Financial Analytics With R Building A Laptop Laboratory For Data Science

With the immediacy of today's NASDAQ close and the timeless power of a Greek tragedy, The Quants is at once a masterpiece of explanatory journalism, a gripping tale of ambition and hubris, and an ominous warning about Wall Street's future. In March of 2006, four of the wor sipped champagne in an opulent New York hotel. They were preparing to compete in a poker tournament with million-dollar stakes, but those numbers meant nothing to them. They were accustomed to risking billions. On that night, these four men and their cohorts were the ne Muller, Griffin, Asness, and Weinstein were among the best and brightest of a new breed, the quants. Over the prior twenty years, this species of math whiz--technocrats who make billions not with gut calls or fundamental analysis but with formulas and high-speed computers-- testosterone-fueled, kill-or-be-killed risk-takers who'd long been the alpha males the world's largest casino. The quants helped create a digitized money-trading machine that could shift billions around the globe with the click of a mouse. Few realized, though, that in creating this machine, men like Muller, Griffin, Asness and Weinstein had sowed the seeds for history's greatest financial disaster. Drawing on unprecedented access to these four number-crunching titans, The Quants tells the inside story of what they thought and felt in the days and weeks watched much of their net worth vaporize--and wondered just how their mind-bending formulas and genius-level IQ's had led them so wrong, so fast.
Are you innately curious about dynamically inter-operating financial markets? Since the crisis of 2008, there is a need for professionals with more understanding about statistics and data analysis, who can discuss the various risk metrics, particularly those involving extreme eve resource for training students and professionals in basic and sophisticated analytics, this book meets that need. It offers both the intuition and basic vocabulary as a step towards the financial, statistical, and algorithmic knowledge required to resolve the industry problems, and way of developing analytical programs for finance in the statistical language R. Build a hands-on laboratory and run many simulations. Explore the analytical fringes of investments and risk management. Bennett and Hugen help profit-seeking investors and data science students s many areas, including time-series, forecasting, portfolio selection, covariance clustering, prediction, and derivative securities.
During the Global Financial Crisis in 2008, our financial infrastructure failed. Governments bailed out the very institutions that let the economy down. This episode spurred a serious rethink of our financial system. Does it make any sense that it takes two days to settle a stock retailers, operating on razor thin margins, have to pay 3% for every customer credit card swipe? Why does it take two days to transfer money from a bank account to a brokerage—or any other company? Why are savings rates miniscule or negative? Why is it so difficult for en ing at traditional banks? In DeFi and the Future of Finance, Campbell R. Harvey, Ashwin Ramachandran and Joey Santoro, introduce the new world of Decentralized Finance. The book argues that the current financial landscape is ripe for disruption and we are seeing, in real time, t finance. The authors provide the reader with a clear assessment of the problems with the current financial system and how DeFi solves many of these problems. The essence of DeFi is that we interact with peers—there is no brick and mortar and all of the associated costs. Sa reinvented. Trading takes place with algorithms far removed from traditional brokerages. The book conducts a deep dive on some of the most innovative protocols such as Uniswap and Compound. Many of the companies featured in the book you might not have heard of—howev future. As with any new technology, there are a myriad of risks and the authors carefully catalogue these risks and assess which ones can be successfully mitigated. Ideally suited for people working in any part of the finance industry as well as financial policy makers, DeFi and gives readers a vision of the future. The world of finance will fundamentally be changed over the coming decade. The book enables you to become part of the disruption – not the target of the disruption.
"Mun demystifies real options analysis and delivers a powerful, pragmatic guide for decision-makers and practitioners alike. Finally, there is a book that equips professionals to easily recognize, value, and seize real options in the world around them." --Jim Schreckengast, Senior VF Gemplus International SA, France Completely revised and updated to meet the challenges of today's dynamic business environment, Real Options Analysis, Second Edition offers you a fresh look at evaluating capital investment strategies by taking the strategic decision-making pr consideration. This comprehensive guide provides both a qualitative and quantitative description of real options; the methods used in solving real options; why and when they are used; and the applicability of these methods in decision making.
Mastering R for Quantitative Finance
Financial Modeling
Advances in Financial Machine Learning
A Practical Guide to Investment Banking and Private Equity
DeFi and the Future of Finance
Ditch debt, save money and build real wealth

The new edition of this influential textbook, geared towards graduate or advanced undergraduate students, teaches the statistics necessary for financial engineering. In doing so, it illustrates concepts using financial markets and economic data, R Labs with real-data exercises, and graphical and analytic methods for modeling and diagnosing modeling errors. These methods are critical because financial engineers now have access to enormous quantities of data. To make use of this data, the powerful methods in this book for working with quantitative information, particularly about volatility and risks, are essential. Strengths of this fully-revised edition include major additions to the R code and the advanced topics covered. Individual chapters cover, among other topics, multivariate distributions, copulas, Bayesian computations, risk management, and cointegration. Suggested prerequisites are basic knowledge of statistics and probability, matrices and linear algebra, and calculus. There is an appendix on probability, statistics and linear algebra. Practicing financial engineers will also find this book of interest.
Doing Meta-Analysis with R: A Hands-On Guide serves as an accessible introduction on how meta-analyses can be conducted in R. Essential steps for meta-analysis are covered, including calculation and pooling of outcome measures, forest plots, heterogeneity diagnostics, subgroup analyses, meta-regression, methods to control for publication bias, risk of bias assessments and plotting tools. Advanced but highly relevant topics such as network meta-analysis, multi-three-level meta-analyses, Bayesian meta-analysis approaches and SEM meta-analysis are also covered. A companion R package, dmetar, is introduced at the beginning of the guide. It contains data sets and several helper functions for the meta and metafor package used in the guide. The programming and statistical background covered in the book are kept at a non-expert level, making the book widely accessible. Features • Contains two introductory chapters on how to set up an R environment and do basic imports/manipulations of meta-analysis data, including exercises • Describes statistical concepts clearly and concisely before applying them in R • Includes step-by-step guidance through the coding required to perform meta-analyses, and a companion R package for the book
This book provides a comprehensive treatment of the important aspects of investment theory, security analysis, and portfolio selection, with a quantitative emphasis not to be found in most other investment texts.The statistical analysis framework of markets and institutions in the book meets the need for advanced undergraduates and graduate students in quantitative disciplines, who wish to apply their craft to the world of investments. In addition, entrepreneurs will find the volume to be especially useful. It also contains a clearly detailed explanation of many recent developments in portfolio and capital market theory as well as a thorough procedural discussion of security analysis. Professionals preparing for the CPA, CFA, and or CFP examinations will also benefit from a close scrutiny of the many problems following each chapter.The level of difficulty progresses through the textbook with more advanced treatment appearing in the latter sections of each chapter, and the last chapters of the volume.
Statistical Computation for Programmers, Scientists, Quants, Excel Users, and Other Professionals Using the open source R language, you can build powerful statistical models to answer many of your most challenging questions. R has traditionally been difficult for non-statisticians to learn, and most R books assume far too much knowledge to be of help. R for Everyone, Second Edition, is the solution. Drawing on his unsurpassed experience teaching new users, professional data scientist Jared P. Lander has written the perfect tutorial for anyone new to statistical programming and modeling. Organized to make learning easy and intuitive, this guide focuses on the 20 percent of R functionality you'll need to accomplish 80 percent of modern data tasks. Lander's self-contained chapters start with the absolute basics, offering extensive hands-on practice and sample code. You'll download and install R; navigate and use the R environment; master basic program control, data import, manipulation, and visualization; and walk through several essential tests. Then, building on this foundation, you'll construct several complete models, both linear and nonlinear, and use some data mining techniques. After all this you'll make your code reproducible with LaTeX, RMarkdown, and Shiny. By the time you're done, you won't just know how to write R programs, you'll be ready to tackle the statistical problems you care about most. Coverage includes Explore R, RStudio, and R packages Use R for math: variable types, vectors, calling functions, and more Exploit data structures, including data.frames, matrices, and lists Read many different types of data Create attractive, intuitive statistical graphics Write user-defined functions Control program flow with if, ifelse, and complex checks Improve program efficiency with group manipulations Combine and reshape multiple datasets Manipulate strings using R's facilities and regular expressions Create normal, binomial, and Poisson probability distributions Build linear, generalized linear, and nonlinear models Program basic statistics: mean, standard deviation, and t-tests Train machine learning models Assess the quality of models and variable selection Prevent overfitting and perform variable selection, using the Elastic Net and Bayesian methods Analyze univariate and multivariate time series data Group data via K-means and hierarchical clustering Prepare reports, slideshows, and web pages with knitr Display interactive data with RMarkdown and htmlwidgets Implement dashboards with Shiny Build reusable R packages with devtools and Rcpp Register your product at informit.com/register for convenient access to downloads, updates, and corrections as they become available.
Building a Laptop Laboratory for Data Science
Financial Analysis with Microsoft Excel 2016, 8E
Tools and Techniques for Understanding and Implementing Financial Analytics
Introduction to R for Quantitative Finance
Mastering Data-Driven Finance
Statistics and Data Analysis for Financial Engineering

Using real-world examples to thoroughly involves readers with financial statements, Financial Reporting and Analysis, 9e builds skills in analyzing real financial reports through statements, exhibits, and cases of actual companies. Emphasis is placed on the analysis and interpretation of the end result of financial reporting â€" financial statements.
R Markdown: The Definitive Guide is the first official book authored by the core R Markdown developers that provides a comprehensive and accurate reference to the R Markdown ecosystem. With R Markdown, you can easily create reproducible data analysis reports, presentations, dashboards, interactive applications, books, dissertations, websites, and journal articles, while enjoying the simplicity of Markdown and the great power of R and other languages. In this book, you will learn Basics: Syntax of Markdown and R code chunks, how to generate figures and tables, and how to use other computing languages Built-in output formats of R Markdown: PDF/HTML/Word/RTF/Markdown documents and ioslides/Slidy/Beamer/PowerPoint presentations Extensions and applications: Dashboards, Tufte handouts, xaringan/reveal.js presentations, websites, books, journal articles, and interactive tutorials Advanced topics: Parameterized reports, HTML widgets, document templates, custom output formats, and Shiny documents. Yihui Xie is a software engineer at RStudio. He has authored and co-authored several R packages, including knitr, rmarkdown, bookdown, blogdown, shiny, xaringan, and animation. He has published three other books, Dynamic Documents with R and knitr, bookdown: Authoring Books and Technical Documents with R Markdown, and blogdown: Creating Websites with R Markdown. J.J. Allaire is the founder of RStudio and the creator of the RStudio IDE. He is an author of several packages in the R Markdown ecosystem including rmarkdown, flexdashboard, learnr, and radix. Garrett Grolemund is the co-author of R for Data Science and author of Hands-On Programming with R. He wrote the lubridate R package and works for RStudio as an advocate who trains engineers to do data science with R and the Tidyverse.
The number one guide to corporate valuation is back and better than ever Thoroughly revised and expanded to reflect business conditions in today's volatile global economy, Valuation, Fifth Edition continues the tradition of its bestselling predecessors by providing up-to-date insights and practical advice on how to create, manage, and measure the value of an organization. Along with all new case studies that illustrate how valuation techniques and principles are applied in real-world situations, this comprehensive guide has been updated to reflect new developments in corporate finance, changes in accounting rules, and an enhanced global perspective. Valuation, Fifth Edition is filled with expert guidance that managers at all levels, investors, and students can use to enhance their understanding of this important discipline. Contains strategies for multi-business valuation and valuation for corporate restructuring, mergers, and acquisitions Addresses how you can interpret the results of a valuation in light of a company's competitive situation Also available: a book plus CD-ROM package (978-0-470-42469-8) as well as a stand-alone CD-ROM (978-0-470-42457-7) containing an interactive valuation DCF model Valuation, Fifth Edition stands alone in this field with its reputation of quality and consistency. If you want to hone your valuation skills today and improve them for years to come, look no further than this book.
Taking your spreadsheet skills to the next level, Mayes/Shank's FINANCIAL ANALYSIS WITH MICROSOFT EXCEL 2016, 8E, equips you with a solid foundation in corporate finance while helping you master the tools professionals use every day. It delivers thorough coverage of financial statements, cash budgets, time series forecasting, the Security Market Security Line, pro forma financial statements, cost of capital, VBA programming, Pivot Tables, and Get & Transform tools (formerly known as Power Query). With its unique self-directed learning approach, this reader-friendly book is an ideal resource for independent learning and a valuable reference tool. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.
Advanced Analytics and Graphics
Statistical Analysis of Financial Data
The Quants
Using Financial Accounting Information
Fintech in a Flash
The Definitive Guide

With more than 200 practical recipes, this book helps you perform data analysis with R quickly and efficiently. The R language provides everything you need to do statistical work, but its structure can be difficult to master. This collection of concise, task-oriented recipes makes you productive with R immediately, with solutions ranging from basic tasks to input and output, general statistics, graphics, and linear regression. Each recipe addresses a specific problem, with a discussion that explains the solution and offers insight into how it works. If you're a beginner, R Cookbook will help get you started. If you're an experienced data programmer, it will jog your memory and expand your horizons. You'll get the job done faster and learn more about R in the process. Create vectors, handle variables, and perform other basic functions Input and output Tackle data structures such as matrices, lists, factors, and data frames Work with probability, probability distributions, and random variables Calculate statistics and confidence intervals, and perform statistical tests Create a variety of graphic displays Build statistical models with linear regressions and analysis of variance (ANOVA) Explore advanced statistical techniques, such as finding clusters in your data "Wonderfully readable, R Cookbook serves not only as a solutions manual of sorts, but as a truly enjoyable way to explore the R language—one practical example at a time."—Jeffrey Ryan, software consultant and R package author book introduces the reader to the use of R and RStudio as a platform for analyzing financial and economic data. The book covers all necessary knowledge for using R, from its installation in your computer to the organization and development of scripts. For every chapter, the book presents practical and replicable examples of R code, providing context and facilitating the learning process. This is what you'll learn from this book: Using R and RStudio: In chapter 01 we will discuss the use of R as a programming platform designed to solve data-related problems in finance and economics. In chapter 02 we will explore basic commands and many functionalities of R and RStudio that will increase your productivity. Importing financial and economic data: In chapters 04 and 05 we will learn to import data from local files, such as an Excel spreadsheet, or the internet, using specialized packages that can download financial and economic data such as stock prices, economic indices, the US yield curve, corporate financial statements, and many others. Cleaning, structuring and analyzing the data with R: In chapters 06 and 07 we will concentrate our study on the ecosystem of basic and advanced classes of objects within R. We will learn to manipulate objects such as numeric vectors, dates and whole tables. In chapters 08 and 09 we'll study to use the programming tools to solve data-related problems such as cleaning and structuring messy data. In chapter 11 we will learn applications of the most common econometric models used in finance and economics including linear regression, generalized linear model, Arima model and others. Creating visual analysis of data: In chapter 10 we'll learn to use functions from package ggplot2 to create clever visualizations of our datasets, including the most popular applications in finance and economics, time series and statistical plots. Reporting your results: In chapter 12 we will see how to report our data analysis using specialized packages and the RMarkdown technology. Includes the topic of presenting and exporting tables, figure and models to a written report. Writing better and faster code: In the last chapter of the book we discuss best programming practices with R. We will look at how to profile code and search for bottlenecks, and improving execution time with caching strategies using package memoise, C++ code with Rcpp and parallel computing with furrr. All the material used in the book, including code examples separated by chapters, slides and exercises is publicly available on the Internet and distributed with a R package called afedR. It includes data files and several functions that can make it easier to run the examples of the book. If you plan to write some code as you read the book, this package will greatly help your journey. This book is recommended for researchers and students interested in learning how to use R. No prior knowledge of programming, finance or economics is required to take advantage of this book. After finishing, the reader will have enough knowledge to develop their own scripts autonomously, producing academic documents or data analysis for public and private institutions.
Reproducible Finance with R: Code Flows and Shiny Apps for Portfolio Analysis is a unique introduction to data science for investment management that explores the three major R/finance coding paradigms, emphasizes data visualization, and explains how to build a cohesive suite of functioning Shiny applications. The full source code, asset price data and live Shiny applications are available at reproduciblefinance.com. The ideal reader works in finance or wants to work in finance and has a desire to learn R code and Shiny through simple, yet practical real-world examples. The book begins with the first step in data science: importing and wrangling data, which in the investment context means importing asset prices, converting to returns, and constructing a portfolio. The next section covers risk and tackles descriptive statistics such as standard deviation, skewness, kurtosis, and their rolling histories. The third section focuses on portfolio theory, analyzing the Sharpe Ratio, CAPM, and Fama French models. The book concludes with applications for finding individual asset contribution to risk and for running Monte Carlo simulations. For each of these tasks, the three major coding paradigms are explored and the work is wrapped into interactive Shiny applications.
Financial, Macro and Micro Econometrics Using R, Volume 42, provides state-of-the-art information on important topics in econometrics, including multivariate GARCH, stochastic frontiers, fractional responses, specification testing and model selection, exogeneity testing, causal analysis and forecasting, GMM models, asset bubbles and crises, corporate investments, classification, forecasting, nonstandard problems, cointegration, financial market jumps and co-jumps, among other topics. Presents chapters authored by distinguished, honored researchers who have received awards from the Journal of Econometrics or the Econometric Society Includes descriptions and links to resources and free open source R Gives readers what they need to jumpstart their understanding on the state-of-the-art
Financial Technology Made Easy
With Examples In R
Doing Meta-Analysis with R
Analyze Big Financial Data
Interactive Web-Based Data Visualization with R, plotly, and shiny
Financial, Macro and Micro Econometrics Using R

Statistical Analysis of Financial Data covers the use of statistical analysis and the methods of data science to model and analyze financial data. The first chapter is an overview of financial markets, describing the market operations and using exploratory data analysis to illustrate the nature of financial data. The software used to obtain the data for the examples in the first chapter and for all computations and to produce the graphs is R. However discussion of R is deferred to an appendix to the first chapter, where the basics of R, especially those most relevant in financial applications, are presented and illustrated. The appendix also describes how to use R to obtain current financial data from the internet. Chapter 2 describes the methods of exploratory data analysis, especially graphical methods, and illustrates them on real financial data. Chapter 3 covers probability distributions useful in financial analysis, especially heavy-tailed distributions, and describes methods of computer simulation of financial data. Chapter 4 covers basic methods of statistical inference, especially the use of linear models in analysis, and Chapter 5 describes methods of time series with special emphasis on methods and models applicable to analysis of financial data. Features * Covers statistical methods for analyzing models appropriate for financial data, especially models with outliers or heavy-tailed distributions. * Describes both the basics of R and advanced techniques useful in financial data analysis. * Driven by real, current financial data, not just stale data deposited on some static website. * Includes a large number of exercises, many requiring the use of open-source software to acquire real financial data from the internet and to analyze it.
Implement machine learning, time-series analysis, algorithmic trading and more About This Book Understand the basics of R and how they can be applied in various Quantitative Finance scenarios Learn various algorithmic trading techniques and ways to optimize them using the tools available in R. Contain different methods to manage risk and explore trading using Machine Learning. Who This Book Is For If you want to learn how to use R to build quantitative finance models with ease, this book is for you. Analysts who want to learn R to solve their quantitative finance problems will also find this book useful. Some understanding of the basic financial concepts will be useful, though prior knowledge of R is not required. What You Will Learn Get to know the basics of R and how to use it in the field of Quantitative Finance Understand data processing and model building using R Explore different types of analytical techniques such as statistical analysis, time-series analysis, predictive modeling, and econometric analysis Build and analyze quantitative finance models using real-world examples How real-life examples should be used to develop strategies Performance metrics to look into before deciding upon any model Deep dive into the vast world of machine-learning based trading Get to grips with algorithmic trading and different ways of optimizing it Learn about controlling risk parameters of financial instruments In Detail The role of a quantitative analyst is very challenging, yet lucrative, so there is a lot of competition for the role in top-tier organizations and investment banks. This book is your go-to resource if you want to equip yourself with the skills required to tackle any real-world problem in quantitative finance using the popular R programming language. You'll start by getting an understanding of the basics of R and its relevance in the field of quantitative finance. Once you've built this foundation, we'll dive into the practicalities of building financial models in R. This will help you have a fair understanding of the topics as well as their implementation, as the authors have presented some use cases along with examples that are easy to understand and correlate. We'll also look at risk management and optimization techniques for algorithmic trading. Finally, the book will explain some advanced concepts, such as trading using machine learning, optimizations, exotic options, and hedging. By the end of this book, you will have a firm grasp of the techniques required to implement basic quantitative finance models in R. Style and approach This book

introduces you to the essentials of quantitative finance with the help of easy-to-understand, practical examples and use cases in R. Each chapter presents a specific financial concept in detail, backed with relevant theory and the implementation of a real-life example.

Written by the Founder and CEO of the prestigious New York School of Finance, this book schools you in the fundamental tools for accurately assessing the soundness of a stock investment. Built around a full-length case study of Wal-Mart, it shows you how to perform an in-depth analysis of that company's financial standing, walking you through all the steps of developing a sophisticated financial model as done by professional Wall Street analysts. You will construct a full scale financial model and valuation step-by-step as you page through the book. When we ran this analysis in January of 2012, we estimated the stock was undervalued. Since the first run of the analysis, the stock has increased 35 percent. Re-evaluating Wal-Mart 9months later, we will step through the techniques utilized by Wall Street analysts to build models on and properly value business entities. Step-by-step financial modeling - taught using downloadable Wall Street models, you will construct the model step by step as you page through the book. Hot keys and explicit Excel instructions aid even the novice excel modeler. Model built complete with Income Statement, Cash Flow Statement, Balance Sheet, Balance Sheet Balancing Techniques, Depreciation Schedule (complete with accelerating depreciation and deferring taxes), working capital schedule, debt schedule, handling circular references, and automatic debt pay downs. Illustrative concepts including detailing model flows help aid in conceptual understanding. Concepts are reiterated and honed, perfect for a novice yet detailed enough for a professional. Model built direct from Wal-Mart public filings, searching through notes, performing research, and illustrating techniques to formulate projections. Includes in-depth coverage of valuation techniques commonly used by Wall Street professionals. Illustrative comparable company analyses - built the right way, direct from historical financials, calculating LTM (Last Twelve Month) data, calendarization, and properly smoothing EBITDA and Net Income. Precedent transactions analysis - detailing how to extract proper metrics from relevant proxy statements Discounted cash flow analysis - simplifying and illustrating how a DCF is utilized, how unlevered free cash flow is derived, and the meaning of weighted average cost of capital (WACC) Step-by-step we will come up with a valuation on Wal-Mart Chapter end questions, practice models, additional case studies and common interview questions (found in the companion website) help solidify the techniques honed in the book; ideal for universities or business students looking to break into the investment banking field.

Text data is important for many domains, from healthcare to marketing to the digital humanities, but specialized approaches are necessary to create features for machine learning from language. Supervised Machine Learning for Text Analysis in R explains how to preprocess text data for modeling, train models, and evaluate model performance using tools from the tidyverse and tidymodels ecosystem. Models like these can be used to make predictions for new observations, to understand what natural language features or characteristics contribute to differences in the output, and more. If you are already familiar with the basics of predictive modeling, use the comprehensive, detailed examples in this book to extend your skills to the domain of natural language processing. This book provides practical guidance and directly applicable knowledge for data scientists and analysts who want to integrate unstructured text data into their modeling pipelines. Learn how to use text data for both regression and classification tasks, and how to apply more straightforward algorithms like regularized regression or support vector machines as well as deep learning approaches. Natural language must be dramatically transformed to be ready for computation, so we explore typical text preprocessing and feature engineering steps like tokenization and word embeddings from the ground up. These steps influence model results in ways we can measure, both in terms of model metrics and other tangible consequences such as how fair or appropriate model results are.

A Handbook for Development Practitioners
How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It
Insights from 25 of Wall Street's Elite
A Guide to Quantitative Finance
Portfolio Optimization with R/Rmetrics
Learning Quantitative Finance with R

"a provocative new book" -- The New York Times AI-centric organizations exhibit a new operating architecture, redefining how they create, capture, share, and deliver value. Marco Iansiti and Karim R. Lakhani show how reinventing the firm around data, analytics, and AI removes traditional constraints on scale, scope, and learning that have restricted business growth for hundreds of years. From Airbnb to Ant Financial, Microsoft to Amazon, research shows how AI-driven processes are vastly more scalable than traditional processes, allow massive scope increase, enabling companies to straddle industry boundaries, and create powerful opportunities for learning--to drive ever more accurate, complex, and sophisticated predictions. When traditional operating constraints are removed, strategy becomes a whole new game, one whose rules and likely outcomes this book will make clear. Iansiti and Lakhani: Present a framework for rethinking business and operating models Explain how "collisions" between AI-driven/digital and traditional/analog firms are reshaping competition, altering the structure of our economy, and forcing traditional companies to rearchitect their operating models Explain the opportunities and risks created by digital firms Describe the new challenges and responsibilities for the leaders of both digital and traditional firms Packed with examples--including many from the most powerful and innovative global, AI-driven competitors--and based on research in hundreds of firms across many sectors, this is your essential guide for rethinking how your firm competes and operates in the era of AI.

Too often, finance courses stop short of making a connection between textbook finance and the problems of real-world business. "Financial Modeling" bridges this gap between theory and practice by providing a nuts-and-bolts guide to solving common financial problems with spreadsheets. The CD-ROM contains Excel* worksheets and solutions to end-of-chapter exercises. 634 illustrations.

Praise for How I Became a Quant "Led by two top-notch quants, Richard R. Lindsey and Barry Schachter, How I Became a Quant details the quirky world of quantitative analysis through stories told by some of today's most successful quants. For anyone who might have thought otherwise, there are engaging personalities behind all that number crunching!" --Ira Kawaller, Kawaller & Co. and the Kawaller Fund "A fun and fascinating read. This book tells the story of how academics, physicists, mathematicians, and other scientists became professional investors managing billions." --David A. Krell, President and CEO, International Securities Exchange "How I Became a Quant should be must reading for all students with a quantitative aptitude. It provides fascinating examples of the dynamic career opportunities potentially open to anyone with the skills and passion for quantitative analysis." --Roy D. Henriksson, Chief Investment Officer, Advanced Portfolio Management "Quants"--those who design and implement mathematical models for the pricing of derivatives, assessment of risk, or prediction of market movements--are the backbone of today's investment industry. As the greater volatility of current financial markets has driven investors to seek shelter from increasing uncertainty, the quant revolution has given people the opportunity to avoid unwanted financial risk by literally trading it away, or more specifically, paying someone else to take on the unwanted risk. How I Became a Quant reveals the faces behind the quant revolution, offering you? the? chance to learn firsthand what it's like to be a? quant today. In this fascinating collection of Wall Street war stories, more than two dozen quants detail their roots, roles, and contributions, explaining what they do and how they do it, as well as outlining the sometimes unexpected paths they have followed from the halls of academia to the front lines of an investment revolution.

Are you applying quantitative methods without a full understanding of how they really work? Bridging the gap between mathematical theory and financial practice, A Guide to Quantitative Finance provides you with all the tools and techniques to comprehend and implement the quantitative methods adopted in the financial markets.

An Introduction to Analysis of Financial Data with R
Strategy and Leadership When Algorithms and Networks Run the World
Clever Girl Finance
Real Options Analysis
The R Book
Reproducible Finance with R

A complete set of statistical tools for beginning financial analysts from a leading authority Written by one of the leading experts on the topic, An Introduction to Analysis of Financial Data with R explores basic concepts of visualization of financial data. Through a fundamental balance between theory and applications, the book supplies readers with an accessible approach to financial econometric models and their applications to real-world empirical research. The author supplies a hands-on introduction to the analysis of financial data using the freely available R software package and case studies to illustrate actual implementations of the discussed methods. The book begins with the basics of financial data, discussing their summary statistics and related visualization methods. Subsequent chapters explore basic time series analysis and simple econometric models for business, finance, and economics as well as related topics including: Linear time series analysis, with coverage of exponential smoothing for forecasting and methods for model comparison Different approaches to calculating asset volatility and various volatility models High-frequency financial data and simple models for price changes, trading intensity, and realized volatility Quantitative methods for risk management, including value at risk and conditional value at risk Econometric and statistical methods for risk assessment based on extreme value theory and quantile regression Throughout the book, the visual nature of the topic is showcased through graphical representations in R, and two detailed case studies demonstrate the relevance of statistics in finance. A related website features additional data sets and R scripts so readers can create their own simulations and test their comprehension of the presented techniques. An Introduction to Analysis of Financial Data with R is an excellent book for introductory courses on time series and business statistics at the upper-undergraduate and graduate level. The book is also an excellent resource for researchers and practitioners in the fields of business, finance, and economics who would like to enhance their understanding of financial data and today's financial markets.

Financial Analytics with R sharpens readers' skills in time-series, forecasting, portfolio selection, covariance clustering, prediction, and derivative securities.

The high-level language of R is recognized as one of the most powerful and flexible statistical software environments, and is rapidly becoming the standard setting for quantitative analysis, statistics and graphics. R provides free access to unrivalled coverage and cutting-edge applications, enabling the user to apply numerous statistical methods ranging from simple regression to time series or multivariate analysis. Building on the success of the author's bestselling Statistics: An Introduction using R, The R Book is packed with worked examples, providing an all inclusive guide to R, ideal for novice and more accomplished users alike. The book assumes no background in statistics or computing and introduces the advantages of the R environment, detailing its applications in a wide range of disciplines. Provides the first comprehensive reference manual for the R language, including practical guidance and full coverage of the graphics facilities. Introduces all the statistical models covered by R, beginning with simple classical tests such as chi-square and t-test. Proceeds to examine more advance methods, from regression and analysis of variance, through to generalized linear models, generalized mixed models, time series, spatial statistics, multivariate statistics and much more. The R Book is aimed at undergraduates, postgraduates and professionals in science, engineering and medicine. It is also ideal for students and professionals in statistics, economics, geography and the social sciences.

This book is a tutorial guide for new users that aims to help you understand the basics of and become accomplished with the use of R for quantitative finance.If you are looking to use R to solve problems in quantitative finance, then this book is for you. A basic knowledge of financial theory is assumed, but familiarity with R is not required. With a focus on using R to solve a wide range of issues, this book provides useful content for both the R beginner and more experience users.
Get Good with Money
Analyzing Financial and Economic Data with R
Measuring and Managing the Value of Companies
R Cookbook
Quantitative Financial Analytics: The Path To Investment Profits
Financial Modeling and Valuation

The financial industry has adopted Python at a tremendous rate recently, with some of the largest investment banks and hedge funds using it to build core trading and risk management systems. This hands-on guide helps both developers and quantitative analysts get started with Python, and guides you through the most important aspects of using Python for quantitative finance. Using practical examples through the book, author Yves Hilpisch also shows you how to develop a full-fledged framework for Monte Carlo simulation-based derivatives and risk analytics, based on a large, realistic case study. Much of the book uses interactive IPython Notebooks, with topics that include: Fundamentals: Python data structures, NumPy array handling, time series analysis with pandas, visualization with matplotlib, high performance I/O operations with PyTables, date/time information handling, and selected best practices Financial topics: mathematical techniques with NumPy, SciPy and SymPy such as regression and optimization; stochastics for Monte Carlo simulation, Value-at-Risk, and Credit-Value-at-Risk calculations; statistics for normality tests, mean-variance portfolio optimization, principal component analysis (PCA), and Bayesian regression Special topics: performance Python for financial algorithms, such as vectorization and parallelization, integrating Python with Excel, and building financial applications based on Web technologies

The financial services technology industry is booming and promises to change the way we manage our money online, disrupting the current landscape of the industry. Understanding fintech's many facets is the key to navigating the complex nuances of this global industry. Fintech in a Flash is a comprehensive guide to the future of banking and insurance. It discusses an array of hot topics such as online payments, crowdfunding, challenger banks, online insurance, digital lending, big data, and digital commerce. The author provides easy to understand explanations of the 14 main areas of fintech and their future, and insight into the main fintech hubs in the world and the so-called unicorns, fintech firms that have made it past a $1 billion valuation. He breaks down the key concepts of fFintech in a way that will help you understand every aspect so that you can take advantage of new technologies. This detailed guide is your go-to source for everything you need to confidently navigate the ever-changing scene of this booming industry.

The richly illustrated Interactive Web-Based Data Visualization with R, plotly, and shiny focuses on the process of programming interactive web graphics for multidimensional data analysis. It is written for the data analyst who wants to leverage the capabilities of interactive web graphics without having to learn web programming. Through many R code examples, you will learn how to tap the extensive functionality of these tools to enhance the presentation and exploration of data. By mastering these concepts and tools, you will impress your colleagues with your ability to quickly generate more informative, engaging, and reproducible interactive graphics using free and open source software that you can share over email, export to pdf, and more. Key Features: Convert static ggplot2 graphics to an interactive web-based form Link, animate, and arrange multiple plots in standalone HTML from R Embed, modify, and respond to plotly graphics in a shiny app Learn best practices for visualizing continuous, discrete, and multivariate data Learn numerous ways to visualize geo-spatial data This book makes heavy use of plotly for graphical rendering, but you will also learn about other R packages that support different phases of a data science workflow, such as tidyr, dplyr, and tidyverse. Along the way, you will gain insight into best practices for visualization of high-dimensional data, statistical graphics, and graphical perception. The printed book is complemented by an interactive website where readers can view movies demonstrating the examples and interact with graphics.

This Handbook provides a comprehensive ten-step model that will help guide development practitioners through the process of designing and building a results-based monitoring and evaluation system.
Python for Finance
Supervised Machine Learning for Text Analysis in R
Proven Recipes for Data Analysis, Statistics, and Graphics
Valuation
Ten Simple Steps to Becoming Financially Whole
A Hands-On Guide

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.

Implement machine learning, time-series analysis, algorithmic trading and moreAbout This Book- Understand the basics of R and how they can be applied in various Quantitative Finance scenarios- Learn various algorithmic trading techniques and ways to optimize them using the tools available in R- Contain different methods to manage risk and explore trading using Machine LearningWho This Book Is ForIf you want to learn how to use R to build quantitative finance models with ease, this book is for you. Analysts who want to learn R to solve their quantitative finance problems will also find this book useful. Some understanding of the basic financial concepts will be useful, though prior knowledge of R is not required.What You Will Learn- Get to know the basics of R and how to use it in the field of Quantitative Finance- Understand data processing and model building using R- Explore different types of analytical techniques such as statistical analysis, time-series analysis, predictive modeling, and econometric analysis- Build and analyze quantitative finance models using real-world examples- How real-life examples should be used to develop strategies- Performance metrics to look into before deciding upon any model- Deep dive into the vast world of machine-learning based trading- Get to grips with algorithmic trading and different ways of optimizing it- Learn about controlling risk parameters of financial instrumentsThe role of a quantitative analyst is very challenging, yet lucrative, so there is a lot of competition for the role in top-tier organizations and investment banks. This book is your go-to resource if you want to equip yourself with the skills required to tackle any real-world problem in quantitative finance using the popular R programming language. You'll start by getting an understanding of the basics of R and its relevance in the field of quantitative finance. Once you've built this foundation, we'll dive into the practicalities of building financial models in R. This will help you have a fair understanding of the topics as well as their implementation, as the authors have presented some use cases along with examples that are easy to understand and correlate.We'll also look at risk management and optimization techniques for algorithmic trading. Finally, the book will explain some advanced concepts, such as trading using machine learning optimizations, exotic options, and hedging.By the end of this book, you will have a firm grasp of the techniques required to implement basic quantitative finance models in R.Style and approachThis book introduces you to the essentials of quantitative finance with the help of easy-to-understand, practical examples and use cases in R. Each chapter presents a specific financial concept in detail, backed with relevant theory and the implementation of a real-life example.

This book presents mathematical, programming and statistical tools used in the real world analysis and modeling of financial data. The tools are used to model asset returns, measure risk, and construct optimized portfolios using the open source R programming language and Microsoft Excel. The author explains how to build probability models for asset returns, to apply statistical techniques to evaluate if asset returns are normally distributed, to use Monte Carlo simulation and bootstrapping techniques to evaluate statistical models, and to use optimization methods to construct efficient portfolios.

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.
with R examples
R for Everyone
Financial Analytics with R
Code Flows and Shiny Apps for Portfolio Analysis
Tools and Techniques for Valuing Strategic Investments and Decisions
Ten Steps to a Results-Based Monitoring and Evaluation System

Take charge of your finances and achieve financial independence – the Clever Girl way Join the ranks of thousands of smart and savvy women who have turned to money expert and author Bola Sokunbi for guidance on ditching debt, saving money, and building real wealth. Sokunbi, the force behind the hugely popular Clever Girl Finance website, draws on her personal money mistakes and financial redemption to educate and empower a new generation of women on their journey to financial freedom. Lighthearted and accessible, Clever Girl Finance encourages women to talk about money and financial wellness and shows them how to navigate their own murky financial waters and come out afloat on the other side. Monitor your expenses, build a budget,

and stick with it Make the most of a modest salary and still have money to spare Keep your credit in check and clean up credit card chaos Start and succeed at your side hustle Build a nest egg and invest in your future Transform your money mindset and be accountable for your financial well-being Feel the power of real-world stories from other "clever girls" Put yourself on the path to financial success with the valuable lessons learned from Clever Girl Finance.
This book is intended for those who want to learn how to use R's capabilities to build models in quantitative finance at a more advanced level. If you wish to perfectly take up the rhythm of the chapters, you need to be at an intermediate level in quantitative finance and you also need to have a reasonable knowledge of R.
NEW YORK TIMES, WALL STREET JOURNAL, AND USA TODAY BESTSELLER • A ten-step plan for finding peace, safety, and harmony with your money—no matter how big or small your goals and no matter how rocky the market might be—by the inspiring and savvy "Budgetnista." "No matter where you stand in your money journey, Get Good with Money has a lesson or two for you!"—Erin Lowry, bestselling author of the Broke Millennial series Tiffany Aliche was a successful pre-school teacher with a healthy nest egg when a recession and advice from a shady advisor put her out of a job and into a huge financial hole. As she began to chart the path to her own financial rescue, the outline of her ten-step formula for attaining both financial security and peace of mind began to take shape. These principles have now helped more than one million women worldwide save and pay off millions in debt, and begin planning for a richer life. Revealing this practical ten-step process for the first time in its entirety, Get Good with Money introduces the powerful concept of building wealth through financial wholeness: a realistic, achievable, and energizing alternative to get-rich-quick and over-complicated money management systems. With helpful checklists, worksheets, a tool kit of resources, and advanced advice from experts who Tiffany herself relies on (her "Budgetnista Boosters"), Get Good with Money gets crystal clear on the short-term actions that lead to long-term goals, including: • A simple technique to determine your baseline or "noodle budget," examine and systemize your expenses, and lay out a plan that allows you to say yes to your dreams. • An assessment tool that helps you understand whether you have a "don't make enough" problem or a "spend too much" issue—as well as ways to fix both. • Best practices for saving for a rainy day (aka job loss), a big-ticket item (a house, a trip, a car), and money that can be invested for your future. • Detailed advice and action steps for taking charge of your credit score, maximizing bill-paying automation, savings and investing, and calculating your life, disability, and property insurance needs. • Ways to protect your beneficiaries' future, and ensure that your financial wishes will stand the test of time. An invaluable guide to cultivating good financial habits and making your money work for you, Get Good with Money will help you build a solid foundation for your life (and legacy) that's rich in every way.
R Markdown
Financial Reporting & Analysis
How I Became a Quant
Competing in the Age of AI
Computational Finance and Financial Econometrics