

Entity Information Life Cycle For Big Data Master Data Management And Information Integration

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Big Data in Radiation Oncology Jun Deng 2019-03-07 Big Data in Radiation Oncology gives readers an in-depth look into how big data is having an impact on the clinical care of cancer patients. While basic principles and key analytical and processing techniques are introduced in the early chapters, the rest of the book turns to clinical applications, in particular for cancer registries, informatics, radiomics, radiogenomics, patient safety and quality of care, patient-reported outcomes, comparative effectiveness, treatment planning, and clinical decision-making. More features of the book are: Offers the first focused treatment of the role of big data in the clinic and its impact on radiation therapy. Covers applications in cancer registry, radiomics, patient safety, quality of care, treatment planning, decision making, and other key areas. Discusses the fundamental principles and techniques for processing and analysis of big data. Address the use of big data in cancer prevention, detection, prognosis, and management. Provides practical guidance on implementation for clinicians and other stakeholders. Dr. Jun Deng is a professor at the Department of Therapeutic Radiology of Yale University School of Medicine and an ABR board certified medical physicist at Yale-New Haven Hospital. He has received numerous honors and awards such as Fellow of Institute of Physics in 2004, AAPM Medical Physics Travel Grant in 2008, ASTRO IGRT Symposium Travel Grant in 2009, AAPM-IPEM Medical Physics Travel Grant in 2011, and Fellow of AAPM in 2013. Lei Xing, Ph.D., is the Jacob Haimson Professor of Medical Physics and Director of Medical Physics Division of Radiation Oncology Department at Stanford University. His research has been focused on inverse treatment planning, tomographic image reconstruction, CT, optical and PET imaging instrumentations, image guided interventions, nanomedicine, and applications of molecular imaging in radiation oncology. Dr. Xing is on

the editorial boards of a number of journals in radiation physics and medical imaging, and is recipient of numerous awards, including the American Cancer Society Research Scholar Award, The Whitaker Foundation Grant Award, and a Max Planck Institute Fellowship.

Data Matching Peter Christen 2012-07-04 Data matching (also known as record or data linkage, entity resolution, object identification, or field matching) is the task of identifying, matching and merging records that correspond to the same entities from several databases or even within one database. Based on research in various domains including applied statistics, health informatics, data mining, machine learning, artificial intelligence, database management, and digital libraries, significant advances have been achieved over the last decade in all aspects of the data matching process, especially on how to improve the accuracy of data matching, and its scalability to large databases. Peter Christen's book is divided into three parts: Part I, "Overview", introduces the subject by presenting several sample applications and their special challenges, as well as a general overview of a generic data matching process. Part II, "Steps of the Data Matching Process", then details its main steps like pre-processing, indexing, field and record comparison, classification, and quality evaluation. Lastly, part III, "Further Topics", deals with specific aspects like privacy, real-time matching, or matching unstructured data. Finally, it briefly describes the main features of many research and open source systems available today. By providing the reader with a broad range of data matching concepts and techniques and touching on all aspects of the data matching process, this book helps researchers as well as students specializing in data quality or data matching aspects to familiarize themselves with recent research advances and to identify open research challenges in the area of data matching. To this end, each chapter of the book includes a final section that provides pointers to further background and research material. Practitioners will better understand the current state of the art in data matching as well as the internal workings and limitations of current systems. Especially, they will learn that it is often not feasible to simply implement an existing off-the-shelf data matching system without substantial adaption and customization. Such practical considerations are discussed for each of the major steps in the data matching process.

The 2021 International Conference on Smart Technologies and Systems for Internet of Things Ishfaq Ahmad

Advances in Information and Communication Kohei Arai 2021-04-15 This book aims to provide an international forum for scholarly researchers, practitioners and academic communities to explore the role of information and communication technologies and its applications in technical and scholarly development. The conference attracted a total of 464 submissions, of which 152 submissions (including 4 poster papers) have been selected after a double-blind review process. Academic pioneering researchers, scientists, industrial engineers and students will find this series useful to gain insight into the current research and next-generation information science and communication technologies. This book discusses the aspects of communication, data science, ambient intelligence, networking, computing, security and Internet of things, from classical to intelligent scope. The authors hope that readers find the volume interesting and valuable; it gathers chapters addressing state-of-the-art intelligent methods and techniques for solving real-world problems along with a vision of the future research.

Executing Data Quality Projects Danette McGilvray 2021-05-27 Executing Data Quality Projects, Second Edition presents a structured yet flexible approach for creating, improving, sustaining and managing the quality of data and information within any organization. Studies show that data quality problems are costing businesses billions of dollars each year, with poor data linked to waste and inefficiency, damaged credibility among customers and suppliers, and an organizational inability to make sound decisions. Help is here! This book describes a proven Ten Step approach that combines a conceptual framework for understanding information quality with techniques, tools, and instructions for practically putting the approach to work – with the end result of high-quality trusted data and information, so critical to today's data-dependent organizations. The Ten Steps approach applies to all types of data and all types of organizations – for-profit in any industry, non-profit, government, education, healthcare, science, research, and medicine. This book includes numerous templates, detailed examples, and practical advice for executing

every step. At the same time, readers are advised on how to select relevant steps and apply them in different ways to best address the many situations they will face. The layout allows for quick reference with an easy-to-use format highlighting key concepts and definitions, important checkpoints, communication activities, best practices, and warnings. The experience of actual clients and users of the Ten Steps provide real examples of outputs for the steps plus highlighted, sidebar case studies called Ten Steps in Action. This book uses projects as the vehicle for data quality work and the word broadly to include: 1) focused data quality improvement projects, such as improving data used in supply chain management, 2) data quality activities in other projects such as building new applications and migrating data from legacy systems, integrating data because of mergers and acquisitions, or untangling data due to organizational breakups, and 3) ad hoc use of data quality steps, techniques, or activities in the course of daily work. The Ten Steps approach can also be used to enrich an organization's standard SDLC (whether sequential or Agile) and it complements general improvement methodologies such as six sigma or lean. No two data quality projects are the same but the flexible nature of the Ten Steps means the methodology can be applied to all. The new Second Edition highlights topics such as artificial intelligence and machine learning, Internet of Things, security and privacy, analytics, legal and regulatory requirements, data science, big data, data lakes, and cloud computing, among others, to show their dependence on data and information and why data quality is more relevant and critical now than ever before. Includes concrete instructions, numerous templates, and practical advice for executing every step of The Ten Steps approach Contains real examples from around the world, gleaned from the author's consulting practice and from those who implemented based on her training courses and the earlier edition of the book Allows for quick reference with an easy-to-use format highlighting key concepts and definitions, important checkpoints, communication activities, and best practices A companion Web site includes links to numerous data quality resources, including many of the templates featured in the text, quick summaries of key ideas from the Ten Steps methodology, and other tools and information that are available online

Mastering Internet of Things Peter Waher 2018-03-28 Augment your IoT skills with the help of engaging and enlightening tutorials designed for Raspberry Pi 3 Key Features Design and implement state-of-the-art solutions for the Internet of Things Build complex projects using motions detectors, controllers, sensors, and Raspberry Pi 3 A hands-on guide that provides interoperable solutions for sensors, actuators, and controllers Book Description The Internet of Things (IoT) is the fastest growing technology market. Industries are embracing IoT technologies to improve operational expenses, product life, and people's well-being. Mastering Internet of Things starts by presenting IoT fundamentals and the smart city. You will learn the important technologies and protocols that are used for the Internet of Things, their features, corresponding security implications, and practical examples on how to use them. This book focuses on creating applications and services for the Internet of Things. Further, you will learn to create applications and services for the Internet of Things. You will be discover various interesting projects and understand how to publish sensor data, control devices, and react to asynchronous events using the XMPP protocol. The book also introduces chat, to interact with your devices. You will learn how to automate your tasks by using Internet of Things Service Platforms as the base for an application. You will understand the subject of privacy, requirements they should be familiar with, and how to avoid violating any of the important new regulations being introduced. At the end of the book, you will have mastered creating open, interoperable and secure networks of things, protecting the privacy and integrity of your users and their information. What you will learn Create your own project, run and debug it Master different communication patterns using the MQTT, HTTP, CoAP, LWM2M and XMPP protocols Build trust-based as hoc networks for open, secure and interoperable communication Explore the IoT Service Platform Manage the entire product life cycle of devices Understand and set up the security and privacy features required for your system Master interoperability, and how it is solved in the realms of HTTP,CoAP, LWM2M and XMPP Who this book is for If you're a developer or electronic engineer and are curious about the Internet of Things, this is the book for you. With

only a rudimentary understanding of electronics and Raspberry Pi 3, and some programming experience using managed code, such as C# or Java, you will be taught to develop state-of-the-art solutions for the Internet of Things.

Data Governance and Compliance Rupa Mahanti 2021-04-27 This book sets the stage of the evolution of corporate governance, laws and regulations, other forms of governance, and the interaction between data governance and other corporate governance sub-disciplines. Given the continuously evolving and complex regulatory landscape and the growing number of laws and regulations, compliance is a widely discussed issue in the field of data. This book considers the cost of non-compliance bringing in examples from different industries of instances in which companies failed to comply with rules, regulations, and other legal obligations, and goes on to explain how data governance helps in avoiding such pitfalls. The first in a three-volume series on data governance, this book does not assume any prior or specialist knowledge in data governance and will be highly beneficial for IT, management and law students, academics, information management and business professionals, and researchers to enhance their knowledge and get guidance in managing their own data governance projects from a governance and compliance perspective.

Business Intelligence David Loshin 2012-10-17 Following the footsteps of the first edition, the second edition of Business Intelligence is a full overview of what comprises business intelligence. It is intended to provide an introduction to the concepts to uncomplicate the learning process when implementing a business intelligence program. Over a relatively long lifetime (7 years), the current edition of book has received numerous accolades from across the industry for its straightforward introduction to both business and technical aspects of business intelligence. As an author, David Loshin has a distinct ability to translate challenging topics into a framework that is easily digestible by managers, business analysts, and technologists alike. In addition, his material has developed a following (such as the recent Master Data Management book) among practitioners and key figures in the industry (both analysts and vendors) and that magnifies our ability to convey the value of this book. Guides managers through developing, administering, or simply understanding business intelligence technology Keeps pace with the changes in best practices, tools, methods and processes used to transform an organization's data into actionable knowledge Contains a handy, quick-reference to technologies and terminology.

Entity Information Life Cycle for Big Data John Talburt 2015 Entity Information Life Cycle for Big Data walks you through the ins and outs of managing entity information so you can successfully achieve master data management (MDM) in the era of big data. This book explains big data's impact on MDM and the critical role of entity information management system (EIMS) in successful MDM. Expert authors Dr. John R. Talburt and Dr. Yinle Zhou provide a thorough background in the principles of managing the entity information life cycle and provide practical tips and techniques for implementing an EIMS, strategies for exploiting distributed processing to handle big data for EIMS, and examples from real applications. Additional material on the theory of EIMS and methods for assessing and evaluating EIMS performance also make this book appropriate for use as a textbook in courses on entity and identity management, data management, customer relationship management (CRM), and related topics. Explains the business value and impact of entity information management system (EIMS) and directly addresses the problem of EIMS design and operation, a critical issue organizations face when implementing MDM systems Offers practical guidance to help you design and build an EIM system that will successfully handle big data Details how to measure and evaluate entity integrity in MDM systems and explains the principles and processes that comprise EIM Provides an understanding of features and functions an EIM system should have that will assist in evaluating commercial EIM systems Includes chapter review questions, exercises, tips, and free downloads of demonstrations that use the OYSTER open source EIM system Executable code (Java .jar files), control scripts, and synthetic input data illustrate various aspects of CSRUD

life cycle such as identity capture, identity update, and assertions.

Information Quality in Information Fusion and Decision Making Éloi Bossé 2019-04-02 This book presents a contemporary view of the role of information quality in information fusion and decision making, and provides a formal foundation and the implementation strategies required for dealing with insufficient information quality in building fusion systems for decision making. Information fusion is the process of gathering, processing, and combining large amounts of information from multiple and diverse sources, including physical sensors to human intelligence reports and social media. That data and information may be unreliable, of low fidelity, insufficient resolution, contradictory, fake and/or redundant. Sources may provide unverified reports obtained from other sources resulting in correlations and biases. The success of the fusion processing depends on how well knowledge produced by the processing chain represents reality, which in turn depends on how adequate data are, how good and adequate are the models used, and how accurate, appropriate or applicable prior and contextual knowledge is. By offering contributions by leading experts, this book provides an unparalleled understanding of the problem of information quality in information fusion and decision-making for researchers and professionals in the field.

Handbook of Research on Big Data Storage and Visualization Techniques Segall, Richard S. 2018-01-05 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. The Handbook of Research on Big Data Storage and Visualization Techniques is a critical scholarly resource that explores big data analytics and technologies and their role in developing a broad understanding of issues pertaining to the use of big data in multidisciplinary fields. Featuring coverage on a broad range of topics, such as architecture patterns, programming systems, and computational energy, this publication is geared towards professionals, researchers, and students seeking current research and application topics on the subject.

Information Technology for Management Efraim Turban 2021-04-06 Information Technology for Management, 12 Edition provides students with a comprehensive understanding of the latest technological developments in IT and the critical drivers of business performance, growth, and sustainability. Integrating feedback from IT managers and practitioners from top-level organizations worldwide, the newest edition of this well-regarded textbook features thoroughly revised content throughout to present students with a realistic, up-to-date view of IT management in the current business environment. The text offers a flexible, student-friendly presentation of the material through a pedagogy that is designed to help students with different learning styles easily comprehend and retain information. This blended learning approach combines visual, textual, and interactive content—featuring numerous real-world case studies of how businesses use IT to increase efficiency and productivity, strengthen collaboration and communication, and maximize their competitive advantage. Students learn how IT is leveraged to reshape enterprises, engage and retain customers, optimize systems and processes, manage business relationships and projects, and more.

Big, Open and Linked Data Krzysztof W?cel 2022-09-24 This book examines the recent evolution of the concept of data as an economic and managerial phenomenon. The author first describes and discusses open data and then introduces the concept of linked data, with a focus on assets for reuse. Furthermore, he addresses the main challenges of big data. Value is identified as the main incentive for the adoption of linked data; accordingly, the next two chapters study sources of data value from a macroeconomic and micro economic perspective, respectively. This contributes to the systematization of important issues at the crossroads of enterprise data and data sharing: data ownership, personal data, and data privacy. In turn, the book reveals the role of innovation as a main vehicle for creating value by unifying big, open, and linked data. It studies the ways in which value can be created, transferred, and captured in the form of business models, before the closing chapter verifies the data

unification model by combining open and linked geographical data with big data from a major telecom company.

Advances in Mechanical Design Jianrong Tan 2022-03-15 This book focus on innovation, main objectives are to bring the community of researchers in the fields of mechanical design together; to exchange and discuss the most recent investigations, challenging problems and new trends; and to encourage the wider implementation of the advanced design technologies and tools in the world, particularly throughout China. The theme of 2021 ICMD is “Interdisciplinary and Design Innovation” and this conference is expected to provide an excellent forum for cross-fertilization of ideas so that more general, intelligent, robust and computationally economical mechanical design methods are created for multi-disciplinary applications.

Big Data Analytics Methods Peter Ghavami 2019-12-16 Big Data Analytics Methods unveils secrets to advanced analytics techniques ranging from machine learning, random forest classifiers, predictive modeling, cluster analysis, natural language processing (NLP), Kalman filtering and ensembles of models for optimal accuracy of analysis and prediction. More than 100 analytics techniques and methods provide big data professionals, business intelligence professionals and citizen data scientists insight on how to overcome challenges and avoid common pitfalls and traps in data analytics. The book offers solutions and tips on handling missing data, noisy and dirty data, error reduction and boosting signal to reduce noise. It discusses data visualization, prediction, optimization, artificial intelligence, regression analysis, the Cox hazard model and many analytics using case examples with applications in the healthcare, transportation, retail, telecommunication, consulting, manufacturing, energy and financial services industries. This book's state of the art treatment of advanced data analytics methods and important best practices will help readers succeed in data analytics.

Advances in Data Science and Information Engineering Robert Stahlbock 2021-10-29 The book presents the proceedings of two conferences: the 16th International Conference on Data Science (ICDATA 2020) and the 19th International Conference on Information & Knowledge Engineering (IKE 2020), which took place in Las Vegas, NV, USA, July 27-30, 2020. The conferences are part of the larger 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20), which features 20 major tracks. Papers cover all aspects of Data Science, Data Mining, Machine Learning, Artificial and Computational Intelligence (ICDATA) and Information Retrieval Systems, Information & Knowledge Engineering, Management and Cyber-Learning (IKE). Authors include academics, researchers, professionals, and students. Presents the proceedings of the 16th International Conference on Data Science (ICDATA 2020) and the 19th International Conference on Information & Knowledge Engineering (IKE 2020); Includes papers on topics from data mining to machine learning to informational retrieval systems; Authors include academics, researchers, professionals and students.

Information Technology: New Generations Shahram Latifi 2016-03-28 This book collects articles presented at the 13th International Conference on Information Technology- New Generations, April, 2016, in Las Vegas, NV USA. It includes over 100 chapters on critical areas of IT including Web Technology, Communications, Security, and Data Mining.

Information, Computer and Application Engineering Hsiang-Chuan Liu 2018-06-12 This proceedings volume brings together peer-reviewed papers presented at the International Conference on Information Technology and Computer Application Engineering, held 10-11 December 2014, in Hong Kong, China. Specific topics under consideration include Computational Intelligence, Computer Science and its Applications, Intelligent Information Processing and Knowledge Engineering, Intelligent Networks and Instruments, Multimedia Signal Processing and Analysis, Intelligent Computer-Aided Design Systems and other related topics. This book provides readers a state-of-the-art survey of recent innovations and research worldwide in Information Technology and Computer Application Engineering, in so-doing furthering the development and growth of these research fields, strengthening international academic cooperation and communication, and promoting the fruitful exchange of research

ideas. This volume will be of interest to professionals and academics alike, serving as a broad overview of the latest advances in the dynamic field of Information Technology and Computer Application Engineering.

Multimedia Big Data Computing for IoT Applications Sudeep Tanwar 2019-07-17 This book considers all aspects of managing the complexity of Multimedia Big Data Computing (MMBD) for IoT applications and develops a comprehensive taxonomy. It also discusses a process model that addresses a number of research challenges associated with MMBD, such as scalability, accessibility, reliability, heterogeneity, and Quality of Service (QoS) requirements, presenting case studies to demonstrate its application. Further, the book examines the layered architecture of MMBD computing and compares the life cycle of both big data and MMBD. Written by leading experts, it also includes numerous solved examples, technical descriptions, scenarios, procedures, and algorithms.

Advances in Geology and Resources Exploration Ahmad Safuan Bin A Rashid 2022-09-06 Advances in Geology and Resources Exploration provides a collection of papers resulting from the conference on Geology and Resources Exploration (ICGRED 2022), Harbin, China, 21-23 January, 2022. The primary goal of the conference is to promote research and developmental activities in geology, resources exploration and development, and another goal is to promote scientific information interchange between scholars from the top universities, business associations, research centers and high-tech enterprises working all around the world. The conference conducted in-depth exchanges and discussions on relevant topics such as geology, resources exploration, aiming to provide an academic and technical communication platform for scholars and engineers engaged in scientific research and engineering practice in the field of engineering geology, geological resources and geothermal energy. By sharing the status of scientific research achievements and cutting-edge technologies, this helps scholars and engineers all over the world to comprehend the academic development trend and to broaden research ideas. With a view to strengthen international academic research, academic topics exchange and discussion, and promoting the industrialization cooperation of academic achievements.

Inventive Communication and Computational Technologies G. Ranganathan 2020-09-24 This book gathers selected papers presented at the 4th International Conference on Inventive Communication and Computational Technologies (ICICCT 2020), held on 28–29 May 2020 at Gnanamani College of Technology, Tamil Nadu, India. The respective contributions highlight recent research efforts and advances in a new paradigm called ISMAC (IoT in Social, Mobile, Analytics and Cloud contexts). The topics covered include the Internet of Things, Social Networks, Mobile Communications, Big Data Analytics, Bio-inspired Computing and Cloud Computing. Given its scope, the book is chiefly intended for academics and practitioners working to resolve practical issues in this area.

Implementation of Anti-Money Laundering Information Systems Yong Li 2016-05-14 This book is intended for compliance professionals, IT professionals, and business stakeholders who are working on anti-money laundering (AML) or financial crime risk management information systems implementation. This book focuses on the AML information systems technical implementation, especially the implementation/project planning, and current state, future state, gap analysis, as well some technical solutions and practical approaches. Most topics discussed in this book are for banks in the United States and Canada, but the principles and frameworks mentioned in the book could also be utilized in AML information systems implementations for insurance companies, asset/investment management firms, and securities dealers/brokers in North America or other jurisdictions even though different type financial institutions have different AML regulatory requirements in different jurisdictions.

Enterprise Architecture Made Simple Håkan Edvinsson, Lottie Aderinne 2013-10-01 Learn how to institute and implement enterprise architecture in your organization. You can make a quick start and establish a baseline for your enterprise architecture within ten weeks, then grow and stabilize the architecture over time using the proven Ready, Set, Go Approach. Reading this book will: 1. Give you directions on how to institute and implement enterprise architecture in your organization. You will be able to build close relationships with stakeholders and delivery teams, but

you will not need to micromanage the architecture's operations. 2. Increase your awareness that enterprise architecture is about business, not information technology. 3. Enable you to initiate and facilitate dramatic business development. The architecture of an enterprise must be tolerant of currently unknown business initiatives. 4. Show you how to get a holistic view of the process of implementing enterprise architecture. 5. Make you aware that information is a key business asset and that information architecture is a key part of the enterprise architecture. 6. Allow you to learn from our experiences. This book is based on our 30 years of work in the enterprise architecture field, colleagues in Europe, customer cases, and students. We do not pretend to cover all you need to know about enterprise architecture within these pages. Rather, we give you the information that is most important for effective and successful guidance. Sometimes, less is more. If your company is about to make a major change and you are looking for a way to reduce the changes into manageable pieces—and still retain control of how they fit together—this is your handbook. Maybe you are already acting as an enterprise architect and using a formal method, but you need practical hints. Or maybe you are about to set up an enterprise architect network or group of specialists and need input on how to organize your work. The Ready-Set-Go method for introducing enterprise architecture provides you, the enterprise architect, with an immediate understanding of the basic steps for starting, organizing, and operating the entirety of your organization's architecture. Chapter 1: Ready shows how to model and analyze your business operations, assess their current status, construct a future scenario, compare it to the current structure, analyze what you see, and show the result in a city plan. Chapter 2: Set deals with preparing for the implementation of the architecture with governance, enterprise architecture organization, staffing, etc. This is the organizing step before beginning the actual work. Chapter 3: Go establishes how to implement a city plan in practice. It deals with the practicalities of working as an enterprise architect and is called the "running" step. The common thread through all aspects of the enterprise architect's work is the architect's mastery of a number of tools, such as business models, process models, information models, and matrices. We address how to initiate the architecture process within the organization in such a way that the overarching enterprise architecture and architecture-driven approach can be applied methodically and gradually improved.

Cloud Computing and Security Xingming Sun 2018-09-12 This six volume set LNCS 11063 – 11068 constitutes the thoroughly refereed conference proceedings of the 4th International Conference on Cloud Computing and Security, ICCCS 2018, held in Haikou, China, in June 2018. The 386 full papers of these six volumes were carefully reviewed and selected from 1743 submissions. The papers cover ideas and achievements in the theory and practice of all areas of inventive systems which includes control, artificial intelligence, automation systems, computing systems, electrical and informative systems. The six volumes are arranged according to the subject areas as follows: cloud computing, cloud security, encryption, information hiding, IoT security, multimedia forensics.

Entity Information Life Cycle for Big Data John R. Talburt 2015-04-20 Entity Information Life Cycle for Big Data walks you through the ins and outs of managing entity information so you can successfully achieve master data management (MDM) in the era of big data. This book explains big data's impact on MDM and the critical role of entity information management system (EIMS) in successful MDM. Expert authors Dr. John R. Talburt and Dr. Yinle Zhou provide a thorough background in the principles of managing the entity information life cycle and provide practical tips and techniques for implementing an EIMS, strategies for exploiting distributed processing to handle big data for EIMS, and examples from real applications. Additional material on the theory of EIMS and methods for assessing and evaluating EIMS performance also make this book appropriate for use as a textbook in courses on entity and identity management, data management, customer relationship management (CRM), and related topics. Explains the business value and impact of entity information management system (EIMS) and directly addresses the problem of EIMS design and operation, a critical issue organizations face when implementing MDM systems Offers practical guidance to help you design and build an EIMS system that will successfully handle big data Details how to measure and evaluate entity integrity in MDM systems and explains

the principles and processes that comprise EIM Provides an understanding of features and functions an EIM system should have that will assist in evaluating commercial EIM systems Includes chapter review questions, exercises, tips, and free downloads of demonstrations that use the OYSTER open source EIM system Executable code (Java .jar files), control scripts, and synthetic input data illustrate various aspects of CRUD life cycle such as identity capture, identity update, and assertions

Data Governance and Data Management Rupa Mahanti 2021-09-08 This book delves into the concept of data as a critical enterprise asset needed for informed decision making, compliance, regulatory reporting and insights into trends, behaviors, performance and patterns. With good data being key to staying ahead in a competitive market, enterprises capture and store exponential volumes of data. Considering the business impact of data, there needs to be adequate management around it to derive the best value. Data governance is one of the core data management related functions. However, it is often overlooked, misunderstood or confused with other terminologies and data management functions. Given the pervasiveness of data and the importance of data, this book provides comprehensive understanding of the business drivers for data governance and benefits of data governance, the interactions of data governance function with other data management functions and various components and aspects of data governance that can be facilitated by technology and tools, the distinction between data management tools and data governance tools, the readiness checks to perform before exploring the market to purchase a data governance tool, the different aspects that must be considered when comparing and selecting the appropriate data governance technologies and tools from large number of options available in the marketplace and the different market players that provide tools for supporting data governance. This book combines the data and data governance knowledge that the author has gained over years of working in different industrial and research programs and projects associated with data, processes and technologies with unique perspectives gained through interviews with thought leaders and data experts. This book is highly beneficial for IT students, academicians, information management and business professionals and researchers to enhance their knowledge and get guidance on implementing data governance in their own data initiatives.

Research Anthology on Big Data Analytics, Architectures, and Applications Management Association, Information Resources 2021-09-24 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.

Analytic Methods in Systems and Software Testing Ron S. Kenett 2018-09-04 A comprehensive treatment of systems and software testing using state of the art methods and tools This book provides valuable insights into state of the art software testing methods and explains, with examples, the statistical and analytic methods used in this field. Numerous examples are used to provide understanding in applying these methods to real-world problems. Leading authorities in applied statistics, computer science, and software engineering present state-of-the-art methods addressing challenges faced by practitioners and researchers involved in system and software testing. Methods include: machine learning, Bayesian methods, graphical models, experimental design, generalized regression, and reliability modeling. Analytic Methods in Systems and Software Testing presents its comprehensive collection of methods in four parts: Part I: Testing Concepts and Methods; Part II: Statistical

Models; Part III: Testing Infrastructures; and Part IV: Testing Applications. It seeks to maintain a focus on analytic methods, while at the same time offering a contextual landscape of modern engineering, in order to introduce related statistical and probabilistic models used in this domain. This makes the book an incredibly useful tool, offering interesting insights on challenges in the field for researchers and practitioners alike. Compiles cutting-edge methods and examples of analytical approaches to systems and software testing from leading authorities in applied statistics, computer science, and software engineering Combines methods and examples focused on the analytic aspects of systems and software testing Covers logistic regression, machine learning, Bayesian methods, graphical models, experimental design, generalized regression, and reliability models Written by leading researchers and practitioners in the field, from diverse backgrounds including research, business, government, and consulting Stimulates research at the theoretical and practical level Analytic Methods in Systems and Software Testing is an excellent advanced reference directed toward industrial and academic readers whose work in systems and software development approaches or surpasses existing frontiers of testing and validation procedures. It will also be valuable to post-graduate students in computer science and mathematics.

Entity Information Life Cycle for Big Data: Master Data Management and Information Integration

The Internet of Things and Big Data Analytics Pethuru Raj 2020-06-07 This book comprehensively conveys the theoretical and practical aspects of IoT and big data analytics with the solid contributions from practitioners as well as academicians. This book examines and expounds the unique capabilities of the big data analytics platforms in capturing, cleansing and crunching IoT device/sensor data in order to extricate actionable insights. A number of experimental case studies and real-world scenarios are incorporated in this book in order to instigate our book readers. This book Analyzes current research and development in the domains of IoT and big data analytics Gives an overview of latest trends and transitions happening in the IoT data analytics space Illustrates the various platforms, processes, patterns, and practices for simplifying and streamlining IoT data analytics The Internet of Things and Big Data Analytics: Integrated Platforms and Industry Use Cases examines and accentuates how the multiple challenges at the cusp of IoT and big data can be fully met. The device ecosystem is growing steadily. It is forecast that there will be billions of connected devices in the years to come. When these IoT devices, resource-constrained as well as resource-intensive, interact with one another locally and remotely, the amount of multi-structured data generated, collected, and stored is bound to grow exponentially. Another prominent trend is the integration of IoT devices with cloud-based applications, services, infrastructures, middleware solutions, and databases. This book examines the pioneering technologies and tools emerging and evolving in order to collect, pre-process, store, process and analyze data heaps in order to disentangle actionable insights.

Entity Resolution and Information Quality John R. Talburt 2011-01-14 Entity Resolution and Information Quality presents topics and definitions, and clarifies confusing terminologies regarding entity resolution and information quality. It takes a very wide view of IQ, including its six-domain framework and the skills formed by the International Association for Information and Data Quality (IAIDQ). The book includes chapters that cover the principles of entity resolution and the principles of Information Quality, in addition to their concepts and terminology. It also discusses the Fellegi-Sunter theory of record linkage, the Stanford Entity Resolution Framework, and the Algebraic Model for Entity Resolution, which are the major theoretical models that support Entity Resolution. In relation to this, the book briefly discusses entity-based data integration (EBDI) and its model, which serve as an extension of the Algebraic Model for Entity Resolution. There is also an explanation of how the three commercial ER systems operate and a description of the non-commercial open-source system known as OYSTER. The book concludes by discussing trends in entity resolution research and practice. Students taking IT courses and IT professionals will find this book invaluable. First authoritative reference explaining entity resolution and how to use it effectively Provides practical system design advice to help you get a competitive advantage

Includes a companion site with synthetic customer data for applicatory exercises, and access to a Java-based Entity Resolution program.

Big Data Computing Rajendra Akerkar 2013-12-05 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

Data Science John D. Kelleher 2018-04-13 A concise introduction to the emerging field of data science, explaining its evolution, relation to machine learning, current uses, data infrastructure issues, and ethical challenges. The goal of data science is to improve decision making through the analysis of data. Today data science determines the ads we see online, the books and movies that are recommended to us online, which emails are filtered into our spam folders, and even how much we pay for health insurance. This volume in the MIT Press Essential Knowledge series offers a concise introduction to the emerging field of data science, explaining its evolution, current uses, data infrastructure issues, and ethical challenges. It has never been easier for organizations to gather, store, and process data. Use of data science is driven by the rise of big data and social media, the development of high-performance computing, and the emergence of such powerful methods for data analysis and modeling as deep learning. Data science encompasses a set of principles, problem definitions, algorithms, and processes for extracting non-obvious and useful patterns from large datasets. It is closely related to the fields of data mining and machine learning, but broader in scope. This book offers a brief history of the field, introduces fundamental data concepts, and describes the stages in a data science project. It considers data infrastructure and the challenges posed by integrating data from multiple sources, introduces the basics of machine learning, and discusses how to link machine learning expertise with real-world problems. The book also reviews ethical and legal issues, developments in data regulation, and computational approaches to preserving privacy. Finally, it considers the future impact of data science and offers principles for success in data science projects.

Data Governance Success Rupa Mahanti 2021 While good data is an enterprise asset, bad data is an enterprise liability. Data governance enables you to effectively and proactively manage data assets throughout the enterprise by providing guidance in the form of policies, standards, processes and rules and defining roles and responsibilities outlining who will do what, with respect to data. While implementing data governance is not rocket science, it is not a simple exercise. There is a lot confusion around what data governance is, and a lot of challenges in the implementation of data governance. Data governance is not a project or a one-off exercise but a journey that involves a significant amount of effort, time and investment and cultural change and a number of factors to take into consideration to achieve and sustain data governance success. **Data Governance Success: Growing and Sustaining Data Governance** is the third and final book in the Data Governance series and discusses the following: Data governance perceptions and challenges Key considerations when implementing data governance to achieve and sustain success Strategy and data governance Different data governance maturity frameworks Data governance people and process elements Data governance metrics This book shares the combined knowledge related to data and data governance that the author has gained over the years of working in different industrial and research programs and projects associated with data, processes, and technologies and unique perspectives of Thought Leaders and Data Experts through Interviews conducted. This book will be highly beneficial for IT students,

academicians, information management and business professionals and researchers to enhance their knowledge to support and succeed in data governance implementations. This book is technology agnostic and contains a balance of concepts and examples and illustrations making it easy for the readers to understand and relate to their own specific data projects.

Digital Transformation and Global Society Daniel A. Alexandrov 2020-01-03 This volume constitutes the refereed proceedings of the 4th International Conference on Digital Transformation and Global Society, DTGS 2019, held in St. Petersburg, Russia, in June 2019. The 56 revised full papers and 9 short papers presented in the volume were carefully reviewed and selected from 194 submissions. The papers are organized in topical sections on e-polity: governance; e-polity: politics online; e-city: smart cities and urban planning; e-economy: online consumers and solutions; e-society: computational social science; e-society: humanities and education; international workshop on internet psychology; international workshop on computational linguistics.

Effective Big Data Management and Opportunities for Implementation Singh, Manoj Kumar 2016-06-20 "Big data" has become a commonly used term to describe large-scale and complex data sets which are difficult to manage and analyze using standard data management methodologies. With applications across sectors and fields of study, the implementation and possible uses of big data are limitless. Effective Big Data Management and Opportunities for Implementation explores emerging research on the ever-growing field of big data and facilitates further knowledge development on methods for handling and interpreting large data sets. Providing multi-disciplinary perspectives fueled by international research, this publication is designed for use by data analysts, IT professionals, researchers, and graduate-level students interested in learning about the latest trends and concepts in big data.

Big Data Analytics for Healthcare Pantea Keikhosrokiani 2022-05-19 Big Data Analytics and Medical Information Systems presents the valuable use of artificial intelligence and big data analytics in healthcare and medical sciences. It focuses on theories, methods and approaches in which data analytic techniques can be used to examine medical data to provide a meaningful pattern for classification, diagnosis, treatment, and prediction of diseases. The book discusses topics such as theories and concepts of the field, and how big medical data mining techniques and applications can be applied to classification, diagnosis, treatment, and prediction of diseases. In addition, it covers social, behavioral, and medical fake news analytics to prevent medical misinformation and myths. It is a valuable resource for graduate students, researchers and members of biomedical field who are interested in learning more about analytic tools to support their work. Presents theories, methods and approaches in which data analytic techniques are used for medical data Brings practical information on how to use big data for classification, diagnosis, treatment, and prediction of diseases Discusses social, behavioral, and medical fake news analytics for medical information systems How Data Can Manage Global Health Pandemics Rupa Mahanti 2022-05-16 "This book bridges the fields of health care and data to clarify how to use data to manage pandemics. Written while COVID-19 was raging, it identifies both effective practices and misfires, and is grounded in clear, research-based explanations of pandemics and data strategy....The author has written an essential book for students and professionals in both health care and data. While serving the needs of academics and experts, the book is accessible for the general reader." – Eileen Forrester, CEO of Forrester Leadership Group, Author of CMMI for Services, Guidelines for Superior Service "...Rupa Mahanti explores the connections between data and the human response to the spread of disease in her new book,... She recognizes the value of data and the kind of insight it can bring, while at the same time recognizing that using data to solve problems requires not just technology, but also leadership and courage. This is a book for people who want to better understand the role of data and people in solving human problems." -- Laura Sebastian-Coleman, Author of Meeting the Challenges of Data Quality Management In contrast to the 1918 Spanish flu pandemic which occurred in a non-digital age, the timing of the COVID-19 pandemic intersects with the digital age, characterized by the collection of large amounts of data and sophisticated

technologies. Data and technology are being used to combat this digital age pandemic in ways that were not possible in the pre-digital age. Given the adverse impacts of pandemics in general and the COVID-19 pandemic in particular, it is imperative that people understand the meaning, origin of pandemics, related terms, trajectory of a new disease, butterfly effect of contagious diseases, factors governing the pandemic potential of a disease, strategies to combat a pandemic, role of data, data sharing, data strategy, data governance, analytics, and data visualization in managing pandemics, pandemic myths, critical success factors in managing pandemics, and lessons learned. *How Data Can Manage Global Health Pandemics: Analyzing and Understanding COVID-19* discusses these elements with special reference to COVID-19. Dr. Rupa Mahanti is a business and data consultant and has expertise in different data management disciplines, business process improvement, regulatory reporting, quality management, and more. She is the author of *Data Quality* (ASQ Quality Press) and the series *Data Governance: The Way Forward* (Springer).

Sex-Specific Analysis of Cardiovascular Function Peter L. M. Kerkhof 2018-07-26 This book gathers together contributions from internationally renowned authors in the field of cardiovascular systems and provides crucial insight into the importance of sex- and gender-concepts during the analysis of patient data. This innovative title is the first to offer the elements necessary to consider sex-related properties in both clinical and basic studies regarding the heart and circulation on multiscale levels (i.e. molecular, cellular, electrophysiologically, neuroendocrine, immunoregulatory, organ, allometric, and modeling). Observed differences at (ultra)cellular and organ level are quantified, with focus on clinical relevance and implications for diagnosis and patient management. Since the cardiovascular system is of vital importance for all tissues, *Sex-Specific Analysis of Cardiovascular Function* is an essential source of information for clinicians, biologists, and biomedical investigators. The wide spectrum of differences described in this book will also act as an eye-opener and serve as a handbook for students, teachers, scientists and practitioners.

Data Intensive Computing Applications for Big Data M. Mittal 2018-01-31 The book 'Data Intensive Computing Applications for Big Data' discusses the technical concepts of big data, data intensive computing through machine learning, soft computing and parallel computing paradigms. It brings together researchers to report their latest results or progress in the development of the above mentioned areas. Since there are few books on this specific subject, the editors aim to provide a common platform for researchers working in this area to exhibit their novel findings. The book is intended as a reference work for advanced undergraduates and graduate students, as well as multidisciplinary, interdisciplinary and transdisciplinary research workers and scientists on the subjects of big data and cloud/parallel and distributed computing, and explains didactically many of the core concepts of these approaches for practical applications. It is organized into 24 chapters providing a comprehensive overview of big data analysis using parallel computing and addresses the complete data science workflow in the cloud, as well as dealing with privacy issues and the challenges faced in a data-intensive cloud computing environment. The book explores both fundamental and high-level concepts, and will serve as a manual for those in the industry, while also helping beginners to understand the basic and advanced aspects of big data and cloud computing.