this exciting field will greatly benefit from reading this book. All you need is to be proficient in Python programming and have a basic understanding of statistics and college-level algebra. For many researchers, Python is a first-class tool mainly because of its libraries for storing, manipulating, and gaining insight from data. Several resources exist for individual pieces of this data science stack, but only with the Python Data Science Handbook do you get them all—IPython, NumPy, Pandas, Matplotlib, Scikit-Learn, and other related tools. Working scientists and data crunchers familiar with reading and writing Python code will find this comprehensive desk reference ideal for tackling day-to-day issues: manipulating, transforming, and cleaning data; visualizing different types of data; and using data to build statistical or machine learning models. Quite simply, this is the must-have reference for scientific computing in Python. With this handbook, you'll learn how to use: IPython and Jupyter: provide computational environments for data scientists using Python NumPy: includes the ndarray for efficient storage and manipulation of dense data arrays in Python Pandas: features the DataFrame for efficient storage and manipulation of labeled/columnar data in Python Matplotlib: includes capabilities for a flexible range of data visualizations in Python Scikit-Learn: for efficient and clean Python implementations of the most important and established machine learning algorithms Python 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. This textbook grew out of notes for the ECE143 Programming for Data Analysis class that the author has been teaching at University of California, San Diego, which is a requirement for both graduate and undergraduate degrees in Machine Learning and Data Science. This book is ideal for readers with some Python programming experience. The book covers key language concepts that must be understood to program effectively, especially for data analysis applications. Certain low-level language features are discussed in detail, especially Python memory management and data structures. Using Python effectively means taking advantage of its vast ecosystem. The book discusses Python package management and how to use third-party modules as well as how to structure your own Python modules. The section on object-oriented programming explains features of the language that facilitate common programming patterns. After developing the key Python language features, the book moves on to third-party modules that are foundational for effective data analysis, starting with Numpy. The book develops key Numpy concepts and discusses internal Numpy array data structures and memory usage. Then, the author moves onto Pandas and details its many features for data processing and alignment. Because strong visualizations are important for communicating data analysis, key modules such as Matplotlib are developed in detail, along with web-based options such as Bokeh, Holoviews, Altair, and Plotly. The text is sprinkled with many tricks-of-the-trade that help avoid common pitfalls. The author explains the internal logic embodied in the Python language so that readers can get into the Python mindset and make better design choices in their codes, which is especially helpful for newcomers to both Python and data analysis. To get the most out of this book, open a Python interpreter and type along with the many code samples. Leverage Natural Language Processing (NLP) in Python and learn how to set up your own robust environment for performing text analytics. This second edition has gone through a major revamp and introduces several significant changes and new topics based on the recent trends in NLP. You'll see how to use the latest state-of-the-art frameworks in NLP, coupled with machine learning and deep learning models for supervised sentiment analysis powered by Python to solve actual case studies. Start by reviewing Python for NLP fundamentals on strings and text data and move on to engineering representation methods for text data, including both traditional statistical models and newer deep learning-based embedding models. Improved techniques and new methods around parsing and processing text are discussed as well. Text summarization and topic models have been overhauled so the book showcases how to build, tune, and interpret topic models in the context of an interest dataset on NIPS conference papers. Additionally, the book covers text similarity techniques with a real-world example of movie recommenders, along with sentiment analysis using supervised and unsupervised techniques. There is also a chapter dedicated to semantic analysis where you'll see how to build your own named entity recognition (NER) system from scratch. While the overall structure of the book remains the same, the entire code base, modules, and chapters has been updated to the latest Python 3.x release. What You'll Learn • Understand NLP and text syntax, semantics and structure• Discover text cleaning and feature engineering• Review text classification and text clustering • Assess text summarization and topic models• Study deep learning for NLP Who This Book Is For IT professionals, data analysts, developers, linguistic experts, data scientists and engineers and basically anyone with a keen interest in linguistics, analytics and generating insights from textual data. Get to grips with processing large volumes of data and presenting it as engaging, interactive insights using Spark and Python. Key Features Get a hands-on, fast-paced introduction to the Python data science stack Explore ways to create useful metrics and statistics from large datasets Create detailed analysis reports with real-world data Book Description Processing big data in real time is challenging due to scalability, information inconsistency, and fault tolerance. Big Data Analysis with Python teaches you how to use tools that can control this data avalanche for you. With this book, you'll learn practical techniques to aggregate data into useful dimensions for posterior analysis, extract statistical measurements, and transform datasets into features for other systems. The book begins with an introduction to data manipulation in Python using pandas. You'll then get familiar with statistical analysis and plotting techniques. With multiple hands-on activities in store, you'll be able to analyze data that is distributed on several computers by using Dask. As you progress, you'll study how to aggregate data for plots when the entire data cannot be accommodated in memory. You'll also explore Hadoop (HDFS and YARN), which will help you tackle larger datasets. The book also covers Spark and explains how it interacts with other tools. By the end of this book, you'll be able to bootstrap your own Python environment, process large files, and manipulate data to generate statistics, metrics, and graphs. What you will learn Use Python to read and transform data into different formats Generate basic statistics and metrics using data on disk Work with computing tasks distributed over a cluster Convert data from various sources into storage or querying formats Prepare data for statistical analysis, visualization, and machine learning Present data in the form of effective visuals Who this book is for Big Data Analysis with Python is designed for Python developers, data analysts, and data scientists who want to get hands-on with methods to control data and transform it into impactful insights. Basic knowledge of statistical measurements and relational databases will help you to understand various concepts explained in this book. Optimize your marketing strategies through analytics and machine learning Key FeaturesUnderstand how data science drives successful marketing campaignsUse machine learning for better customer engagement, retention, and product recommendationsExtract insights from your data to optimize marketing strategies and increase profitabilityBook Description Regardless of company size, the adoption of data science and machine learning for marketing has been rising in the industry. With this book, you will learn to implement data science techniques to understand the drivers behind the successes and failures of marketing campaigns. This book is a comprehensive guide to help you understand and predict customer behaviors and create more effectively targeted and personalized marketing strategies. This is a practical guide to performing simple-to-advanced tasks, to extract hidden insights from the data and use them to make smart business decisions. You will understand what drives sales and increases customer engagements for your products. You will learn to implement machine learning to forecast which customers are more likely to engage with the products and have high lifetime value. This book will also show you how to use machine learning techniques to understand different customer segments and recommend the right products for each customer. Apart from learning to gain insights into consumer behavior using exploratory analysis, you will also learn the concept of A/B testing and implement it using Python and R. By the end of this book, you will be experienced enough with various data science and machine learning techniques to run and manage successful marketing campaigns for your business. What you will learnLearn how to compute and visualize marketing KPIs in Python and RMaster what drives successful marketing campaigns with data scienceUse machine learning to predict customer engagement and lifetime valueMake product recommendations that customers are most likely to buyLearn how to use A/B testing for better marketing decision makingImplement machine learning to understand different customer segmentsWho this book is for If you are a marketing professional, data scientist, engineer, or a student keen to learn how to apply data science to marketing, this book is what you need! It will be beneficial to have some basic knowledge of either Python or R to work through the examples. This book will also be beneficial for beginners as it covers basic-to-advanced data science concepts and applications in marketing with real-life examples. Gain practical insights into predictive modelling by implementing Predictive Analytics algorithms on public datasets with Python About This Book A step-by-step guide to predictive modeling including lots of tips, tricks, and best practices Get to grips with the basics of Predictive Analytics with Python Learn how to use the popular predictive modeling algorithms such as Linear Regression, Decision Trees, Logistic Regression, and Clustering Who This Book Is For If you wish to learn how to implement Predictive Analytics algorithms using Python libraries, then this is the book for you. If you are familiar with coding in Python (or some other programming/statistical/scripting language) but have never used or read about Predictive Analytics algorithms, this book will also help you. The book will be beneficial to and can be read by any Data Science enthusiasts. Some familiarity with Python will be useful to get the most out of this book, but it is certainly not a prerequisite. What You Will Learn Understand the statistical and mathematical concepts behind Predictive Analytics algorithms and implement Predictive Analytics algorithms using Python libraries Analyze the result parameters arising from the implementation of Predictive Analytics algorithms Write Python modules/functions from scratch to execute segments or the whole of these algorithms Recognize and mitigate various contingencies and issues related to the implementation of Predictive Analytics algorithms Get to know various methods of importing, cleaning, sub-setting, merging, joining, concatenating, exploring, grouping, and plotting data with pandas and numpy Create dummy datasets and simple mathematical simulations using the Python numpy and pandas libraries Understand the best practices while handling datasets in Python and creating predictive models out of them In Detail Social Media and the Internet of Things have resulted in an avalanche of data. Data is powerful but not in its raw form - It needs to be processed and modeled, and Python is one of the most robust tools out there to do so. It has an array of packages for predictive modeling and a suite of IDEs to choose from. Learning to predict who would win, lose, buy, lie, or die with Python is an indispensable skill set to have in this data age. This book is your guide to getting started with Predictive Analytics using Python. You will see how to process data and make predictive models from it. We balance both statistical and mathematical concepts, and implement them in Python using libraries such as pandas, scikit-learn, and numpy. You'll start by getting an understanding of the basics of predictive modeling, then you will see how to cleanse your data of impurities and get it ready it for predictive modeling. You will also learn more about the best predictive modeling algorithms such as Linear Regression, Decision Trees, and Logistic Regression. Finally, you will see the best practices in predictive modeling, as well as the different applications of predictive modeling in the modern world. Style and approach All the concepts in this book been explained and illustrated using a dataset, and in a step-by-step manner. The Python code snippet to implement a method or concept is followed by the output, such as charts, dataset heads, pictures, and so on. The statistical concepts are explained in detail wherever required. From news and speeches to informal chatter on social media, natural language is one of the richest and most underutilized sources of data. Not only does it come in a constant stream, always changing and adapting in context; it also contains information that is not conveyed by traditional data sources. The key to unlocking natural language is through the creative application of text analytics. This practical book presents a data scientist's approach to building language-aware products with applied machine learning. You'll learn robust, repeatable, and scalable techniques for text analysis with Python, including contextual and linguistic feature engineering, vectorization, classification, topic modeling, entity resolution, graph analysis, and visual steering. By the end of the book, you'll be equipped with practical methods to solve any number of complex real-world problems. Preprocess and vectorize text into high-dimensional feature representations Perform document classification and topic modeling Steer the model selection process with visual diagnostics Extract key phrases, named entities, and graph structures to reason about data in text Build a dialog framework to enable chatbots and language-driven interaction Use Spark to scale processing power and neural networks to scale model complexity Learn data analysis using Python with this easy to follow beginners guide. It covers all aspects of processing, manipulation, crunching, and cleaning data using Python programming language. It has been designed to prepare you for: analyzing data creating relevant data visualizations carrying out statistical analyses for large data estimating the upcoming future trends by using current data and lots more! This book will help you learn the various parts of Python programming language, its libraries, and scientific computation using Python. Learn to practically solve extensive sets of problems related to data analysis. Python is on par with other programming languages like MATLAB, Stata, R, SAS, and others when it comes to data analysis and data visualization. Python's rich set of libraries (mainly Pandas) has grown rapidly in recent years and is considered one of the best among its competitors for tasks related to data manipulation. When combined with Python's own internal solidity, as a general purpose programming language, we can say that it is an excellent choice to build data centric web applications. You will learn how to use the essential Python libraries required for data analysis like NumPy, Pandas, matplotlib, IPython, and SciPy. Each one of them performs a particular functionality for data analysis and you will be surprised at how easy it is. So what are you waiting for? Now is your chance to learn hands on Python with ease. Click the BUY NOW button to get started on your Python journey. Turning text into valuable information is essential for businesses looking to gain a competitive advantage. With recent improvements in natural language processing (NLP), users now have many options for solving complex challenges. But it's not always clear which NLP tools or libraries would work for a business's needs, or which techniques you should use and in what order. This practical book provides data scientists and developers with blueprints for best practice solutions to common tasks in text analytics and natural language processing. Authors Jens Albrecht, Sidharth Ramachandran, and Christian Winkler provide real-world case studies and detailed code examples in Python to help you get started quickly. Extract data from APIs and web pages Prepare textual data for statistical analysis and machine learning Use machine learning for classification, topic modeling, and summarization Explain AI models and classification results Explore and visualize semantic similarities with word embeddings Identify customer sentiment in product reviews Create a knowledge graph based on named entities and their relations Presents case studies and instructions on how to solve data analysis problems using Python. Think big about your data! PySpark brings the powerful Spark big data processing engine to the Python ecosystem, letting you seamlessly scale up your data tasks and create lightning-fast pipelines.In Data Analysis with Python and PySpark you will learn how to:Manage your data as it scales across multiple machines, Scale up your data programs with full confidence, Read and write data to and from a variety of sources and formats, Deal with messy data with PySpark's data manipulation functionality, Discover new data sets and perform exploratory data analysis, Build automated data pipelines that transform, summarize, and get insights from data, Troubleshoot common PySpark errors, Creating reliable long-running jobs. Data Analysis with Python and PySpark is your guide to delivering successful Python-driven data projects. Packed with relevant examples and essential techniques, this practical book teaches you to build pipelines for reporting, machine learning, and other data-centric tasks. Quick exercises in every chapter help you practice what you've learned, and rapidly start implementing PySpark into your data systems. No previous knowledge of Spark is required.Data Analysis with Python and PySpark helps you solve the daily challenges of data science with PySpark. You'll learn how to scale your processing capabilities across multiple machines while ingesting data from any source--whether that's Hadoop clusters, cloud data storage, or local data files. Once you've covered the fundamentals, you'll explore the full versatility of PySpark by building machine learning pipelines, and blending Python, pandas, and PySpark code. If you're like many of Excel's 750 million users, you want to do more with your data—like repeating similar analyses over hundreds of files, or combining data in many files for analysis at one time. This practical guide shows ambitious non-programmers how to automate and scale the processing and analysis of data in different formats—by using Python. After author Clinton Brownley takes you through Python basics, you'll be able to write simple scripts for processing data in spreadsheets as well as databases. You'll also learn how to use several Python modules for parsing files, grouping data, and producing statistics. No programming experience is necessary. Create and run your own Python scripts by learning basic syntax Use Python's csv module to read and parse CSV files Read multiple Excel worksheets and workbooks with the xlrd module Perform database operations in MySQL or with the mysqlclient module Create Python applications to find specific records, group data, and parse text files Build statistical graphs and plots with matplotlib, pandas, ggplot, and seaborn Produce summary statistics, and estimate regression and classification models Schedule your scripts to run automatically in both Windows and Mac environments Big Data Analytics - 2 BOOK BUNDLE!! Data Analytics With Python Data is the foundation of this digital age that we live in. With this book, you are going to learn how to organize and analyze data and how to interpret vast sources of information. This book covers various topics on data analytics such as data analytics applications, data analytics process, using Python for data analytics, Python libraries for data analytics and many other that will help you kick-start your data analytics journey from the very beginning. In this book you are going to learn how to use Python its tools in order to interpret data and examine those interesting data trends and information, which are important in predicting the future. Whether you are dealing with some medical data, sales data, web page data, you can use Python in order to interpret data, analyze it and obtain this valuable information. You can also use this data for creating data analytics models and predictions. Here Is A Brief Preview of What You'll Learn In This Book… Data analytics applications Data analytics process How to install and run Python Python data structures and Python libraries Python conditional construct and iteration Data exploration using Pandas Pandas series and dataframes Data munging and distribution analysis Carrying out binary operations Data manipulation and categorical variable analysis How to build a predictive model And of course much, much more! Natural Language Processing With Python This book is a perfect beginner's guide to natural language processing. It is offering an easy to understand guide to implementing NLP techniques using Python. Natural language processing has been around for more than fifty years, but just recently with greater amounts of data present and better computational powers, it has gained a greater popularity. Given the importance of data, there is no wonder why natural language processing is on the rise. If you are interested in learning more, this book will serve as your best companion on this journey introducing you to this challenging, yet extremely engaging world of automatic manipulation of our human language. It covers all the basics you need to know before you dive deeper into NLP and solving more complex NLP tasks in Python. Here Is a Preview of What You'll Learn Here… The main challenges of natural language processing The history of natural language processing How natural langauge processing actually works The main natural language processing applications Text preprocessing and noise removal Feature engineering and syntactic parsing Part of speech tagging and named entity extraction Topic modeling and word embedding Text classification problems Working with text data using NLTK Text summarization and sentiment analysis And much, much more... Get this book bundle NOW and SAVE money!