

Big Data Deutsche Bank

Society is now completely driven by data with many industries relying on data to conduct business or basic functions within the organization. With the efficiencies that big data bring to all institutions, data is continuously being collected and analyzed. However, data sets may be too complex for traditional data-processing, and therefore, different strategies must evolve to solve the issue. The field of big data works as a valuable tool for many different industries. The Research Anthology on Big Data Analytics, Architectures, and Applications is a complete reference source on big data analytics that offers the latest, innovative architectures and frameworks and explores a variety of applications within various industries. Offering an international perspective, the applications discussed within this anthology feature global representation. Covering topics such as advertising curricula, driven supply chain, and smart cities, this research anthology is ideal for data scientists, data analysts, computer engineers, software engineers, technologists, government officials, managers, CEOs, professors, graduate students, researchers, and academicians.

In recent years, the internet has developed very quickly and became a major source of information all over the planet. Many scientists have used search engine query data to forecast econometric time series like consumer confidence indicators, unemployment rates, retail sales, house price indices, stock prices, volatility of stocks and even commodity prices. Following the prior research this study analyzes the impact of internet search engine data on capital markets. Many authors already have contributed to index level data and most of them on the US market. This study adds to the existing literature on the German stock market. Two research questions are answered: First, whether an increase in search queries drives individual stock returns and second, whether queries affect the implied volatility of stock options. After controlling for seasonality, autocorrelation and general market risk, in the further analysis also the Price-to-Book valuation, one year performance and historical volatility are examined in interaction with internet search queries.

Portfolio Management in Practice, Volume 1: Investment Management delivers a comprehensive overview of investment management for students and industry professionals. As the first volume in the CFA Institute's new Portfolio Management in Practice series, Investment Management offers professionals looking to enhance their skillsets and students building foundational knowledge an essential understanding of key

investment management concepts. Designed to be an accessible resource for a wide range of learners, this volume explores the full portfolio management process. Inside, readers will find detailed coverage of: Forming capital market expectations Principles of the asset allocation process Determining investment strategies within each asset class Integrating considerations specific to high net worth individuals or institutions into chosen strategies And more To apply the concepts outlined in the Investment Management volume, explore the accompanying Portfolio Management in Practice, Volume 1: Investment Management Workbook. The perfect companion resource, this workbook aligns chapter-by-chapter with Investment Management for easy referencing so readers can draw connections between theoretical content and challenging practice problems. Featuring contributions from the CFA Institute's subject matter experts, Portfolio Management in Practice, Volume 1: Investment Management distills the knowledge forward-thinking professionals will need to succeed in today's fast-paced financial world. Prepare for success on the 2022 CFA Level III exam with the latest official CFA® Program Curriculum. The 2022 CFA Program Curriculum Level III Box Set contains all the material you need to succeed on the Level III CFA exam in 2022. This set includes the full official curriculum for Level III and is part of the larger CFA Candidate Body of Knowledge (CBOK). Designed to acclimate you to the exam's heavy reliance on information synthesis and solution application regarding portfolio management and wealth planning, the Level III curriculum will help you master both calculation-based and word-based problems. Highly visual and intuitively organized, this box set allows you to: Learn from financial thought leaders. Access market-relevant instruction. Gain critical knowledge and skills. The set also includes practice questions to assist with your recall of key terms, concepts, and formulas. Perfect for anyone preparing for the 2022 Level III CFA exam, the 2022 CFA Program Curriculum Level III Box Set is a must-have resource for those seeking the advanced skills required to become a Chartered Financial Analyst®.

Handbook of Big Data and IoT Security

Research Anthology on Big Data Analytics, Architectures, and Applications

Business Intelligence and Big Data

Fintech with Artificial Intelligence, Big Data, and Blockchain
Guide to Big Data Applications

Concepts, Methodologies, Tools, and Applications

The digital age has presented an exponential growth in the amount of data available to individuals looking to draw conclusions based on given or collected

information across industries. Challenges associated with the analysis, security, sharing, storage, and visualization of large and complex data sets continue to plague data scientists and analysts alike as traditional data processing applications struggle to adequately manage big data. *Big Data: Concepts, Methodologies, Tools, and Applications* is a multi-volume compendium of research-based perspectives and solutions within the realm of large-scale and complex data sets. Taking a multidisciplinary approach, this publication presents exhaustive coverage of crucial topics in the field of big data including diverse applications, storage solutions, analysis techniques, and methods for searching and transferring large data sets, in addition to security issues. Emphasizing essential research in the field of data science, this publication is an ideal reference source for data analysts, IT professionals, researchers, and academics.

In this book, you'll learn to implement some practical and proven techniques to improve aspects of programming and administration in Apache Spark. Techniques are demonstrated using practical examples and best practices. You will also learn how to use Spark and its Python API to create performant analytics with large-scale data.

Social Value Investing presents a new way to approach some of society's most difficult and intractable challenges. Although many of our world's problems may seem too great and too complex to solve – inequality, climate change, affordable housing, corruption, healthcare, food insecurity – solutions to these challenges do exist, and will be found through new partnerships bringing together leaders from the public, private, and philanthropic sectors. In their new book, Howard W. Buffett and William B. Eimicke present a five-point management framework for developing and measuring the success of such partnerships. Inspired by value investing – one of history's most successful investment paradigms – this framework provides tools to maximize collaborative efficiency and positive social impact, so that major public programs can deliver innovative, inclusive, and long-lasting solutions. It also offers practical insights for any private sector CEO, public sector administrator, or nonprofit manager hoping to build successful cross-sector collaborations. *Social Value Investing* tells the compelling stories of cross-sector partnerships from around the world – Central Park and the High Line in New York City, community-led economic development in Afghanistan, and improved public services in cities across Brazil. Drawing on lessons and observations from a broad selection of collaborations, this book combines real life stories with detailed analysis, resulting in a blueprint for effective, sustainable partnerships that serve the public interest. Readers also gain access to original, academic case material and professionally produced video documentaries for every major partnership profiled – bringing to life the people and stories in a way that few other business or management books have done.

This textbook is a comprehensive introduction to applied spatial data analysis

using R. Each chapter walks the reader through a different method, explaining how to interpret the results and what conclusions can be drawn. The author team showcases key topics, including unsupervised learning, causal inference, spatial weight matrices, spatial econometrics, heterogeneity and bootstrapping. It is accompanied by a suite of data and R code on Github to help readers practise techniques via replication and exercises. This text will be a valuable resource for advanced students of econometrics, spatial planning and regional science. It will also be suitable for researchers and data scientists working with spatial data.

Tools and Technology for Effective Planning

A Management Framework for Effective Partnerships

The Future of the Information Society

The End of Wisdom?

The Digitalization of Financial Markets

Big Data in Context

The book provides deep insight into theoretical and empirical evidence on information and communication technologies (ICT) as an important factor affecting financial markets. It is focused on the impact of ICT on stock markets, bond markets, and other categories of financial markets, with the additional focus on the linked FinTech services and financial institutions. Financial markets shaped by the adoption of the new technologies are labeled 'digital financial markets'. With a wide-ranging perspective at both the local and global levels from countries at varying degrees of economic development, this book addresses an important gap in the extant literature concerning the role of ICT in the financial markets. The consequences of these processes had until now rarely been considered in a broader economic and social context, particularly when the impact of FinTech services on financial markets is taken into account. The book's theoretical discussions, empirical evidence and compilation of different views and perspectives make it a valuable and complex reference work. The principal audience of the book will be scholars in the fields of finance and economics. The book also targets professionals in the financial industry who are directly or indirectly linked to the new technologies on the financial markets, in particular various types of FinTech services. Chapters 2 and 5 of this book are available for free in PDF format as Open Access from the individual product page at www.routledge.com. They have been made available under a Creative Commons Attribution-Non Commercial-No Derivatives 4.0 license. This textbook presents the essential tools and core concepts of data science to public officials, policy analysts, and economists among others in order to further their application in the public sector. An expansion of the quantitative economics frameworks presented in policy and business schools, this book emphasizes the process of asking relevant questions to inform public policy. Its techniques and approaches emphasize data-driven practices, beginning with the basic programming paradigms that occupy the majority of an analysts time and advancing to the practical applications of statistical learning and machine learning. The text considers two divergent, competing perspectives to support its applications, incorporating techniques from both causal inference and prediction. Additionally, the book includes open-sourced data as well as live code, written in R and presented in notebook form, which readers can use and modify to practice working with data.

Web service technologies are redefining the way that large and small companies are doing business and exchanging information. Due to the critical need for furthering automation, engagement, and efficiency, systems and workflows are becoming

increasingly more web-based. Web Services: Concepts, Methodologies, Tools, and Applications is an innovative reference source that examines relevant theoretical frameworks, current practice guidelines, industry standards and standardization, and the latest empirical research findings in web services. Highlighting a range of topics such as cloud computing, quality of service, and semantic web, this multi-volume book is designed for computer engineers, IT specialists, software designers, professionals, researchers, and upper-level students interested in web services architecture, frameworks, and security.

This book contains the description of machines and systems as investments goods in production. These machines have a technological and economical life cycle over the time used. By explaining the paradigms of life cycle management, the book describes how the life cycle of such investment goods can be designed, operated and optimized to deliver maximum benefit in industrial environment. Additional examples from industry including case studies and calculations demonstrate practical applications and deliver benefit not only for academic or educational purpose but also for industrial practitioners.

Building trust in a smart society

A practitioners guide to choosing relevant Big Data architecture

Big Data Analytics: Systems, Algorithms, Applications

Web Services: Concepts, Methodologies, Tools, and Applications

Big Data Investments: Effects of Internet Search Queries on German Stocks

The Socioeconomic Impact of Financial Technologies

The End of Wisdom? The Future of Libraries in a Digital Age assembles opinion pieces, forecasts, strategy options, and case studies from leading worldwide politicians, academics, educators, authors, publishers, captains of industry, senior public sector workers, library directors, IT gurus and other key players in the field of information provision who discuss their views on the hypothesis surrounding the "end of libraries" and the "death of books." The contributions – ranging in length from 500 to 2000 words are analyzed and summarized to create a rich picture of current trends and likely futures for libraries of all types, with digital options discussed in detail. Focuses on the key issue facing library and information services for the foreseeable future Takes a much broader view by asking a wide range of key people and representative stakeholders and user groups for their view of the future of libraries of all kinds Presents a comprehensive analysis of likely directions and options for libraries, library managers, and users Includes a route map for the future Builds on the successful approaches adopted in A Handbook of Digital Library Economics and Libraries and Society This book constitutes the thoroughly refereed post-conference proceedings of the 23rd International Conference on Financial Cryptography and Data Security, FC 2019, held in St. Kitts, St. Kitts and Nevis in February 2019. The 32 revised full papers and 7 short papers were carefully selected and reviewed from 179 submissions. The papers are grouped in the following topical sections: Cryptocurrency Cryptanalysis, Measurement, Payment Protocol Security, Multiparty Protocols, Off-Chain Mechanisms, Fraud Detection, Game Theory, IoT Security and much more.

Upgrade your programming language to more effectively handle high-frequency data

Machine Learning and Big Data with KDB+/Q offers quants, programmers and algorithmic traders a practical entry into the powerful but non-intuitive kdb+ database and q programming language. Ideally designed to handle the speed and volume of high-frequency financial data at sell- and buy-side institutions, these tools have become the de facto standard; this book provides the foundational knowledge practitioners need to work effectively with this

rapidly-evolving approach to analytical trading. The discussion follows the natural progression of working strategy development to allow hands-on learning in a familiar sphere, illustrating the contrast of efficiency and capability between the q language and other programming approaches. Rather than an all-encompassing “bible”-type reference, this book is designed with a focus on real-world practicality to help you quickly get up to speed and become productive with the language. Understand why kdb+/q is the ideal solution for high-frequency data Delve into “meat” of q programming to solve practical economic problems Perform everyday operations including basic regressions, cointegration, volatility estimation, modelling and more Learn advanced techniques from market impact and microstructure analyses to machine learning techniques including neural networks The kdb+ database and its underlying programming language q offer unprecedented speed and capability. As trading algorithms and financial models grow ever more complex against the markets they seek to predict, they encompass an ever-larger swath of data – more variables, more metrics, more responsiveness and altogether more “moving parts.” Traditional programming languages are increasingly failing to accommodate the growing speed and volume of data, and lack the necessary flexibility that cutting-edge financial modelling demands. Machine Learning and Big Data with KDB+/Q opens up the technology and flattens the learning curve to help you quickly adopt a more effective set of tools.

This book tells the story of how the convergence between corporate sustainability and sustainable investing is now becoming a major force driving systemic market changes. The idea and practice of corporate sustainability is no longer a niche movement. Investors are increasingly paying attention to sustainability factors in their analysis and decision-making, thus reinforcing market transformation. In this book, high-level practitioners and academic thought leaders, including contributions from John Ruggie, Fiona Reynolds, Johan Rockström, and Paul Polman, explain the forces behind these developments. The contributors highlight (a) that systemic market change is influenced by various contextual factors that impact how sustainable investing is perceived and practiced; (b) that the integration of ESG factors in investment decisions is impacting markets on a large scale and hence changes practices of major market players (e.g. pension funds); and (c) that technology and the increasing datafication of sustainability act as further accelerators of such change. The book goes beyond standard economic theory approaches to sustainable investing and emphasizes that capitalism founded on more real-world (complex) economics and cooperation can strengthen ESG integration. Aimed at both investment professionals and academics, this book gives the reader access to more practitioner-relevant information and it also discusses implementation issues. The reader will gain insights into how "mainstream" financial actors relate to sustainable investing.

Machine Learning and Big Data with KDB+/Q

The Future of Libraries in a Digital Age

Opportunities and Challenges for Computational Social Science Methods

Financial Cryptography and Data Security

Portfolio Management in Practice, Volume 1

Learning Apache Drill

Three principles, modularization, agility and decentralization (MAD), drive progress in areas such as traffic management, the internet and the energy landscape. Critical in the design of the next generation of organizations and business platforms, they enable businesses to build the trust they need to engage, grow and innovate in the digital age.

The proposed book will discuss various aspects of big data Analytics. It will deliberate upon the tools, technology, applications, use cases and research directions in the field. Chapters would be contributed by researchers, scientist and practitioners from various reputed universities and organizations for the benefit of readers.

This book demonstrates the inevitability of a continuously growing role of data in our society and it stresses that this role does not need to be threatening: to the contrary, collection and analysis of data can help us prevent traffic jams, suppress epidemics, or produce tailor made medicine. The authors sketch the contours of a new information society, in which everything will be measured from our heartbeat during our morning run to the music we listen to and our walking patterns through department stores and they discuss the resistances within the society that have to be overcome. Sander Klous holds a PhD in High Energy Physics and contributed to the discovery of the Higgs boson at CERN (Nobel prize 2013). Klous works at KPMG and is professor in Big Data at the University of Amsterdam. Nart Wielaard is a self-employed consultant and business writer. He develops compelling and clear stories on complex topics for a broad range of clients. Wielaard specializes in the domain where technology, society and business meet.

This book provides a comprehensive survey of techniques, technologies and applications of Big Data and its analysis. The Big Data phenomenon is increasingly impacting all sectors of business and industry, producing an emerging new information ecosystem. On the applications front, the book offers detailed descriptions of various application areas for Big Data Analytics in the important domains of Social Semantic Web Mining, Banking and Financial Services, Capital Markets, Insurance, Advertisement, Recommendation Systems, Bio-Informatics, the IoT and Fog Computing, before delving into issues of security and privacy. With regard to machine learning techniques, the book presents all the standard algorithms for learning – including supervised, semi-supervised and unsupervised techniques such as clustering and reinforcement learning techniques to perform collective Deep Learning. Multi-layered and nonlinear learning for Big Data are also covered. In turn, the book highlights real-life case studies on successful implementations of Big Data Analytics at large IT companies such as Google, Facebook, LinkedIn and Microsoft. Multi-sectorial case studies on domain-based companies such as Deutsche Bank, the power provider Opower, Delta Airlines and a Chinese City Transportation application represent a valuable addition. Given its comprehensive coverage of Big Data Analytics, the book offers a unique resource for undergraduate and graduate students, researchers, educators and IT professionals alike.

Scalable Big Data Architecture

Encyclopedia of Computer Science and Technology

Portfolio Management in Practice, Volume 3

A Practitioner's Guide to Using Spark for Large Scale Data Analysis

Applied Spatial Statistics and Econometrics

A Path to a New Horizon

This book introduces readers to recent advancements in financial technologies. The contents cover some of the state-of-the-art fields in financial technology, practice, and research associated with artificial intelligence, big data, and blockchain—all of which are transforming the nature of how products and services are designed and delivered, making less adaptable

institutions fast become obsolete. The book provides the fundamental framework, research insights, and empirical evidence in the efficacy of these new technologies, employing practical and academic approaches to help professionals and academics reach innovative solutions and grow competitive strengths.

Get to know the ' why ' and ' how ' of machine learning and big data in quantitative investment Big Data and Machine Learning in Quantitative Investment is not just about demonstrating the maths or the coding. Instead, it ' s a book by practitioners for practitioners, covering the questions of why and how of applying machine learning and big data to quantitative finance. The book is split into 13 chapters, each of which is written by a different author on a specific case. The chapters are ordered according to the level of complexity; beginning with the big picture and taxonomy, moving onto practical applications of machine learning and finally finishing with innovative approaches using deep learning.

- Gain a solid reason to use machine learning
- Frame your question using financial markets laws
- Know your data
- Understand how machine learning is becoming ever more sophisticated

Machine learning and big data are not a magical solution, but appropriately applied, they are extremely effective tools for quantitative investment — and this book shows you how.

This book highlights the different types of data architecture and illustrates the many possibilities hidden behind the term "Big Data", from the usage of No-SQL databases to the deployment of stream analytics architecture, machine learning, and governance. Scalable Big Data Architecture covers real-world, concrete industry use cases that leverage complex distributed applications , which involve web applications, RESTful API, and high throughput of large amount of data stored in highly scalable No-SQL data stores such as Couchbase and Elasticsearch. This book demonstrates how data processing can be done at scale from the usage of NoSQL datastores to the combination of Big Data distribution. When the data processing is too complex and involves different processing topology like long running jobs, stream processing, multiple data sources correlation, and machine learning, it ' s often necessary to delegate the load to Hadoop or Spark and use the No-SQL to serve processed data in real time. This book shows you how to choose a relevant combination of big data technologies available within the Hadoop ecosystem. It focuses on processing long jobs, architecture, stream data patterns, log analysis, and real time analytics. Every pattern is illustrated with practical examples, which use the different open source projects such as Logstash, Spark, Kafka, and so on. Traditional data infrastructures are built for digesting and rendering data synthesis and analytics from large amount of data. This book helps you to understand why you should consider using machine learning algorithms early on in the project, before being overwhelmed by constraints imposed by dealing with the high throughput of Big data. Scalable Big Data Architecture is for developers, data architects, and data scientists looking for a better understanding of how to choose the most relevant pattern for a Big Data project and which tools to integrate into that pattern.

Due to market forces and technological evolution, Big Data computing is developing at an increasing rate. A wide variety of novel approaches and tools have emerged to tackle the challenges of Big Data, creating both more opportunities and more challenges for students and professionals in the field of data computation and analysis. Presenting a mix of industry

cases and theory, Big Data Computing discusses the technical and practical issues related to Big Data in intelligent information management. Emphasizing the adoption and diffusion of Big Data tools and technologies in industry, the book introduces a broad range of Big Data concepts, tools, and techniques. It covers a wide range of research, and provides comparisons between state-of-the-art approaches. Comprised of five sections, the book focuses on: What Big Data is and why it is important Semantic technologies Tools and methods Business and economic perspectives Big Data applications across industries

We are Big Data

The Current State of Quantitative Equity Investing

Managing in a modular, agile and decentralized way

Big Data Analytics with Spark

Data Science for Public Policy

Big Data: Concepts, Methodologies, Tools, and Applications

The twenty-first century is a time of intensifying competition and progressive digitization. Individual employees, managers, and entire organizations are under increasing pressure to succeed. The questions facing us today are: What does success mean? Is success a matter of chance and luck or perhaps is success a category that can be planned and properly supported? Business Intelligence and Big Data: Drivers of Organizational Success examines how the success of an organization largely depends on the ability to anticipate and quickly respond to challenges from the market, customers, and other stakeholders. Success is also associated with the potential to process and analyze a variety of information and the means to use modern information and communication technologies (ICTs). Success also requires creative behaviors and organizational cleverness from an organization. The book discusses business intelligence (BI) and Big Data (BD) issues in the context of modern management paradigms and organizational success. It presents a theoretically and empirically grounded investigation into BI and BD application in organizations and examines such issues as: Analysis and interpretation of the essence of BI and BD Decision support Potential areas of BI and BD utilization in organizations Factors determining success with using BI and BD The role of BI and BD in value creation for organizations Identifying barriers and constraints related to BI and BD design and implementation The book presents arguments and evidence confirming that BI and BD may be a trigger for making more effective decisions, improving business processes and business performance, and creating new business. The book proposes a comprehensive

framework on how to design and use BI and BD to provide organizational success.

This book identifies and discusses the most successful investing practices with an emphasis on the academic articles that produced them and why this research led to popular adoption and growth in \$AUM. Investors are bombarded with ideas and prescriptions for successful investing every day. Given the steady stream of information on stock tips, sector timing, asset allocation, etc., how do investors decide? How do they judge the quality and reliability of the investment advice they are given on a day-to-day basis? This book identifies which academic articles turned investment ideas were the most innovative and influential in the practice of investment management. Each article is discussed in terms of the asset management process: strategy, portfolio construction, portfolio implementation, and risk management. Some examples of topics covered are factor investing, the extreme growth of trading instruments like Exchange Traded Funds, multi-asset investing, socially responsible investing, big data, and artificial intelligence. This book analyzes a curated selection of peer-reviewed academic articles identified among those published by the scientific investment community. The book briefly describes each of the articles, how and why each one changed the way we think about investing in that specific asset class, and provides insights as to the nuts and bolts of how to take full advantage of this successful investment idea. It is as timely as it is informative and will help each investor to focus on the most successful strategies, ideas, and implementation that provide the basis for the efficient accumulation and management of wealth.

This book is open access under a CC BY 4.0 license. This book sheds new light on a selection of big data scenarios from an interdisciplinary perspective. It features legal, sociological and economic approaches to fundamental big data topics such as privacy, data quality and the ECJ's Safe Harbor decision on the one hand, and practical applications such as smart cars, wearables and web tracking on the other. Addressing the interests of researchers and practitioners alike, it provides a comprehensive overview of and introduction to the emerging challenges regarding big data. All contributions are based on papers submitted in connection with ABIDA (Assessing Big Data), an

interdisciplinary research project exploring the societal aspects of big data and funded by the German Federal Ministry of Education and Research. This volume was produced as a part of the ABIDA project (Assessing Big Data, O1IS15016A-F). ABIDA is a four-year collaborative project funded by the Federal Ministry of Education and Research. However the views and opinions expressed in this book reflect only the authors' point of view and not necessarily those of all members of the ABIDA project or the Federal Ministry of Education and Research.

The volume on Data Management, Analytics and Innovations presents the latest high-quality technical contributions and research results in the areas of data management and smart computing, big data management, artificial intelligence and data analytics along with advances in network technologies. It deals with the state-of-the-art topics and provides challenges and solutions for future development. Original, unpublished research work highlighting specific research domains from all viewpoints are contributed from scientists throughout the globe. This volume is mainly designed for professional audience, composed of researchers and practitioners in academia and industry.

Data Analysis in R

Smart(er) Investing

23rd International Conference, FC 2019, Frigate Bay, St. Kitts and Nevis, February 18–22, 2019, Revised Selected Papers

Investment Management

Sustainable Investing

Proceedings of ICDMAI 2018, Volume 2

Big Data Analytics with Spark is a step-by-step guide for learning Spark, which is an open-source fast and general-purpose cluster computing framework for large-scale data analysis. You will learn how to use Spark for different types of big data analytics projects, including batch, interactive, graph, and stream data analysis as well as machine learning. In addition, this book will help you become a much sought-after Spark expert. Spark is one of the hottest Big Data technologies. The amount of data generated today by devices, applications and users is exploding. Therefore, there is a critical need for tools that can analyze large-scale data and unlock value from it. Spark is a powerful technology that meets that need. You can, for example, use Spark to perform low latency computations through the use of efficient caching and iterative algorithms; leverage the features of its shell for easy and interactive Data analysis; employ its fast batch processing and low latency features to process your real time data streams and so on. As a result, adoption of Spark is rapidly

growing and is replacing Hadoop MapReduce as the technology of choice for big data analytics. This book provides an introduction to Spark and related big-data technologies. It covers Spark core and its add-on libraries, including Spark SQL, Spark Streaming, GraphX, and MLlib. Big Data Analytics with Spark is therefore written for busy professionals who prefer learning a new technology from a consolidated source instead of spending countless hours on the Internet trying to pick bits and pieces from different sources. The book also provides a chapter on Scala, the hottest functional programming language, and the program that underlies Spark. You'll learn the basics of functional programming in Scala, so that you can write Spark applications in it. What's more, Big Data Analytics with Spark provides an introduction to other big data technologies that are commonly used along with Spark, like Hive, Avro, Kafka and so on. So the book is self-sufficient; all the technologies that you need to know to use Spark are covered. The only thing that you are expected to know is programming in any language. There is a critical shortage of people with big data expertise, so companies are willing to pay top dollar for people with skills in areas like Spark and Scala. So reading this book and absorbing its principles will provide a boost—possibly a big boost—to your career. This book covers three major parts of Big Data: concepts, theories and applications. Written by world-renowned leaders in Big Data, this book explores the problems, possible solutions and directions for Big Data in research and practice. It also focuses on high level concepts such as definitions of Big Data from different angles; surveys in research and applications; and existing tools, mechanisms, and systems in practice. Each chapter is independent from the other chapters, allowing users to read any chapter directly. After examining the practical side of Big Data, this book presents theoretical perspectives. The theoretical research ranges from Big Data representation, modeling and topology to distribution and dimension reducing. Chapters also investigate the many disciplines that involve Big Data, such as statistics, data mining, machine learning, networking, algorithms, security and differential geometry. The last section of this book introduces Big Data applications from different communities, such as business, engineering and science. Big Data Concepts, Theories and Applications is designed as a reference for researchers and advanced level students in computer science, electrical engineering and mathematics. Practitioners who focus on information systems, big data, data mining, business analysis and other related fields will also find this material valuable.

Quantitative equity management techniques are helping investors achieve more risk efficient and appropriate investment outcomes. Factor investing, vetted by decades of prior and current research, is growing quickly, particularly in the form of smart-beta and ETF strategies. Dynamic factor-timing approaches, incorporating macroeconomic and investment conditions, are in the early stages but will likely thrive. A new generation of big data approaches are rendering quantitative equity analysis even more powerful and encompassing.

Apply CFA Program concepts and skills to real-world wealth and portfolio

management for the 2019 exam The same official curricula that CFA Program candidates receive with program registration is now publicly available for purchase. CFA Program Curriculum 2020 Level III, Volumes 1-6 provides complete, authoritative guidance on synthesizing the entire CFA Program Candidate Body of Knowledge (CBOK) into professional practice for the 2020 exam. This book helps you bring together the skills and concepts from Levels I and II to formulate a detailed, professional response to a variety of real-world scenarios. Coverage spans all CFA Program topics and provides a rigorous treatment of portfolio management, all organized into individual study sessions with clearly defined Learning Outcome Statements. Visual aids clarify complex concepts, and practice questions allow you to test your understanding while reinforcing major content areas. Levels I and II equipped you with foundational investment tools and complex analysis skill; now, you'll learn how to effectively synthesize that knowledge to facilitate effective portfolio management and wealth planning. This study set helps you convert your understanding into a professional body of knowledge that will benefit your clients' financial futures. Master essential portfolio management and compliance topics Synthesize your understanding into professional guidance Reinforce your grasp of complex analysis and valuation Apply ethical and professional standards in the context of real-world cases CFA Institute promotes the highest standards of ethics, education, and professional excellence among investment professionals. The CFA Program curriculum guides you through the breadth of knowledge required to uphold these standards. The three levels of the program build on each other. Level I provides foundational knowledge and teaches the use of investment tools; Level II focuses on application of concepts and analysis, particularly in the valuation of assets; and Level III builds toward synthesis across topics with an emphasis on portfolio management.

Analyze large datasets and discover techniques for testing, immunizing, and parallelizing Spark jobs

Big Data Computing

Life-Cycle Management of Machines and Mechanisms

Social Value Investing

Big Data and Machine Learning in Quantitative Investment

CFA Program Curriculum 2020 Level III, Volumes 1 - 6

Get up to speed with Apache Drill, an extensible distributed SQL query engine that reads massive datasets in many popular file formats such as Parquet, JSON, and CSV. Drill reads data in HDFS in cloud-native storage such as S3 and works with Hive metastores along with distributed databases such as HBase, MongoDB, and relational databases. Drill works everywhere: on your laptop or your largest cluster. In this practical book, Drill committers Charles Givre and Paul Rogers show analysts and data scientists how to query and analyze raw data using this powerful tool. Data scientists today spend about 80% of their time just gathering and cleaning data. With this book, learn how Drill helps you analyze data more effectively to drive down time to insight. Use Drill to clean, prepare, and summarize delimited data for further analysis Query file types including Parquet, JSON, and other complex formats Query Hadoop, relational databases, MongoDB, and Kafka with standard SQL Connect to Drill programmatically using a variety of languages Use

even with challenging or ambiguous file formats Perform sophisticated analysis by extending functionality with user-defined functions Facilitate data analysis for network security, image metadata, and machine learning

With breadth and depth of coverage, the Encyclopedia of Computer Science and Technology, Edition has a multi-disciplinary scope, drawing together comprehensive coverage of the inter aspects of computer science and technology. The topics covered in this encyclopedia include and reference Hardware Computer systems organization Networks Software and its engineer Theory of computation Mathematics of computing Information systems Security and privacy centered computing Computing methodologies Applied computing Professional issues Leading figures in the history of computer science The encyclopedia is structured according to the A Computing Classification System (CCS), first published in 1988 but subsequently revised in 2 This classification system is the most comprehensive and is considered the de facto ontology framework for the computing field. The encyclopedia brings together the information and his context that students, practicing professionals, researchers, and academicians need to have and solid foundation in all aspects of computer science and technology.

Analyzing data sets has continued to be an invaluable application for numerous industries. By combining different algorithms, technologies, and systems used to extract information from solve complex problems, various sectors have reached new heights and have changed our wo the better. The Handbook of Research on Engineering, Business, and Healthcare Applications of Data Science and Analytics is a collection of innovative research on the methods and applicat data analytics. While highlighting topics including artificial intelligence, data security, and information systems, this book is ideally designed for researchers, data analysts, data scienti healthcare administrators, executives, managers, engineers, IT consultants, academicians, and students interested in the potential of data application technologies.

Discover the latest essential resource on equity portfolio management for students and inve professionals. Part of the CFA Institute's three-volume Portfolio Management in Practice ser Equity Portfolio Management offers a fuller treatment of active versus passive equity invest strategies. This text outlines key topics in the portfolio management process with clear, con language to serve as an accessible guide for students and current industry professionals. Bu content in the Investment Management and Equity Valuation volumes in the CFA Institute Investment Series, Equity Portfolio Management provides an in-depth, technical examination of constructing and evaluating active equity methods. This volume explores: An overview of pas versus active equity strategies Market efficiency underpinnings of passive equity strategies equity strategies and developing portfolios to reflect active strategies Technical analysis as a additional consideration in executing active equity strategies To further enhance your unders of the tools and techniques covered here, don't forget to pick up the Portfolio Management Practice, Volume 3: Equity Portfolio Management Workbook. The workbook is the perfect companion resource containing Learning Outcomes, Summary Overview sections, and challeng practice questions that align chapter-by-chapter with the main text. Equity Portfolio Manage alongside the other Portfolio Management in Practice volumes distill the knowledge, skills, and abilities readers need to succeed in today's fast-paced financial world.

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Big Data Analytics

Data Management, Analytics and Innovation

Big Data Concepts, Theories, and Applications

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This handbook brings together a variety of approaches to the uses of big data in multiple fields, primarily science, medicine, and business. This single resource features contributions from researchers

around the world from a variety of fields, where they share their findings and experience. This book is intended to help spur further innovation in big data. The research is presented in a way that allows readers, regardless of their field of study, to learn from how applications have proven successful and how similar applications could be used in their own field. Contributions stem from researchers in fields such as physics, biology, energy, healthcare, and business. The contributors also discuss important topics such as fraud detection, privacy implications, legal perspectives, and ethical handling of big data.

This handbook provides an overarching view of cyber security and digital forensic challenges related to big data and IoT environment, prior to reviewing existing data mining solutions and their potential application in big data context, and existing authentication and access control for IoT devices. An IoT access control scheme and an IoT forensic framework is also presented in this book, and it explains how the IoT forensic framework can be used to guide investigation of a popular cloud storage service. A distributed file system forensic approach is also presented, which is used to guide the investigation of Ceph. Minecraft, a Massively Multiplayer Online Game, and the Hadoop distributed file system environment are also forensically studied and their findings reported in this book. A forensic IoT source camera identification algorithm is introduced, which uses the camera's sensor pattern noise from the captured image. In addition to the IoT access control and forensic frameworks, this handbook covers a cyber defense triage process for nine advanced persistent threat (APT) groups targeting IoT infrastructure, namely: APT1, Molerats, Silent Chollima, Shell Crew, NetTraveler, ProjectSauron, CopyKittens, Volatile Cedar and Transparent Tribe. The characteristics of remote-controlled real-world Trojans using the Cyber Kill Chain are also examined. It introduces a method to leverage different crashes discovered from two fuzzing approaches, which can be used to enhance the effectiveness of fuzzers. Cloud computing is also often associated with IoT and big data (e.g., cloud-enabled IoT systems), and hence a survey of the cloud security literature and a survey of botnet detection approaches are presented in the book. Finally, game security solutions are studied and explained how one may circumvent such solutions. This handbook targets the security, privacy and forensics research community, and big data research community, including policy makers and government agencies, public and private organizations policy makers. Undergraduate and postgraduate students enrolled in cyber security and forensic programs will also find this handbook useful as a reference.

We are living in a digital era in which most of our daily activities take place online. This has created a big data phenomenon that has been subject to scientific research with increasingly available tools and processing power. As a result, a growing number of social science scholars are using computational methods for analyzing social behavior. To further the area, these evolving methods must be made known to sociological research scholars. Opportunities and Challenges

for Computational Social Science Methods focuses on the implementation of social science methods and the opportunities and challenges of these methods. This book sheds light on the infrastructure that should be built to gain required skillsets, the tools used in computational social sciences, and the methods developed and applied into computational social sciences. Covering topics like computational communication, ecological cognition, and natural language processing, this book is an essential resource for researchers, data scientists, scholars, students, professors, sociologists, and academicians. The global market is constantly evolving and it has become essential for organizations to employ new methods of appealing to customers in order to stay abreast on current trends within the world economy. The Handbook of Research on Driving Competitive Advantage through Sustainable, Lean, and Disruptive Innovation features theoretical development and empirical research in social media platforms, internet usage, big data analytics, and smart computing, as well as other areas of organizational innovation. Highlighting implementation challenges facing innovative processes, this publication is a critical reference source for researchers, students, professionals, managers, and decision makers interested in novel strategies being employed by organizations in an effort to improve their standings on the global market.

Query and Analyze Distributed Data Sources with SQL

Handbook of Research on Engineering, Business, and Healthcare

Applications of Data Science and Analytics

Drivers of Organizational Success

Handbook of Research on Driving Competitive Advantage through

Sustainable, Lean, and Disruptive Innovation

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