



addition to different applications, key algorithmic approaches such as graph partitioning, clustering and finite mixture modelling of high-dimensional data are also covered. The varied collection of themes in this volume introduces the reader to the richness of the emerging field of Big Data Analytics.

The International Encyclopedia of Organization Studies is the definitive description of the field, spanning individual, organizational, societal, and cultural perspective in a cross-disciplinary manner. It is the premier reference tool for students, educators, scholars, and practitioners to gather knowledge about a range of important topics from the unique perspective of organization studies with extensive international representation. The Encyclopedia is thoroughly cross-referenced, and entries are based around a series of broad themes. Editors Stewart R. Clegg and James R. Bailey bring together a team of international contributors from the fields of management, psychology, sociology, communications, education, political science, public administration, anthropology, law, and other related areas.

This timely text/reference describes the development and implementation of large-scale distributed processing systems using open source tools and technologies. Comprehensive in scope, the book presents state-of-the-art material on building high performance distributed computing systems, providing practical guidance and best practices as well as describing theoretical software frameworks. Features: describes the fundamentals of building scalable software systems for large-scale data processing in the new paradigm of high performance distributed computing; presents an overview of the Hadoop ecosystem, followed by step-by-step instruction on its installation, programming and execution; Reviews the basics of Spark, including resilient distributed datasets, and examines Hadoop streaming and working with Scalding; Provides detailed case studies on approaches to clustering, data classification and regression analysis; Explains the process of creating a working recommender system using Scalding and Spark.

This proceedings book is the fourth edition of a series of works which features emergent research trends and recent innovations related to smart city presented at the 5th International Conference on Smart City Applications SCA20 held in Safranbolu, Turkey. This book is composed of peer-reviewed chapters written by leading international scholars in the field of smart cities from around the world. This book covers all the smart city topics including Smart Citizenship, Smart Education, Smart Mobility, Smart Healthcare, Smart Mobility, Smart Security, Smart Earth Environment & Agriculture, Smart Economy, Smart Factory and Smart Recognition Systems. This book contains a special section intended for Covid-19 pandemic researches. This book edition is an invaluable resource for courses in computer science, electrical engineering and urban sciences for sustainable development. Describes the principles and methodologies for crafting and executing a successful business-aligned IT strategy to provide businesses with value delivery.

The process of fuel injection, spray atomization and vaporization, charge cooling, mixture preparation and the control of in-cylinder air motion are all being actively researched and this work is reviewed in detail and analyzed. The new technologies such as high-pressure, common-rail, gasoline injection systems and swirl-atomizing gasoline fuel injections are discussed in detail, as these technologies, along with computer control capabilities, have enabled the current new examination of an old objective; the direct-injection, stratified-charge (DISC), gasoline engine. The prior work on DISC engines that is relevant to current GDI engine development is also reviewed and discussed. The fuel economy and emission data for actual engine configurations have been obtained and assembled for all of the available GDI literature, and are reviewed and discussed in detail. The types of GDI engines are arranged in four classifications of decreasing complexity, and the advantages and disadvantages of each class are noted and explained. Emphasis is placed upon consensus trends and conclusions that are evident when taken as a whole; thus the GDI researcher is informed regarding the degree to which engine volumetric efficiency and compression ratio can be increased under optimized conditions, and as to the extent to which unburned hydrocarbon (UBHC), NO<sub>x</sub> and particulate emissions can be minimized for specific combustion strategies. The critical area of GDI fuel injector deposits and the associated effect on spray geometry and engine performance degradation are reviewed, and important system guidelines for minimizing deposition rates and deposit effects are presented. The capabilities and limitations of emission control techniques and after treatment hardware are reviewed in depth, and a compilation and discussion of areas of consensus on attaining European, Japanese and North American emission standards presented. All known research, prototype and production GDI engines worldwide are reviewed as to performance, emissions and fuel economy advantages, and for areas requiring further development. The engine schematics, control diagrams and specifications are compiled, and the emission control strategies are illustrated and discussed. The influence of lean-NO<sub>x</sub> catalysts on the development of late-injection, stratified-charge GDI engines is reviewed, and the relative merits of lean-burn, homogeneous, direct-injection engines as an option requiring less control complexity are analyzed.

Harness the power of Scala to program Spark and analyze tonnes of data in the blink of an eye! About This Book Learn Scala's sophisticated type system that combines Functional Programming and object-oriented concepts Work on a wide array of applications, from simple batch jobs to stream processing and machine learning Explore the most common as well as some complex use-cases to perform large-scale data analysis with Spark Who This Book Is For Anyone who wishes to learn how to perform data analysis by harnessing the power of Spark will find this book extremely useful. No knowledge of Spark or Scala is assumed, although prior programming experience (especially with other JVM languages) will be useful to pick up concepts quicker. What You Will Learn Understand object-oriented & functional programming concepts of Scala In-depth understanding of Scala collection APIs Work with RDD and DataFrame to learn Spark's core abstractions Analysing structured and unstructured data using SparkSQL and GraphX Scalable and fault-tolerant streaming application development using Spark structured streaming Learn machine-learning best practices for classification, regression, dimensionality reduction, and recommendation system to build predictive models with widely used algorithms in Spark MLlib & ML Build clustering models to cluster a vast amount of data Understand tuning, debugging, and monitoring Spark applications Deploy Spark applications on real clusters in Standalone, Mesos, and YARN In Detail Scala has been observing wide adoption over the past few years, especially in the field of data science and analytics. Spark, built on Scala, has gained a lot of recognition and is being used widely in productions. Thus, if you want to leverage the power of Scala and Spark to make sense of big data, this book is for you. The first part introduces you to Scala, helping you understand the object-oriented and functional programming concepts needed for Spark application development. It then moves on to Spark to cover the basic abstractions using RDD and DataFrame. This will help you develop scalable and fault-tolerant streaming applications by analyzing structured and unstructured data using SparkSQL, GraphX, and Spark structured streaming. Finally, the book moves on to some advanced topics, such as monitoring, configuration, debugging, testing, and deployment. You will also learn how to develop Spark applications using SparkR and PySpark APIs, interactive data

analytics using Zeppelin, and in-memory data processing with Alluxio. By the end of this book, you will have a thorough understanding of Spark, and you will be able to perform full-stack data analytics with a feel that no amount of data is too big. Style and approach Filled with practical examples and use cases, this book will not only help you get up and running with Spark, but will also take you farther down the road to becoming a data scientist.

Virtual, hands-on learning labs allow you to apply your technical skills in realistic environments. So Sybex has bundled AWS labs from XtremeLabs with our popular AWS Certified Data Analytics Study Guide to give you the same experience working in these labs as you prepare for the Certified Data Analytics Exam that you would face in a real-life application. These labs in addition to the book are a proven way to prepare for the certification and for work as an AWS Data Analyst. AWS Certified Data Analytics Study Guide: Specialty (DAS-C01) Exam is intended for individuals who perform in a data analytics-focused role. This UPDATED exam validates an examinee's comprehensive understanding of using AWS services to design, build, secure, and maintain analytics solutions that provide insight from data. It assesses an examinee's ability to define AWS data analytics services and understand how they integrate with each other; and explain how AWS data analytics services fit in the data lifecycle of collection, storage, processing, and visualization. The book focuses on the following domains: • Collection • Storage and Data Management • Processing • Analysis and Visualization • Data Security This is your opportunity to take the next step in your career by expanding and validating your skills on the AWS cloud. AWS is the frontrunner in cloud computing products and services, and the AWS Certified Data Analytics Study Guide: Specialty exam will get you fully prepared through expert content, and real-world knowledge, key exam essentials, chapter review questions, and much more. Written by an AWS subject-matter expert, this study guide covers exam concepts, and provides key review on exam topics. Readers will also have access to Sybex's superior online interactive learning environment and test bank, including chapter tests, practice exams, a glossary of key terms, and electronic flashcards. And included with this version of the book, XtremeLabs virtual labs that run from your browser. The registration code is included with the book and gives you 6 months of unlimited access to XtremeLabs AWS Certified Data Analytics Labs with 3 unique lab modules based on the book.

As cool as classic muscle cars might be, they're only as good as the automotive technology of their era. That's where this book comes in. With clear, easy-to-follow instructions, this guide shows how to give your car all the muscle of today while preserving the classic styling of your muscle car. In this updated and fully illustrated edition of his popular handbook, veteran overhauler and automotive writer Jason Scott takes readers through the step-by-step improvements that will add more power, style, and handling capability to any classic muscle car. Full-color photos accompany Scott's detailed instructions, covering bodywork and interior restoration, engine enhancements, transmission and axle swaps, suspension, steering, chassis and brake upgrades as well as many other changes that will restore-or maintain-a muscle cars identity while making it perform as if it were built only yesterday. REST architecture (style) is a pivot of distributed systems, simplify data integration amongst modern and legacy applications leverages through the RESTful paradigm. This book is fully loaded with many RESTful API patterns, samples, hands-on implementations and also discuss the capabilities of many REST API frameworks for Java, Scala, Python and Go

This textbook will help you learn all the skills you need to pass Level 3 and 4 Vehicle Maintenance and Repair courses from City and Guilds, IMI and BTEC, and is also ideal for higher level ASE, AUR and other qualifications. Advanced Automotive Fault Diagnosis covers the fundamentals of vehicle systems and components and explains the latest diagnostic techniques employed in effective vehicle maintenance and repair. Diagnostics, or fault finding, is an essential part of an automotive technician's work, and as automotive systems become increasingly complex there is a greater need for good diagnostics skills. For students new to the subject, this book will help to develop these skills, but will also assist experienced technicians in further improving their performance and keeping up with recent industry developments. In full colour and including examples of the latest technology, this is the guide that no student enrolled on an automotive maintenance and repair course should be without.

This book constitutes the proceedings of the 9th International Conference on Big Data, BigData 2020, held as part of SCF 2020, during September 18-20, 2020. The conference was planned to take place in Honolulu, HI, USA and was changed to a virtual format due to the COVID-19 pandemic. The 16 full and 3 short papers presented were carefully reviewed and selected from 52 submissions. The topics covered are Big Data Architecture, Big Data Modeling, Big Data As A Service, Big Data for Vertical Industries (Government, Healthcare, etc.), Big Data Analytics, Big Data Toolkits, Big Data Open Platforms, Economic Analysis, Big Data for Enterprise Transformation, Big Data in Business Performance Management, Big Data for Business Model Innovations and Analytics, Big Data in Enterprise Management Models and Practices, Big Data in Government Management Models and Practices, and Big Data in Smart Planet Solutions.

Concentrates on the wider industrial considerations, the key business and technology drivers which govern the way industry responds to the demands for ever lower emissions. It illustrates how industry can formulate policy through techniques such as Integrated Pollution Prevention and Control.

A collection of brief, informative, how-to tips from performance experts designed for the enthusiast or racer, this book offers helpful secrets, suggestions, techniques, and hints to help solve common problems and generally enhance all areas of a car's performance. 400+ photos.

This revised edition of Taylor's classic work on the internal-combustion engine incorporates changes and additions in engine design and control that have been brought on by the world petroleum crisis, the subsequent emphasis on fuel economy, and the legal restraints on air pollution. The fundamentals and the topical organization, however, remain the same. The analytic rather than merely descriptive treatment of actual engine cycles, the exhaustive studies of air capacity, heat flow, friction, and the effects of cylinder size, and the emphasis on application have been preserved. These are the basic qualities that have made Taylor's work indispensable to more than one generation of engineers and designers of internal-combustion engines, as well as to teachers and graduate students in the fields of power, internal-combustion engineering, and general machine design.

This IBM® Redpaper publication provides an update to the original description of IBM Reference Architecture for Genomics. This paper expands the reference architecture to cover all of the major vertical areas of healthcare and life sciences industries, such as genomics, imaging, and clinical and translational research. The architecture was renamed IBM Reference Architecture for High Performance Data and AI in Healthcare and Life Sciences to reflect the fact that it incorporates key building blocks for high-performance computing (HPC) and software-defined storage, and that it supports an expanding infrastructure of leading industry partners, platforms, and frameworks. The reference architecture defines a highly flexible, scalable, and cost-effective platform for accessing, managing, storing, sharing, integrating, and analyzing big data, which can be deployed on-premises, in the cloud, or as



organization's "bottom line," and how can this impact be explained? Is there one best HR strategy for all firms, or is the impact of HR strategy on performance contingent on some set of organizational, technological or environmental factors? Human Resource Strategy, 2nd edition, provides an overview of the academic and practitioner responses to these and other questions. Applying an integrative framework, the authors review 30 years' worth of empirical and theoretical research in an attempt to reconcile often-conflicting conceptual models and competing empirical results. Complex theoretical models and scientific findings are presented in an accessible and relevant way, in the context of the strategic decisions that executives are forced to make on a regular basis. This new edition features an updated literature review, coverage of the latest challenges to HR strategy, new mini-cases, discussion questions, additional examples, and an emphasis on the strategic implications of the research, making it an ideal resource for students and practitioners alike.

Advancing the science of medicine by targeting a disease more precisely with treatment specific to each patient relies on access to that patient's genomics information and the ability to process massive amounts of genomics data quickly. Although genomics data is becoming a critical source for precision medicine, it is expected to create an expanding data ecosystem. Therefore, hospitals, genome centers, medical research centers, and other clinical institutes need to explore new methods of storing, accessing, securing, managing, sharing, and analyzing significant amounts of data. Healthcare and life sciences organizations that are running data-intensive genomics workloads on an IT infrastructure that lacks scalability, flexibility, performance, management, and cognitive capabilities also need to modernize and transform their infrastructure to support current and future requirements. IBM® offers an integrated solution for genomics that is based on composable infrastructure. This solution enables administrators to build an IT environment in a way that disaggregates the underlying compute, storage, and network resources. Such a composable building block based solution for genomics addresses the most complex data management aspect and allows organizations to store, access, manage, and share huge volumes of genome sequencing data. IBM Spectrum™ Scale is software-defined storage that is used to manage storage and provide massive scale, a global namespace, and high-performance data access with many enterprise features. IBM Spectrum Scale™ is used in clustered environments, provides unified access to data via file protocols (POSIX, NFS, and SMB) and object protocols (Swift and S3), and supports analytic workloads via HDFS connectors. Deploying IBM Spectrum Scale and IBM Elastic Storage™ Server (IBM ESS) as a composable storage building block in a Genomics Next Generation Sequencing deployment offers key benefits of performance, scalability, analytics, and collaboration via multiple protocols. This IBM Redpaper™ publication describes a composable solution with detailed architecture definitions for storage, compute, and networking services for genomics next generation sequencing that enable solution architects to benefit from tried-and-tested deployments, to quickly plan and design an end-to-end infrastructure deployment. The preferred practices and fully tested recommendations described in this paper are derived from running GATK Best Practices work flow from the Broad Institute. The scenarios provide all that is required, including ready-to-use configuration and tuning templates for the different building blocks (compute, network, and storage), that can enable simpler deployment and that can enlarge the level of assurance over the performance for genomics workloads. The solution is designed to be elastic in nature, and the disaggregation of the building blocks allows IT administrators to easily and optimally configure the solution with maximum flexibility. The intended audience for this paper is technical decision makers, IT architects, deployment engineers, and administrators who are working in the healthcare domain and who are working on genomics-based workloads.

Summary The Spark distributed data processing platform provides an easy-to-implement tool for ingesting, streaming, and processing data from any source. In Spark in Action, Second Edition, you'll learn to take advantage of Spark's core features and incredible processing speed, with applications including real-time computation, delayed evaluation, and machine learning. Spark skills are a hot commodity in enterprises worldwide, and with Spark's powerful and flexible Java APIs, you can reap all the benefits without first learning Scala or Hadoop. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Analyzing enterprise data starts by reading, filtering, and merging files and streams from many sources. The Spark data processing engine handles this varied volume like a champ, delivering speeds 100 times faster than Hadoop systems. Thanks to SQL support, an intuitive interface, and a straightforward multilanguage API, you can use Spark without learning a complex new ecosystem. About the book Spark in Action, Second Edition, teaches you to create end-to-end analytics applications. In this entirely new book, you'll learn from interesting Java-based examples, including a complete data pipeline for processing NASA satellite data. And you'll discover Java, Python, and Scala code samples hosted on GitHub that you can explore and adapt, plus appendixes that give you a cheat sheet for installing tools and understanding Spark-specific terms. What's inside Writing Spark applications in Java Spark application architecture Ingestion through files, databases, streaming, and Elasticsearch Querying distributed datasets with Spark SQL About the reader This book does not assume previous experience with Spark, Scala, or Hadoop. About the author Jean-Georges Perrin is an experienced data and software architect. He is France's first IBM Champion and has been honored for 12 consecutive years. Table of Contents PART 1 - THE THEORY CRIPPLED BY AWESOME EXAMPLES 1 So, what is Spark, anyway? 2 Architecture and flow 3 The majestic role of the dataframe 4 Fundamentally lazy 5 Building a simple app for deployment 6 Deploying your simple app PART 2 - INGESTION 7 Ingestion from files 8 Ingestion from databases 9 Advanced ingestion: finding data sources and building your own 10 Ingestion through structured streaming PART 3 - TRANSFORMING YOUR DATA 11 Working with SQL 12 Transforming your data 13 Transforming entire documents 14 Extending transformations with user-defined functions 15 Aggregating your data PART 4 - GOING FURTHER 16 Cache and checkpoint: Enhancing Spark's performances 17 Exporting data and building full data pipelines 18 Exploring deployment

Increased global competition, aided and abetted by technology, has meant that organizations in every sector are having to compete on the basis of speed, cost, quality, innovation, flexibility and customer-responsiveness. If organizations wish to be able to compete successfully in the global marketplace, they need to develop innovative products and services quickly and cost-effectively. The High Performance Organization provides invaluable information and practical tools for people engaged in leading organizational change efforts as an executive, line manager, HR practitioner or change agent. This practical text is grounded in organizational reality as well as having a sound theoretical setting. Illustrative case

studies have been drawn from consultancy practice and a wide range of current research.

This book constitutes the refereed proceedings of the 14th International Conference entitled Beyond Databases, Architectures and Structures, BDAS 2018, held in Poznań, Poland, in September 2018, during the IFIP World Computer Congress. It consists of 38 carefully reviewed papers selected from 102 submissions. The papers are organized in topical sections, namely big data and cloud computing; architectures, structures and algorithms for efficient data processing; artificial intelligence, data mining and knowledge discovery; text mining, natural language processing, ontologies and semantic web; image analysis and multimedia mining.

Bernadette Mazurek Melnyk and Ellen Fineout-Overholt are creators of the ARCC (Advancing Research and Clinical practice through close Collaboration) Model, an innovative strategy for implementing and sustaining evidence-based practice in healthcare systems. The ARCC Model is cited as an exemplar of education in evidence-based practice in the Board on Health Care Services and the Institute of Medicine's book, *Health Professions Education: A Bridge to Quality*. "Melnyk and Fineout-Overholt's book should be required reading in all graduate programs. Their text has provided a blueprint for the future of nursing practice and a rigorously substantiated and clearly described means for clinicians, educators, and administrators to participate in improving quality of care." Janet D. Allan, PhD, RN, FAAN Dean and Professor University of Maryland School of Nursing "Evidence-based Practice in Nursing & Healthcare: A Guide to Best Practice has been instrumental in developing a culture of evidence-based practice at Barnes-Jewish Hospital. It is fundamental to our curriculum provided to all levels of staff, from new graduate nurses to the highest levels of hospital leadership." Dr. Patricia Potter, RN, PhD, FAAN, Dr. Gail Rea, RN, PhD, CNE, Dr. Karen Balakas, RN, PhD, CNE, Jennifer Williams, MSN, RN, ACNS-BC, Elizabeth Pratt, MSN, RN, ACNS-BC Evidence Equals Excellence group at Barnes-Jewish Hospital and Barnes-Jewish School of Nursing at Goldfarb Evidence-based Practice in Nursing & Healthcare: A Guide to Best Practice is an exemplary text that spans the continuum of nursing evidence to support best practice. Utilizing this text with undergraduate, RN to BSN, and graduate nursing students, it is the ONLY text that demonstrates how to retrieve, read, and analyze evidence whether it is published as an individual study, systematic review, meta-analysis, best practice guideline, or outcomes management report. Students learn how to utilize multiple complex databases and websites as they move through each chapter. And, they experience dissemination of evidence through the development of presentations, publications, posters, and grants. This is truly a remarkable book that embraces evidence as the basis for nursing practice and patient-centered care and safety. Having used this text with more than 1000 students over the past five years, I can honestly say that I have found no other text that facilitates learning and development of clinical judgment that is grounded in valid, reliable, and applicable evidence. This is a keeper! Alice E. Dupler, JD, APRN-BC Clinical Associate Professor Washington State University College of Nursing "I have used the book since I developed the Evidence-based Practice course for our College of Nursing in Fall 2007. It was the first course of its kind at Indiana State University. It has been well received and the preferred course for all nursing graduate students for completion of their final scholarly projects. The text was essential in developing the course and provides the foundation and guidance that the students need to develop their Evidence Based Practice projects...the students love the text!" Susan Eley PhD, RN, FNP-BC Assistant Professor Director FNP Program Indiana State University

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