Mastering Python For Finance

Mastering Python for Finance - Second Edition
Applied Quantitative Finance
A Gentle Introduction
Python Data Science Handbook
Implement advanced state-of-the-art financial statistical applications using Python, 2nd Edition
Derivatives Analytics with Python
Financial Modelling in Python
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All the recipes you need to implement your own algorithmic trading strategies in Python
A Beginner's Guide
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Python Algorithmic Trading Cookbook
Over 50 recipes for applying modern Python libraries to financial data analysis
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Python for Algorithmic Trading
Build next-generation, self-learning models using reinforcement learning techniques and best practices
Business Cycles and Equilibrium
Data Analysis, Models, Simulation, Calibration

and Hedging
Python For Finance (Stock Analysis, Trading, Share Prices)
Personal Finance with Python
Mastering Python for Web
Python for Finance
Python for Finance
Mastering Python for Finance
Python for Finance
Python for Finance
Machine Learning Applications Using Python
Mastering pandas for Finance
Mastering Data-Driven Finance
Artificial Intelligence in Finance
Mathematical Modeling And Computation In Finance: With Exercises And Python And Matlab Computer Codes
The Quick Python Book
A practical guide to using Zipline and other Python libraries for backtesting trading strategies
Data Wrangling with Pandas, NumPy, and IPython
Financial Theory with Python
Practical Machine Learning with Python

BROOKS AHMED

Mastering Python for Finance - Second Edition Apress

Master the essential skills needed to recognize and solve complex problems with machine learning and deep learning. Using real-world examples that leverage the

popular Python machine learning ecosystem, this book is your perfect companion for learning the art and science of machine learning to become a successful practitioner. The concepts, techniques, tools, frameworks, and methodologies used in this book will teach you how to think, design, build, and execute machine learning systems and projects successfully. Practical Machine Learning with Python follows a structured and comprehensive three-tiered approach packed with hands-on examples and code. Part 1 focuses on understanding machine learning concepts and tools. This includes machine learning basics with a broad overview of algorithms, techniques, concepts and applications, followed by a tour of the entire Python machine learning ecosystem. Brief guides for useful machine learning tools, libraries and frameworks are also covered. Part 2 details standard machine learning pipelines, with an emphasis on data processing analysis, feature engineering, and modeling. You will learn how to process, wrangle, summarize and visualize data in its various forms. Feature engineering and selection methodologies will be covered in detail with real-world datasets followed by model building, tuning, interpretation and deployment. Part 3 explores multiple real-world case studies

spanning diverse domains and industries like retail, transportation, movies, music, marketing, computer vision and finance. For each case study, you will learn the application of various machine learning techniques and methods. The hands-on examples will help you become familiar with state-of-the-art machine learning tools and techniques and understand what algorithms are best suited for any problem. Practical Machine Learning with Python will empower you to start solving your own problems with machine learning today! What You'll Learn Execute end-to-end machine learning projects and systems Implement hands-on examples with industry standard, open source, robust machine learning tools and frameworks Review case studies depicting applications of machine learning and deep learning on diverse domains and industries Apply a wide range of machine learning models including regression, classification, and clustering. Understand and apply the latest models and methodologies from deep learning including CNNs, RNNs, LSTMs and transfer learning. Who This Book Is For IT professionals, analysts, developers, data scientists, engineers, graduate students

Applied Quantitative Finance Apress

Explore the world of data science through Python and learn how to make sense of data

About This Book Master data science methods using Python and its libraries Create data visualizations and mine for patterns Advanced techniques for the four fundamentals of Data Science with Python - data mining, data analysis, data visualization, and machine learning Who This Book Is For If you are a Python developer who wants to master the world of data science then this book is for you. Some knowledge of data science is assumed. What You Will Learn Manage data and perform linear algebra in Python Derive inferences from the analysis by performing inferential statistics Solve data science problems in Python Create high-end visualizations using Python Evaluate and apply the linear regression technique to estimate the relationships among variables. Build recommendation engines with the various collaborative filtering algorithms Apply the ensemble methods to improve your predictions Work with big data technologies to handle data at scale In Detail Data science is a relatively new knowledge domain which is used by various organizations to make data driven decisions. Data scientists have to wear various hats to work with data and to derive value from it. The Python programming language, beyond having conquered the scientific community in the last decade, is now

an indispensable tool for the data science practitioner and a must-know tool for every aspiring data scientist. Using Python will offer you a fast, reliable, cross-platform, and mature environment for data analysis, machine learning, and algorithmic problem solving. This comprehensive guide helps you move beyond the hype and transcend the theory by providing you with a hands-on, advanced study of data science. Beginning with the essentials of Python in data science, you will learn to manage data and perform linear algebra in Python. You will move on to deriving inferences from the analysis by performing inferential statistics, and mining data to reveal hidden patterns and trends. You will use the matplot library to create high-end visualizations in Python and uncover the fundamentals of machine learning. Next, you will apply the linear regression technique and also learn to apply the logistic regression technique to your applications, before creating recommendation engines with various collaborative filtering algorithms and improving your predictions by applying the ensemble methods. Finally, you will perform K-means clustering, along with an analysis of unstructured data with different text mining techniques and leveraging the power

of Python in big data analytics. Style and approach This book is an easy-to-follow, comprehensive guide on data science using Python. The topics covered in the book can all be used in real world scenarios.

A Gentle Introduction Packt Publishing Ltd

Introduces the programming language's syntax, control flow, and basic data structures and covers its interaction with applications and mangement of large collections of code.

Python Data Science Handbook "O'Reilly Media, Inc."

This book discusses the interplay of stochastics (applied probability theory) and numerical analysis in the field of quantitative finance. The stochastic models, numerical valuation techniques, computational aspects, financial products, and risk management applications presented will enable readers to progress in the challenging field of computational finance.When the behavior of financial market participants changes, the corresponding stochastic mathematical models describing the prices may also change. Financial regulation may play a role in such changes too. The book thus presents several models for stock prices, interest rates as well as foreign-exchange rates, with increasing complexity across the chapters. As is said in the industry, 'do not fall in love with your favorite model.' The book covers equity

models before moving to short-rate and other interest rate models. We cast these models for interest rate into the Heath-Jarrow-Morton framework, show relations between the different models, and explain a few interest rate products and their pricing.The chapters are accompanied by exercises. Students can access solutions to selected exercises, while complete solutions are made available to instructors. The MATLAB and Python computer codes used for most tables and figures in the book are made available for both print and e-book users. This book will be useful for people working in the financial industry, for those aiming to work there one day, and for anyone interested in quantitative finance. The topics that are discussed are relevant for MSc and PhD students, academic researchers, and for quants in the financial industry.

Implement advanced state-of-the-art financial statistical applications using Python, 2nd Edition

Apress

Solve common and not-so-common financial problems using Python libraries such as NumPy, SciPy, and pandas Key Features Use powerful Python libraries such as pandas, NumPy, and SciPy to analyze your financial data Explore unique recipes for financial data analysis and processing with Python Estimate popular financial models such as CAPM

and GARCH using a problem-solution approach Book Description Python is one of the most popular programming languages used in the financial industry, with a huge set of accompanying libraries. In this book, you'll cover different ways of downloading financial data and preparing it for modeling. You'll calculate popular indicators used in technical analysis, such as Bollinger Bands, MACD, RSI, and backtest automatic trading strategies. Next, you'll cover time series analysis and models, such as exponential smoothing, ARIMA, and GARCH (including multivariate specifications), before exploring the popular CAPM and the Fama-French three-factor model. You'll then discover how to optimize asset allocation and use Monte Carlo simulations for tasks such as calculating the price of American options and estimating the Value at Risk (VaR). In later chapters, you'll work through an entire data science project in the financial domain. You'll also learn how to solve the credit card fraud and default problems using advanced classifiers such as random forest, XGBoost, LightGBM, and stacked models. You'll then be able to tune the hyperparameters of the models and handle class imbalance. Finally, you'll focus on learning how to use deep learning

(PyTorch) for approaching financial tasks. By the end of this book, you'll have learned how to effectively analyze financial data using a recipe-based approach. What you will learn Download and preprocess financial data from different sources Backtest the performance of automatic trading strategies in a real-world setting Estimate financial econometrics models in Python and interpret their results Use Monte Carlo simulations for a variety of tasks such as derivatives valuation and risk assessment Improve the performance of financial models with the latest Python libraries Apply machine learning and deep learning techniques to solve different financial problems Understand the different approaches used to model financial time series data Who this book is for This book is for financial analysts, data analysts, and Python developers who want to learn how to implement a broad range of tasks in the finance domain. Data scientists looking to devise intelligent financial strategies to perform efficient financial analysis will also find this book useful. Working knowledge of the Python programming language is mandatory to grasp the concepts covered in the book effectively.

Derivatives Analytics with Python O'Reilly Media A hands-on guide with easy-to-follow

examples to help you learn about option theory, quantitative finance, financial modeling, and time series using Python. Python for Finance is perfect for graduate students, practitioners, and application developers who wish to learn how to utilize Python to handle their financial needs. Basic knowledge of Python will be helpful but knowledge of programming is necessary.

Financial Modelling in Python "O'Reilly Media, Inc."

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.

Mastering R for Quantitative Finance
Packt Publishing Ltd

Nowadays, finance,

mathematics, and programming are intrinsically linked. Financial Theory with Python provides relevant foundations of each discipline to give you the major tools you need to get started in the world of computational finance. Using an approach where mathematical concepts provide the common background against which financial ideas and programming techniques are learned, Financial Theory with Python teaches you the basics of financial economics. Written by the bestselling author of Python for Finance, Yves Hilpisch, this practical guide explains financial, mathematical, and Python programming concepts in an integrative manner so that the interdisciplinary concepts reinforce each other. Draw upon mathematics to learn the foundations of financial theory and Python programming Learn about financial theory, financial data modeling, and the use of Python for computational finance Leverage simple economic models to better understand basic notions of finance and Python programming concepts Utilize both static and dynamic financial modeling to address fundamental problems in finance, such as pricing, decision making, equilibrium, and asset allocation Learn the basics of Python packages useful for financial modeling, such as

NumPy, pandas, matplotlib, and SymPy Financial Theory with Python is made available to OÃ??Ã?Â¢??Reilly members in this early release format before itÃ??Ã?Â¢??s available to the general public.

All the recipes you need to implement your own algorithmic trading strategies in Python

John Wiley & Sons

Deal with data, build up financial formulas in code from scratch, and evaluate and think about money in your day-to-day life. This book is about Python and personal finance and how you can effectively mix the two together. In Personal Finance with Python you will learn Python and finance at the same time by creating a profit calculator, a currency converter, an amortization schedule, a budget, a portfolio rebalancer, and a purchase forecaster. Many of the examples use pandas, the main data manipulation tool in Python. Each chapter is hands-on, self-contained, and motivated by fun and interesting examples. Although this book assumes a minimal familiarity with programming and the Python language, if you don't have any, don't worry. Everything is built up piece-by-piece and the first chapters are conducted at a relaxed pace. You'll need Python 3.6 (or above) and all of the setup details are included. What You'll Learn Work with data in pandas Calculate Net Present Value and Internal Rate Return

Query a third-party API with Requests Manage secrets Build efficient loops Parse English sentences with Recurrent Work with the YAML file format Fetch stock quotes and use Prophet to forecast the future Who This Book Is For Anyone interested in Python, personal finance, and/or both! This book is geared towards those who want to manage their money more effectively and to those who just want to learn or improve their Python.

Packt Publishing Ltd

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

A Beginner's Guide

"O'Reilly Media, Inc."

This book focuses on key Python analytics and algorithmic trading libraries used for backtesting. With the help of practical examples, you will learn the principle aspects of trading strategy development. The 14 profitable strategies included in the book will also help you build intuitions that will enable you to create your own strategy.

Hands-On Financial Trading with Python

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Nowadays, finance, mathematics, and programming are intrinsically linked. This book provides the relevant foundations of each discipline to give you the major tools you need to get started in

the world of computational finance. Using an approach where mathematical concepts provide the common background against which financial ideas and programming techniques are learned, this practical guide teaches you the basics of financial economics. Written by the best-selling author of Python for Finance, Yves Hilpisch, Financial Theory with Python explains financial, mathematical, and Python programming concepts in an integrative manner so that the interdisciplinary concepts reinforce each other. Draw upon mathematics to learn the foundations of financial theory and Python programming Learn about financial theory, financial data modeling, and the use of Python for computational finance Leverage simple economic models to better understand basic notions of finance and Python programming concepts Use both static and dynamic financial modeling to address fundamental problems in finance, such as pricing, decision-making, equilibrium, and asset allocation Learn the basics of Python packages useful for financial modeling, such as NumPy, pandas, Matplotlib, and SymPy

Python Algorithmic Trading Cookbook

John Wiley & Sons

Generate effective results in a variety of visually appealing charts using the plotting packages in

Python About This Book Explore various tools and their strengths while building meaningful representations that can make it easier to understand data Packed with computational methods and algorithms in diverse fields of science Written in an easy-to-follow categorical style, this book discusses some niche techniques that will make your code easier to work with and reuse Who This Book Is For If you are a Python developer who performs data visualization and wants to develop existing knowledge about Python to build analytical results and produce some amazing visual display, then this book is for you. A basic knowledge level and understanding of Python libraries is assumed. What You Will Learn Gather, cleanse, access, and map data to a visual framework Recognize which visualization method is applicable and learn best practices for data visualization Get acquainted with reader-driven narratives and author-driven narratives and the principles of perception Understand why Python is an effective tool to be used for numerical computation much like MATLAB, and explore some interesting data structures that come with it Explore with various visualization choices how Python can be very useful in computation in the field of finance and statistics Get to know

why Python is the second choice after Java, and is used frequently in the field of machine learning Compare Python with other visualization approaches using Julia and a JavaScript-based framework such as D3.js Discover how Python can be used in conjunction with NoSQL such as Hive to produce results efficiently in a distributed environment In Detail Python has a handful of open source libraries for numerical computations involving optimization, linear algebra, integration, interpolation, and other special functions using array objects, machine learning, data mining, and plotting. Pandas have a productive environment for data analysis. These libraries have a specific purpose and play an important role in the research into diverse domains including economics, finance, biological sciences, social science, health care, and many more. The variety of tools and approaches available within Python community is stunning, and can bolster and enhance visual story experiences. This book offers practical guidance to help you on the journey to effective data visualization. Commencing with a chapter on the data framework, which explains the transformation of data into information and eventually knowledge, this book subsequently covers the complete visualization process using the most popular

Python libraries with working examples. You will learn the usage of Numpy, Scipy, IPython, MatPlotLib, Pandas, Patsy, and Scikit-Learn with a focus on generating results that can be visualized in many different ways. Further chapters are aimed at not only showing advanced techniques such as interactive plotting; numerical, graphical linear, and non-linear regression; clustering and classification, but also in helping you understand the aesthetics and best practices of data visualization. The book concludes with interesting examples such as social networks, directed graph examples in real-life, data structures appropriate for these problems, and network analysis. By the end of this book, you will be able to effectively solve a broad set of data analysis problems.
Style and approach
The approach of this book is not step by step, but rather categorical. The categories are based on fields such as bioinformatics, statistical and machine learning, financial computation, and linear algebra. This approach is beneficial for the community in many different fields of work and also helps you learn how one approach can make sense across many fields
Over 50 recipes for applying modern Python libraries to financial data analysis
Manning Publications Company

Mastering Python for FinanceImplement advanced state-of-the-art financial statistical applications using Python, 2nd EditionPackt Publishing Ltd

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

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.

Financial Theory with Python World Scientific

Machine learning (ML) is changing virtually every aspect of our lives. Today ML algorithms accomplish tasks that until recently only expert humans could perform. As it relates to finance, this is the most exciting time to adopt a disruptive technology that will transform how

everyone invests for generations. Readers will learn how to structure Big data in a way that is amenable to ML algorithms; how to conduct research with ML algorithms on that data; how to use supercomputing methods; how to backtest your discoveries while avoiding false positives. The book addresses real-life problems faced by practitioners on a daily basis, and explains scientifically sound solutions using math, supported by code and examples. Readers become active users who can test the proposed solutions in their particular setting. Written by a recognized expert and portfolio manager, this book will equip investment professionals with the groundbreaking tools needed to succeed in modern finance.

Essential Tools for Working with Data John Wiley & Sons

Life scientists today urgently need training in bioinformatics skills. Too many bioinformatics programs are poorly written and barely maintained--usually by students and researchers who've never learned basic programming skills. This practical guide shows postdoc bioinformatics professionals and students how to exploit the best parts of Python to solve problems in biology while creating documented, tested, reproducible software. Ken Youens-Clark, author of Tiny Python

Projects (Manning), demonstrates not only how to write effective Python code but also how to use tests to write and refactor scientific programs. You'll learn the latest Python features and toolsâ??including linters, formatters, type checkers, and testsâ??to create documented and tested programs. You'll also tackle 14 challenges in Rosalind, a problem-solving platform for learning bioinformatics and programming. Create command-line Python programs to document and validate parameters Write tests to verify refactor programs and confirm they're correct Address bioinformatics ideas using Python data structures and modules such as Biopython Create reproducible shortcuts and workflows using makefiles Parse essential bioinformatics file formats such as FASTA and FASTQ Find patterns of text using regular expressions Use higher-order functions in Python like filter(), map(), and reduce()

Mastering Python for Finance Mastering Python for FinanceImplement advanced state-of-the-art financial statistical applications using Python, 2nd Edition This book enables you to develop financial applications by harnessing Python’s strengths in data visualization, interactive analytics, and scientific computing. You will be using popular libraries

such as TensorFlow, Keras, sklearn, and so on to extend the functionalities of your financial applications by using smart machine learning techniques.

Python for Algorithmic Trading "O'Reilly Media, Inc."

This book focuses on expert-level explanations and implementations of scalable reinforcement learning algorithms and approaches. Starting with the fundamentals, the book covers state-of-the-art methods from bandit problems to meta-reinforcement learning. You'll also explore practical examples inspired by real-life problems from the industry.

Build next-generation, self-learning models using reinforcement learning techniques and best practices Packt Publishing Ltd

Ever wondered what it takes to be an algorithmic trading professional? Look no further, this recipe-based guide will help you uncover various common and not-so-common challenges faced while devising efficient and powerful algo trading strategies. You will implement various Python libraries to conduct key tasks in the algorithmic trading ecosystem.

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