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Design for large-scale, high-performance queries using Snowflake’s query processing engine to empower data consumers with timely, comprehensive, and secure access to data. This book also helps you protect your most valuable data assets using built-in security features such as end-to-end encryption for data at rest and in transit. It demonstrates key features in Snowflake and shows how to exploit those features to deliver a personalized experience to your customers. It also shows how to ingest the high volumes of both structured and unstructured data that are needed for game-changing business intelligence analysis. Mastering Snowflake Solutions starts with a refresher on Snowflake’s unique architecture before getting into the advanced concepts that make Snowflake the market-leading product it is today. Progressing through each chapter, you will learn how to leverage storage, query processing, cloning, data sharing, and continuous data protection features. This approach allows for greater operational agility in responding to the needs of modern enterprises, for example in supporting agile development techniques via database cloning. The practical examples and in-depth background on theory in this book help you unleash the power of Snowflake in building a high-performance system with little to no administrative overhead. Your result from reading will be a deep understanding of Snowflake that enables taking full advantage of Snowflake’s architecture to deliver value analytics insight to your business. What You Will Learn Optimize performance and costs associated with your use of the Snowflake data platform Enable data security to help in complying with consumer privacy regulations such as CCPA and GDPR Share data securely both inside your organization and with external partners Gain visibility to each interaction with your customers using continuous data feeds from Snowpipe Break down data silos to gain complete visibility your business-critical processes Transform customer experience and product quality through real-time analytics Who This Book Is for Data engineers, scientists, and architects who have had some exposure to the Snowflake data platform or bring some experience from working with another relational database. This book is for those beginning to struggle with new challenges as their Snowflake environment begins to mature, becoming more complex with ever increasing amounts of data, users, and requirements. New problems require a new approach and this book aims to arm you with the practical knowledge required to take advantage of Snowflake’s unique architecture to get the results you need.

Summary Deep Learning with R introduces the world of deep learning using the powerful Keras library and its R language interface. The book builds your understanding of deep learning through intuitive explanations and practical examples. Continue your journey into the world of deep learning with Deep Learning with R in Motion, a practical, hands-on video course available exclusively at Manning.com (www.manning.com/livevideo/deep-learning-with-r-in-motion). Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Machine learning has made remarkable progress in recent years. Deep-learning systems now enable previously impossible smart applications, revolutionizing image recognition and natural-language processing, and identifying complex patterns in data. The Keras deep-learning library provides data scientists and developers working in R a state-of-the-art toolset for tackling deep-learning tasks. About the Book Deep Learning with R introduces the world of deep learning using the powerful Keras library and its R language interface. Initially written for Python as Deep Learning with Python by Keras creator and Google AI researcher François Chollet and adapted for R by RStudio founder J. J. Allaire, this book builds your understanding of deep learning through intuitive explanations and practical examples. You'll practice your new skills with R-based applications in computer vision, natural-language processing, and generative models. What's Inside Deep learning from first principles Setting up your own deep-learning environment Image classification and generation Deep learning for text and sequences About the Reader You'll need intermediate R programming skills. No previous experience with machine learning or deep learning is assumed. About the Authors François Chollet is a deep-learning researcher at Google and the author of the Keras library. J.J. Allaire is the founder of RStudio and the author of the R interfaces to TensorFlow and Keras. Table of Contents PART 1 - FUNDAMENTALS OF DEEP LEARNING What is deep learning? Before we begin: the mathematical building blocks of neural networks Getting started with neural networks Fundamentals of machine learning PART 2 - DEEP LEARNING IN PRACTICE Deep learning for computer vision Deep learning for text and sequences Advanced deep-learning best practices Generative deep learning Conclusions

An updated, innovative approach to data structures and algorithms Written by an author team of experts in their fields, this authoritative guide demystifies even the most difficult mathematical concepts so that you can gain a clear understanding of data structures and algorithms in C++. The unparalleled author team incorporates the object-oriented design paradigm using C++ as the implementation language, while also providing intuition and analysis of fundamental algorithms. Offers a unique multimedia format for learning the fundamentals of data structures and algorithms Allows you to visualize key analytic concepts, learn about the most recent insights in the field, and do data structure design Provides clear approaches for developing programs Features a clear, easy-to-understand writing style that breaks down even the most difficult mathematical concepts Building on the success of the first edition, this new version offers you an innovative approach to fundamental data structures and algorithms.

Innovation in Clinical Trial Methodologies: Lessons Learned during the Corona Pandemic presents a selection of updated chapters from Re-Engineering Clinical Trials that feature innovative options and methods in clinical trials. The Coronavirus pandemic is an accelerator for digitalization in many industries, including clinical trials. This book considers best practices, alternative study concepts requiring fewer patients, studies with less patient interaction, the design of "virtualized" protocols, and moving from data to decisions. This book will be helpful to pharmacologists, physicians and clinical researchers involved in the process of clinical development and clinical trial design. Considers multiple digital and virtual strategies Explores best practices, including the use of reduced patient involvement Brings together expert, trusted information to increase the efficiency and effectiveness of clinical trials

Have gaps in health outcomes between the poor and better off grown? Are they larger in one country than another? Are health sector subsidies more equally distributed in some countries than others? Are health care payments more progressive in one health care financing system than another? What are catastrophic payments and how can they be measured? How far do health care payments impoverish households? Answering questions such as these requires quantitative analysis. This in turn depends on a clear understanding of how to measure key variables in the analysis, such as health outcomes, health expenditures, need, and living standards. It also requires set quantitative methods for measuring inequality and inequity, progressivity, catastrophic expenditures, poverty impact, and so on. This book provides an overview of the key issues that arise in the measurement of health variables and living standards, outlines and explains essential tools and methods for distributional analysis, and, using worked examples, shows how these tools and methods can be applied in the health sector. The book seeks to provide the reader with both a solid grasp of the principles underpinning distributional analysis, while at the same time offering hands-on guidance on how to move from principles to practice.

As the world of marketing goes digital, companies must integrate web analytics into their process to see evaluate how marketing campaigns perform and to improve website conversion. Adobe SiteCatalyst, the principal component of the Adobe Digital Marketing Suite (formerly Omniture), is the most advanced web analytics tool available on the market. The Adobe SiteCatalyst Handbook is your key to understanding how to use this powerful web analytics tool. Recognized SiteCatalyst expert Adam Greco walks you through the building blocks of the program and shows you real-world examples to help further your understanding of the product. For end-users of SiteCatalyst, the book provides how-to instructions for all major SiteCatalyst features. You will also learn how to apply SiteCatalyst to common web analytics challenges ranging from campaign tracking to shopping cart analysis to visitor engagement. It also includes useful tips on using on Adobe ReportBuilder and advanced features that will benefit seasoned SiteCatalyst users. In the end, you’ll be able to answer business questions that you never thought you could address and generate web analyses that should improve your website’s return on investment. You’ll learn how to: * Create web analytics reports and data exports * Design sophisticated web analytics dashboards * Effectively track online marketing campaigns * Analyze website shopping cart performance * Connect online and post-website data * Master website segmentation techniques * Use basic and advanced pathing analysis * Understand the inner workings of Adobe SiteCatalyst

Healthcare is the next frontier for data science. Using the latest in machine learning, deep learning, and natural language processing, you'll be able to solve healthcare's most pressing problems: reducing cost of care, ensuring patients get the best treatment, and increasing accessibility for the underserved. But first, you have to learn how to access and make sense of all that data. This book provides pragmatic and hands-on solutions for working with healthcare data, from data extraction to cleaning and harmonization to feature engineering. Author Andrew Nguyen covers specific ML and deep learning examples with a focus on producing high-quality data. You'll discover how graph technologies help you connect disparate data sources so you can solve healthcare's most challenging problems using advanced analytics. You'll learn: Different types of healthcare data: electronic health records, clinical registries and trials, digital health tools, and claims data The challenges of working with healthcare data, especially when trying to aggregate data from multiple sources Current options for extracting structured data from clinical text How to make trade-offs when using tools and frameworks for normalizing structured healthcare data How to harmonize healthcare data using terminologies, ontologies, and mappings and crosswalks

Database management is attracting wide interest in both academic and industrial contexts. New application areas such as CAD/CAM, geographic information systems, and multimedia are emerging. The needs of these application areas are far more complex than those of conventional business applications. The purpose of this book is to bring together a set of current research issues that addresses a broad spectrum of topics related to database systems and applications. The book is divided into four parts: - object-oriented databases, - temporal/historical database systems, - query processing in database systems, - heterogeneity, interoperability, open system architectures, multimedia database systems.

This book continues the legacy of a well-established reference within the pharmaceutical industry – providing perspective, covering recent developments in technologies that have enabled the expanded use of biomarkers, and discussing biomarker characterization and validation and applications throughout drug discovery and development. • Explains where proper use of biomarkers can substantively impact drug development timelines and costs, enable selection of better compounds and reduce late stage attrition, and facilitate personalized medicine • Helps readers get a better understanding of biomarkers and how to use them, for example which are accepted by regulators and which still non-validated and exploratory • Updates developments in genomic sequencing, and application of large data sets into pre-clinical and clinical testing; and adds new material on data mining, economics, and decision making, personal genetic tools, and wearable monitoring • Includes case studies of biomarkers that have helped and hindered decision making • Reviews of the first edition: “If you are interested in biomarkers, and it is difficult to imagine anyone reading this who wouldn't be, then this book is for you." (ISSX) and “...provides a good introduction for those new to the area, and yet it can also serve as a detailed reference manual for those practically involved in biomarker implementation.” (ChemMedChem)

In November 2007 Adam Moore was conducting fieldwork in Mostar when the southern Bosnian city was rocked by two days of violent clashes between Croat and Bosniak youth. It was not the city’s only experience of ethnic conflict in recent years. Indeed, Mostar’s problems are often cited as emblematic of the failure of international efforts to overcome deep divisions that continue to stymie the postwar peace process in Bosnia. Yet not all of Bosnia has been plagued by such troubles. Mostar remains mired in distrust and division, but the Brčko District in the northeast corner of the country has become a model of what Bosnia could be. Its multiethnic institutions operate well compared to other municipalities, and are broadly supported by those who live there; it also boasts the only fully integrated school system in the country. What accounts for the striking divergence in postwar peacebuilding in these two towns? Moore argues that a conjunction of four factors explains the contrast in peacebuilding outcomes in Mostar and Brčko: The design of political institutions, the sequencing of political and economic reforms, local and regional legacies from the war, and the practice and organization of international peacebuilding efforts in the two towns. Differences in the latter, in particular, have profoundly shaped relations between local political elites and international officials. Through a grounded analysis of localized peacebuilding dynamics in these two cities Moore generates a powerful argument concerning the need to rethink how peacebuilding is done—that is, a shift in the habitus or culture that governs international peacebuilding activities and priorities today.

Discover how biomarkers can boost the success rate of drugdevelopment efforts As pharmaceutical companies struggle to improve the success rateand cost-effectiveness of the drug development process, biomarkershave emerged as a valuable tool. This book synthesizes and reviewsthe latest

efforts to identify, develop, and integrate biomarkersas a key strategy in translational medicine and the drugdevelopment process. Filled with case studies, the bookdemonstrates how biomarkers can improve drug development timelines,lower costs, facilitate better compound selection, reducelate-stage attrition, and open the door to personalizedmedicine. Biomarkers in Drug Development is divided into eightparts: Part One offers an overview of biomarkers and their role in drugdevelopment. Part Two highlights important technologies to help researchersidentify new biomarkers. Part Three examines the characterization and validation processfor both drugs and diagnostics, and provides practical advice onappropriate statistical methods to ensure that biomarkers fulfilltheir intended purpose. Parts Four through Six examine the application of biomarkers indiscovery, preclinical safety assessment, clinical trials, andtranslational medicine. Part Seven focuses on lessons learned and the practical aspectsof implementing biomarkers in drug development programs. Part Eight explores future trends and issues, including dataintegration, personalized medicine, and ethical concerns. Each of the thirty-eight chapters was contributed by one or moreleading experts, including scientists from biotechnology andpharmaceutical firms, academia, and the U.S. Food and DrugAdministration. Their contributions offer pharmaceutical andclinical researchers the most up-to-date understanding of thestrategies used for and applications of biomarkers in drugdevelopment.

An indispensable guide to SAS Clinical Programming, this book is the first guide on this topic, to be written by an Indian author. Written in an instructive and conversational tone for people who want to make their career in SAS Clinical Programming and entry level programmers for their day-to-day tasks. It is equipped with practical, real world examples, detailed description of programs, work flows, issues, resolutions and key techniques. This book is a personal SAS Clinical trainer. It explains the art of SAS Clinical Programming in eighteen easy steps, covering everything from basics to ADS, TLF Creation, as well as CDISC SDTM and ADaM specifications. Many statistical concepts are explained in an easy way so that you feel confident while using Statistical Procedures. If you are already working as a SAS Clinical Programmer, this book will aid you with sharpening your skills.

For decades researchers and programmers have used SAS to analyze, summarize, and report clinical trial data. Now Chris Holland and Jack Shostak have updated their popular Implementing CDISC Using SAS, the first comprehensive book on applying clinical research data and metadata to the Clinical Data Interchange Standards Consortium (CDISC) standards. Implementing CDISC Using SAS: An End-to-End Guide, Revised Second Edition, is an all-inclusive guide on how to implement and analyze the Study Data Tabulation Model (SDTM) and the Analysis Data Model (ADaM) data and prepare clinical trial data for regulatory submission. Updated to reflect the 2017 FDA mandate for adherence to CDISC standards, this new edition covers creating and using metadata, developing conversion specifications, implementing and validating SDTM and ADaM data, determining solutions for legacy data conversions, and preparing data for regulatory submission. The book covers products such as Base SAS, SAS Clinical Data Integration, and the SAS Clinical Standards Toolkit, as well as JMP Clinical. Topics included in this edition include an implementation of the Define-XML 2.0 standard, new SDTM domains, validation with Pinnacle 21 software, event narratives in JMP Clinical, STDM and ADAM metadata spreadsheets, and of course new versions of SAS and JMP software. The second edition was revised to add the latest C-Codes from the most recent release as well as update the make_define macro that accompanies this book in order to add the capability to handle C-Codes. The metadata spreadsheets were updated accordingly. Any manager or user of clinical trial data in this day and age is likely to benefit from knowing how to either put data into a CDISC standard or analyzing and finding data once it is in a CDISC format. If you are one such person--a data manager, clinical and/or statistical programmer, biostatistician, or even a clinician--then this book is for you.

Improve efficiency while reducing costs in clinical trials with centralized monitoring techniques using JMP and SAS. International guidelines recommend that clinical trial data should be actively reviewed or monitored; the well-being of trial participants and the validity and integrity of the final analysis results are at stake. Traditional interpretation of this guidance for pharmaceutical trials has led to extensive on-site monitoring, including 100% source data verification. On-site review is time consuming, expensive (estimated at up to a third of the cost of a clinical trial), prone to error, and limited in its ability to provide insight for data trends across time, patients, and clinical sites. In contrast, risk-based monitoring (RBM) makes use of central computerized review of clinical trial data and site metrics to determine if and when clinical sites should receive more extensive quality review or intervention. Risk-Based Monitoring and Fraud Detection in Clinical Trials Using JMP and SAS presents a practical implementation of methodologies within JMP Clinical for the centralized monitoring of clinical trials. Focused on intermediate users, this book describes analyses for RBM that incorporate and extend the recommendations of TransCelerate Biopharm Inc., methods to detect potential patient-or investigator misconduct, snapshot comparisons to more easily identify new or modified data, and other novel visual and analytical techniques to enhance safety and quality reviews. Further discussion highlights recent regulatory guidance documents on risk-based approaches, addresses the requirements for CDISC data, and describes methods to supplement analyses with data captured external to the study database. Given the interactive, dynamic, and graphical nature of JMP Clinical, any individual from the clinical trial team - including clinicians, statisticians, data managers, programmers, regulatory associates, and monitors - can make use of this book and the numerous examples contained within to streamline, accelerate, and enrich their reviews of clinical trial data. The analytical methods described in Risk-Based Monitoring and Fraud Detection in Clinical Trials Using JMP and SAS enable the clinical trial team to take a proactive approach to data quality and safety to streamline clinical development activities and address shortcomings while the study is ongoing. This book is part of the SAS Press

This real-world reference for clinical trial SAS programming is packed with solutions that can be applied day-to-day problems. Organized to reflect the statistical programmers workflow, this user-friendly text begins with an introduction to the working environment, then presents chapters on importing and massaging data into analysis data sets, producing clinical trial output, and exporting data.

This book constitutes the refereed proceedings of the 4th International Conference on Recent Developments in Science, Engineering and Technology, REDSET 2017, held in Gurgaon, India, in October 2017. The 66 revised full papers presented were carefully reviewed and selected from 329 submissions. The papers are organized in topical sections on big data analysis, data centric programming, next generation computing, social and web analytics, security in data science analytics.

International guidelines recommend that clinical trial data should be actively reviewed or monitored; the well-being of trial participants and the validity and integrity of the final analysis results are at stake. Risk-based monitoring (RBM) makes use of central computerized review of clinical trial data and site metrics to determine if and when clinical sites should receive more extensive quality review or intervention. Risk-Based Monitoring and Fraud Detection in Clinical Trials Using JMP and SAS describes analyses for RBM that incorporate and extend the recommendations of TransCelerate Biopharm Inc., methods to detect potential patient-or investigator misconduct, snapshot comparisons to more easily identify new or modified data, and other novel visual and analytical techniques to enhance safety and quality reviews. The analytical methods described enable the clinical trial team to take a proactive approach to data quality and safety to streamline clinical development activities and address shortcomings while the study is ongoing.

Summary Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Machine learning has made remarkable progress in recent years. We went from near-unusable speech and image recognition, to near-human accuracy. We went from machines that couldn't beat a serious Go player, to defeating a world champion. Behind this progress is deep learning—a combination of engineering advances, best practices, and theory that enables a wealth of previously impossible smart applications. About the Book Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. You'll explore challenging concepts and practice with applications in computer vision, natural-language processing, and generative models. By the time you finish, you'll have the knowledge and hands-on skills to apply deep learning in your own projects. What's Inside Deep learning from first principles Setting up your own deep-learning environment Image-classification models Deep learning for text and sequences Neural style transfer, text generation, and image generation About the Reader Readers need intermediate Python skills. No previous experience with Keras, TensorFlow, or machine learning is required. About the Author François Chollet works on deep learning at Google in Mountain View, CA. He is the creator of the Keras deep-learning library, as well as a contributor to the TensorFlow machine-learning framework. He also does deep-learning research, with a focus on computer vision and the application of machine learning to formal reasoning. His papers have been published at major conferences in the field, including the Conference on Computer Vision and Pattern Recognition (CVPR), the Conference and Workshop on Neural Information Processing Systems (NIPS), the International Conference on Learning Representations (ICLR), and others. Table of Contents PART 1 - FUNDAMENTALS OF DEEP LEARNING What is deep learning? Before we begin: the mathematical building blocks of neural networks Getting started with neural networks Fundamentals of machine learning PART 2 - DEEP LEARNING IN PRACTICE Deep learning for computer vision Deep learning for text and sequences Advanced deep-learning best practices Generative deep learning Conclusions appendix A - Installing Keras and its dependencies on Ubuntu appendix B - Running Jupyter notebooks on an EC2 GPU instance

This book provides the most comprehensive treatment to date of microeconometrics, the analysis of individual-level data on the economic behavior of individuals or firms using regression methods for cross section and panel data. The book is oriented to the practitioner. A basic understanding of the linear regression model with matrix algebra is assumed. The text can be used for a microeconometrics course, typically a second-year economics PhD course; for data-oriented applied microeconometrics field courses; and as a reference work for graduate students and applied researchers who wish to fill in gaps in their toolkit. Distinguishing features of the book include emphasis on nonlinear models and robust inference, simulation-based estimation, and problems of complex survey data. The book makes frequent use of numerical examples based on generated data to illustrate the key models and methods. More substantially, it systematically integrates into the text empirical illustrations based on seven large and exceptionally rich data sets.

The pharmaceutical industry is currently operating under a business model that is not sustainable for the future. Given the high costs associated with drug development, there is a vital need to reform this process in order to provide safe and effective drugs while still securing a profit. Re-Engineering Clinical Trials evaluates the trends and challenges associated with the current drug development process and presents solutions that integrate the use of modern communication technologies, innovations and novel enrichment designs. This book focuses on the need to simplify drug development and offers you well-established methodologies and best practices based on real-world experiences from expert authors across industry and academia. Written for all those involved in clinical research, development and clinical trial design, this book provides a unique and valuable resource for streamlining the process, containing costs and increasing drug safety and effectiveness. Highlights the latest paradigm-shifts and innovation advances in clinical research Offers easy-to-find best practice sections, lists of current literature and resources for further reading and useful solutions to day--to-day problems in current drug development Discusses important topics such as safety profiling, data mining, site monitoring, change management, increasing development costs, key performance indicators and much more

Frontiers in Clinical Drug Research - Anti-Cancer Agents is a book series intended for pharmaceutical scientists, postgraduate students and researchers seeking updated and critical information for developing clinical trials and devising research plans in anti-cancer research. Reviews in each volume are written by experts in medical oncology and clinical trials research and compile the latest information available on special topics of interest to oncology and pharmaceutical chemistry researchers. The eighth volume of the book features reviews on these topics: - Key data management elements in clinical trials for oncological therapeutics - Prospects for therapeutic targeting of microRNAs in brain tumors - Breast cancer vaccines: current status and future approach - Desmocollin-3 and cancer - MDM2-p53 antagonists under clinical evaluation: a promising cancer targeted therapy for cancer patients harbouring wild-type tp53 - Towards targeted therapy: anticancer agents targeting cell organelle mitochondria - Anticancer therapeutic strategies in gliomas: chemotherapy, immunotherapy, and molecularly targeted therapy in adults.

Artificial Intelligence (AI) in Healthcare is more than a comprehensive introduction to artificial intelligence as a tool in the generation and analysis of healthcare data. The book is split into two sections where the first section describes the current healthcare challenges and the rise of AI in this arena. The ten following chapters are written by specialists in each area, covering the whole healthcare ecosystem. First, the AI applications in drug design and drug development are presented followed by its applications in the field of cancer diagnostics, treatment and medical imaging. Subsequently, the application of AI in medical devices and surgery are covered as well as remote patient monitoring. Finally, the book dives into the topics of security, privacy, information sharing, health insurances and legal aspects of AI in healthcare. Highlights different data techniques in healthcare data analysis, including machine learning and data mining Illustrates different applications and challenges across the design, implementation and management of intelligent systems and healthcare data networks Includes applications and case studies across all areas of AI in healthcare data

Lauded for its easy-to-understand, conversational discussion of the fundamentals of mediation, moderation, and conditional process analysis, this book has been fully revised with 50% new content, including sections on working with multicategorical antecedent variables, the use of PROCESS version 3 for SPSS and SAS for model estimation, and annotated PROCESS v3 outputs. Using the principles of ordinary least squares regression, Andrew F. Hayes carefully explains procedures for testing hypotheses about the conditions under and the mechanisms by which causal effects operate, as well as the moderation of such mechanisms. Hayes shows how to estimate and interpret direct, indirect, and conditional effects; probe and visualize interactions; test questions about moderated mediation; and report different types of analyses. Data for all the examples are available on the companion website (www.afhayes.com), along with links to download PROCESS. New to This Edition *Chapters on using each type of analysis with multicategorical antecedent variables. *Example analyses using PRO-

CESS v3, with annotated outputs throughout the book. *More tips and advice, including new or revised discussions of formally testing moderation of a mechanism using the index of moderated mediation; effect size in mediation analysis; comparing conditional effects in models with more than one moderator; using R code for visualizing interactions; distinguishing between testing interaction and probing it; and more. *Rewritten Appendix A, which provides the only documentation of PROCESS v3, including 13 new preprogrammed models that combine moderation with serial mediation or parallel and serial mediation. *Appendix B, describing how to create customized models in PROCESS v3 or edit preprogrammed models.

The definitive guide to the basic principles and latest advances inNutritional Genomics Though still in its infancy, nutritional genomics, or"nutrigenomics," has revealed much about the complex interactionsbetween diet and genes. But it is in its potential applicationsthat nutrigenomics promises to revolutionize the ways we managehuman health and combat disease in the years ahead. Great progressalready has been made in modeling "personalized" nutrition foroptimal health and longevity as well as in genotype-based dietaryinterventions for the prevention, mitigation, or possible cure of avariety of chronic diseases and some types of cancer. Topics covered include: * Nutrients and gene expression * The role of metabolomics in individualized health * Molecular mechanisms of longevity regulation and calorierestriction * Green tea polyphenols and soy peptides in cancer prevention * Maternal nutrition and fetal gene expression * Genetic susceptibility to heterocyclic amines from cookedfoods * Bioinformatics and biocomputation in nutrigenomics * The pursuit of optimal diets Written by an all-star team of experts from around the globe, thisvolume provides an integrated overview of the cutting-edge field ofnutritional genomics. The authors and editors lead an in-depthdiscussion of the fundamental principles and scientificmethodologies that serve as the foundation for nutritional genomicsand explore important recent advances in an array of relateddisciplines. Each self-contained chapter builds upon itspredecessor, leading the reader seamlessly from basic principles tomore complex scientific findings and experimental designs.Scientific chapters are carefully balanced with those addressingthe social, ethical, regulatory, and commercial implications ofnutrigenomics.

The design and analysis of efficient data structures has long been recognized as a key component of the Computer Science curriculum. Goodrich, Tomassia and Goldwasser's approach to this classic topic is based on the object-oriented paradigm as the framework of choice for the design of data structures. For each ADT presented in the text, the authors provide an associated Java interface. Concrete data structures realizing the ADTs are provided as Java classes implementing the interfaces. The Java code implementing fundamental data structures in this book is organized in a single Java package, net.datastructures. This package forms a coherent library of data structures and algorithms in Java specifically designed for educational purposes in a way that is complimentary with the Java Collections Framework.

For decades researchers and programmers have used SAS to analyze, summarize, and report clinical trial data. Now Chris Holland and Jack Shostak have written the first comprehensive book on applying clinical research data and metadata to the Clinical Data Interchange Standards Consortium (CDISC) standards. Implementing CDISC Using SAS: An End-to-End Guide is an all-inclusive guide on how to implement and analyze Study Data Tabulation Model (SDTM) and Analysis Data Model (ADaM) data and prepare clinical trial data for regulatory submissions. Topics covered include creating and using metadata, developing conversion specifications, implementing and validating SDTM and ADaM data, determining solutions for legacy data conversions, and preparing data for regulatory submission. The book covers products such as Base SAS, SAS Clinical Data Integration, and the SAS Clinical Standards Toolkit, as well as JMP Clinical. Anyone dealing with CDISC standards--including SAS or JMP programmers, statisticians, and data managers in the pharmaceutical, biotechnology, or medical device industries--will find the philosophical best practices and implementation examples in this book invaluable.SAS Products and Releases: Base SAS: 9.3 JMP: 9.0.2, 10.0.2, 10.0.1, 10.0 JMP Clinical: 4.0, 3.1, 3.0, 2.1 SAS Clinical Data Integration: 2.3 SAS Clinical Standards Toolkit: 1.4, 1.3, 1.2 Operating Systems: All

The amount of data being generated today is staggering and growing. Apache Spark has emerged as the de facto tool to analyze big data and is now a critical part of the data science toolbox. Updated for Spark 3.0, this practical guide brings together Spark, statistical methods, and real-world datasets to teach you how to approach analytics problems using PySpark, Spark's Python API, and other best practices in Spark programming. Data scientists Akash Tandon, Sandy Ryza, Uri Laserson, Sean Owen, and Josh Wills offer an introduction to the Spark ecosystem, then dive into patterns that apply common techniques-including classification, clustering, collaborative filtering, and anomaly detection, to fields such as genomics, security, and finance. This updated edition also covers NLP and image processing. If you have a basic understanding of machine learning and statistics and you program in Python, this book will get you started with large-scale data analysis. Familiarize yourself with Spark's programming model and ecosystem Learn general approaches in data science Examine complete implementations that analyze large public datasets Discover which machine learning tools make sense for particular problems Explore code that can be adapted to many uses

MATLAB for Neuroscientists serves as the only complete study manual and teaching resource for MATLAB, the globally accepted standard for scientific computing, in the neurosciences and psychology. This unique introduction can be used to learn the entire empirical and experimental process (including stimulus generation, experimental control, data collection, data analysis, modeling, and more), and the 2nd Edition continues to ensure that a wide variety of computational problems can be addressed in a single programming environment. This updated edition features additional material on the creation of visual stimuli, advanced psychophysics, analysis of LFP data, choice probabilities, synchrony, and advanced spectral analysis. Users at a variety of levels—advanced undergraduates, beginning graduate students, and researchers looking to modernize their skills—will learn to design and implement their own analytical tools, and gain the fluency required to meet the computational needs of neuroscience practitioners. The first complete volume on MATLAB focusing on neuroscience and psychology applications Problem-based approach with many examples from neuroscience and cognitive psychology using real data Illustrated in full color throughout Careful tutorial approach, by authors who are award-winning educators with strong teaching experience

This comprehensive resource provides on-the-job training for statistical programmers who use SAS in the pharmaceutical industry This one-stop resource offers a complete review of what entry- to intermediate-level statistical programmers need to know in order to help with the analysis and reporting of clinical trial data in the pharmaceutical industry. SAS Programming in the Pharmaceutical Industry, Second Edition begins with an introduction to the pharmaceutical industry and the work environment of a statistical programmer. Then it gives a chronological explanation of what you need to know to do the job. It includes information on importing and massaging data into analysis data sets, producing clinical trial output, and exporting data. This edition has been updated for SAS 9.4, and it features new graphics as well as all new examples using CDISC SDTM or ADaM model data structures. Whether you're a novice seeking an introduction to SAS programming in the pharmaceutical industry or a junior-level programmer exploring new approaches to problem solving, this real-world reference guide offers a wealth of practical suggestions to help you sharpen your skills. This book is part of the SAS Press program.

This book features high-quality research papers presented at the 4th International Conference on Computational Intelligence in Pattern Recognition (CIPR 2022), held at Indian Institute of Engineering Science and Technology, Shibpur, Howrah, West Bengal, India, during 23 – 24 April 2022. It includes practical development experiences in various areas of data analysis and pattern recognition, focusing on soft computing technologies, clustering and classification algorithms, rough set and fuzzy set theory, evolutionary computations, neural science and neural network systems, image processing, combinatorial pattern matching, social network analysis, audio and video data analysis, data mining in dynamic environments, bioinformatics, hybrid computing, big data analytics and deep learning. It also provides innovative solutions to the challenges in these areas and discusses recent developments.

Quantitative Methodologies and Process for Safety Monitoring and Ongoing Benefit Risk Evaluation provides a comprehensive coverage on safety monitoring methodologies, covering both global trends and regional initiatives. Pharmacovigilance has traditionally focused on the handling of individual adverse event reports however recently there had been a shift towards aggregate analysis to better understand the scope of product risks. Written to be accessible not only to statisticians but also to safety scientists with a quantitative interest, this book aims to bridge the gap in knowledge between medical and statistical fields creating a truly multi-disciplinary approach that is very much needed for 21st century safety evaluation.

MODELS2008wasthe11theditionoftheseriesofconferencesonModel-Driven Engineering Languages and Systems. The conference was held in Toulouse, France, during the week of September 28 to October 3, 2008. The local arran- ments were provided by the Institut de Recherche en Informatique de Toulouse (IRIT). The conference program included three keynote presentations, technical - per presentations, two panels, and several workshops and tutorials. The invited keynote speakers were Don Batory (University of Texas, USA), Je? Kramer (Imperial College London, UK), and Patrick Rauhut (Airbus, Germany). Thisvolumecontainsthe?nalversionsofthepapersacceptedforpresentation attheconference.Thepaperscoverawiderangeoftopicsfromthe?eldincluding model transformation, model management, domain-speci?c modeling, modeling language semantics, model analysis, and applications. We received a record number of 271 full paper submissions from 40 di?erent countries. Of these, 43 papers were submitted by authors from more than one country. The top three countries submitting papers were France (40), Germany (38), and Canada (24). A total of 58 papers were accepted for inclusion in the proceedings. The acceptance rate was therefore 21%, which is somewhat lower than those of the previous MODELS conferences. At least three Program Committee or Expert Reviewer Panel members - viewed each paper. Reviewing wasthorough,and most authors received detailed comments on their submissions. Con?icts of interest were taken very seriously. No-oneparticipatedinany wayin the decisionprocessofanypaper wherea c- ?ict of interest was identi?ed. In particular, PC members who submitted papers did not have access to information concerning the reviews of their papers.

This book aims to aid the selection of the most appropriate methods for use in early phase (1 and 2) clinical studies of new drugs for diabetes, obesity, non-alcoholic fatty liver disease (NAFLD) and related cardiometabolic disorders. Clinical research methods to assess the pharmacokinetics and pharmacodynamics of new diabetes drugs, e.g. the euglycemic clamp technique, have become well-established in proof-of-mechanism studies. However, selection of the most appropriate techniques is by no means straightforward. Moreover, the application of such methods must conform to the regulatory requirements for new drugs. This book discusses the need for new pharmacotherapies for diabetes, obesity and NAFLD and the molecular targets of drugs currently in development. Emerging technologies including functional imaging, circulating biomarkers and omics are considered together with practical and ethical issues pertaining to early phase clinical trials in subjects with cardiometabolic disorders. Translational Research Methods in Diabetes, Obesity, and Non-Alcoholic Fatty Liver Disease is of interest to biomedical scientists, pharmacologists, academics involved in metabolic research and clinicians practicing in these specialties.

For decades researchers and programmers have used SAS to analyze, summarize, and report clinical trial data. Now Chris Holland and Jack Shostak have updated their popular Implementing CDISC Using SAS, the first comprehensive book on applying clinical research data and metadata to the Clinical Data Interchange Standards Consortium (CDISC) standards. Implementing CDISC Using SAS: An End-to-End Guide, Second Edition, is an all-inclusive guide on how to implement and analyze the Study Data Tabulation Model (SDTM) and the Analysis Data Model (ADaM) data and prepare clinical trial data for regulatory submission. Updated to reflect the 2017 FDA mandate for adherence to CDISC standards, this new edition covers creating and using metadata, developing conversion specifications, implementing and validating SDTM and ADaM data, determining solutions for legacy data conversions, and preparing data for regulatory submission. The book covers products such as Base SAS, SAS Clinical Data Integration, and the SAS Clinical Standards Toolkit, as well as JMP Clinical. Topics included in this new edition include an implementation of the Define-XML 2.0 standard, new SDTM domains, validation with Pinnacle 21 software, event narratives in JMP Clinical, and of course new versions of SAS and JMP software. Any manager or user of clinical trial data in this day and age is likely to benefit from knowing how to either put data into a CDISC standard or analyzing and finding data once it is in a CDISC format. If you are one such person--a data manager, clinical and/or statistical programmer, biostatistician, or even a clinician--then this book is for you.

#1 New York Times Bestseller “THIS. This is the right book for right now. Yes, learning requires focus. But, unlearning and relearning requires much more—it requires choosing courage over comfort. In Think Again, Adam Grant weaves together research and storytelling to help us build the intellectual and emotional muscle we need to stay curious enough about the world to actually change it. I’ve never felt so hopeful about what I don’t know.” —Brené Brown, Ph.D., #1 New York Times bestselling author of Dare to Lead The bestselling author of Give and Take and Originals examines the critical art of rethinking: learning to question your opinions and open other people's minds, which can position you for excellence at work and wisdom in life Intelligence is usually seen as the ability to think and learn, but in a rapidly changing world, there's another set of cognitive skills that might matter more: the ability to rethink and unlearn. In our daily lives, too many of us favor the comfort of conviction over the discomfort of doubt. We listen to opinions that make us feel good, instead of ideas that make us think hard. We see disagreement as a threat to our egos, rather than an opportunity to learn. We surround ourselves with people who agree with our conclusions, when we should be gravitating toward those who challenge our thought process. The result is that our beliefs get brittle long before our bones. We think too much like preachers defending our sacred beliefs, prosecutors proving the other side wrong, and politicians campaigning for approval--and too little like scientists searching for truth. Intelligence is no cure, and it can even be a curse: being good at thinking can make us worse at rethinking. The brighter we are, the blinder to our own limitations we can become. Organizational psychologist Adam Grant is an expert on opening other people's minds--and our own. As Wharton's top-rated professor and the bestselling author of Originals and Give and Take, he makes it one of his guiding principles to argue like he's right but listen like he's wrong. With bold ideas and rigorous evidence, he investigates how we can embrace the joy of being wrong, bring nuance to charged conversations, and build schools, workplaces, and communities of lifelong learners. You'll learn how an international debate champion wins arguments, a Black musician persuades white supremacists to abandon hate, a vaccine whisperer convinces concerned parents to immunize their children, and Adam has coaxed Yankees fans to root for the Red Sox. Think Again reveals that

we don't have to believe everything we think or internalize everything we feel. It's an invitation to let go of views that are no longer serving us well and prize mental flexibility over foolish consistency. If knowledge is power, knowing what we don't know is wisdom.

Strengthen your understanding of data structures and their algorithms for the foundation you need to successfully design, implement and maintain virtually any software system. Theoretical, yet practical, DATA STRUCUTRES AND ALGORITHMS IN C++, 4E by experienced author Adam Drosdek highlights the fundamental connection between data structures and their algorithms, giving equal weight to the practical implementation of data structures and the theoretical analysis of algorithms and their efficiency. This edition provides critical new coverage of treaps, k-d trees and k-d B-trees, generational garbage collection, and other advanced topics such as sorting methods and a new hashing technique. Abundant C++ code examples and a variety of case studies provide valuable insights into data structures implementation. DATA STRUCTURES AND ALGORITHMS IN C++ provides the balance of theory and practice to prepare readers for a variety of applications in a modern, object-oriented paradigm. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Based around eleven international real life case studies and including contributions from leading experts in the field this groundbreaking book explores the need for the grid-enabling of data mining applications and provides a comprehensive study of the technology, techniques and management skills necessary to create them. This book provides a simultaneous design blueprint, user guide, and research agenda for current and future developments and will appeal to a broad audience; from developers and users of data mining and grid technology, to advanced undergraduate and postgraduate students interested in this field.