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Security and Resilience in Intelligent Data-Centric Systems and Communication Networks The Data-centric Revolution Architecture Sourcebook Vol.2: Data Centric Architectures Data-Centric Safety Applications of Data-Centric Science to Social Design Data-Centric Business and Applications Data-Centric Business and Applications Data-Centric Structural Health Monitoring Transactions on Large-Scale Data- and Knowledge-Centered Systems XXXIV Applied Data-Centric Social Sciences Computational Intelligence for Multimedia Big Data on the Cloud with Engineering Applications Introduction to Data Systems Data-Centric AI Solutions and Emerging Technologies in the Healthcare Ecosystem Combating Security Challenges in the Age of Big Data Guide to Data-Centric System Threat Modeling Data-Centric Business and Applications Designing Workforce Management Systems for Industry 4.0 Data-Centric Security in Software Defined Networks (SDN) Data-Centric Business and Applications Data Management in Pervasive Systems Data-Centric Business and Applications Data-centric Business and Applications Security Analytics Data Centric Artificial Intelligence: A Beginner's Guide Data and Information Quality Data-Centric Business and Applications Data-Centric AI Solutions and Emerging Technologies in the Healthcare Ecosystem Data-Centric Security in Software Defined Networks (SDN) Architecting Data-Driven Systems Book 2 Data Warehousing and Analytics Data-Centric Business and

Applications DATA CENTRIC.NET, Developing a Path to Data Dominance Data Warehouse Systems Data Quality Orchestrating and Automating Security for the Internet of Things Data-Centric Business and Applications A Data-centric Internet of Things Framework Based on Public Cloud Mobile Big Data Towards a Data-centric Internet

Security and Resilience in Intelligent Data-Centric Systems and Communication Networks

2017-09-29

security and resilience in intelligent data centric systems and communication networks presents current state of the art work on novel research in theoretical and practical resilience and security aspects of intelligent data centric critical systems and networks the book analyzes concepts and technologies that are successfully used in the implementation of intelligent data centric critical systems and communication networks also touching on future developments in addition readers will find in demand information for domain experts and developers who want to understand and realize the aspects opportunities and challenges of using emerging technologies for designing and developing more secure and resilient intelligent data centric critical systems and communication networks topics covered include airports seaports rail transport systems plants for the provision of water and energy and business transactional systems the book is well suited for researchers and phd interested in the use of security and resilient computing technologies includes tools and techniques to prevent and avoid both accidental and malicious behaviors explains the state of the art technological solutions for main issues hindering the development of monitoring and reaction solutions describes new methods and technologies advanced prototypes systems tools and techniques of future direction

The Data-centric Revolution

2019

the common approach to creating enterprise architectures is the development of a set of formal formatted and standardized architecture products taken together the products provide a full description of the enterprise this volume

focuses on a data centric alternative to the commonly used product centric approach as the name implies the data centric approach to architecture development centers around defining an enterprise by defining data elements that describe the components and characteristics of the enterprise these data elements can be grouped into seven different information categories organizations and organizational nodes systems and system nodes information and data interrelationships including interfaces and information exchanges operational concepts missions functions processes tasks and activities and rules

Architecture Sourcebook Vol.2: Data Centric Architectures

2007-02-01

data centric safety presents core concepts and principles of system safety management and then guides the reader through the application of these techniques and measures to data centric systems dcs the authors have compiled their decades of experience in industry and academia to provide guidance on the management of safety risk data safety has become increasingly important as many solutions depend on data for their correct and safe operation and assurance the book s content covers the definition and use of data it recognises that data is frequently used as the basis of operational decisions and that dcs are often used to reduce user oversight this data is often invisible hidden dcs analysis is based on a data safety model dsm the dsm provides the basis for a toolkit leading to improvement recommendations it also discusses operation and oversight of dcs and the organisations that use them the content covers incident management providing an outline for incident response incident investigation is explored to address evidence collection and management current standards do not adequately address how to manage data and the errors it may contain and this leads to incidents possibly loss of life the dsm toolset is based on interface agreements to create

soft boundaries to help engineers facilitate proportionate analysis rationalisation and management of data safety data centric safety is ideal for engineers who are working in the field of data safety management this book will help developers and safety engineers to determine what data can be used in safety systems and what it can be used for verify that the data being used is appropriate and has the right characteristics illustrated through a set of application areas engineer their systems to ensure they are robust to data errors and failures

Data-Centric Safety

2020-05-27

the intention behind this book is to illustrate the deep relation among human behavior data centric science and social design in fact these three issues have been independently developing in different fields although they are of course deeply interrelated to one another specifically fundamental understanding of human behavior should be employed for investigating our human society and designing social systems insights and both quantitative and qualitative understandings of collective human behavior are quite useful when social systems are designed fundamental principles of human behavior theoretical models of human behavior and information cascades are addressed as aspects of human behavior data driven investigation of human nature social behavior and societal systems are developed as aspects of data centric science as design aspects how to design social systems from heterogeneous memberships is explained there is also discussion of these three aspects human behavior data centric science and social design independently and with regard to the relationships among them

Applications of Data-Centric Science to Social

Design

2019-07-04

this book building on the authors previous work presents new communication and networking technologies challenges and opportunities of information data processing and transmission it also discusses the development of more intelligent and efficient communication technologies which are an essential part of current day to day life information and communication technologies icts have an enormous impact on businesses and our day to day lives over the past three decades and continue to do so modern methods of business information processing are opening exciting new opportunities for doing business on the basis of information technologies the book contains research that spans a wide range of communication and networking technologies including wireless sensor networks optical and telecommunication networks storage area networks error free transmission and signal processing

Data-Centric Business and Applications

2021

building on the authors previous work this book addresses key processes and procedures used in information data processing and management modern methods of business information processing which draw on artificial intelligence big data and cloud based storage and processing are opening exciting new opportunities for doing business on the basis of information technologies thus in this third book the authors continue to explore various aspects technological as well as business and social of the information industries further they analyze the challenges and opportunities entailed by these kinds of business

Data-Centric Business and Applications

2020-01-03

this book introduces the latest developments in data centric engineering including different artificial intelligence and machine learning schemes as well as their wide range of applications for long term monitoring and health assessment of mechanical aerospace and complex infrastructure systems leading scholars in the field show how these emerging techniques assure the longevity of engineered systems and predict their life cycles

Data-Centric Structural Health Monitoring

2023-09-04

this volume the 34th issue of transactions on large scale data and knowledge centered systems constitutes a special issue consisting of seven papers on the subject of consistency and inconsistency in data centric applications the volume opens with an invited article on basic postulates for inconsistency measures three of the remaining six papers are revised extended versions of papers presented at the first international workshop on consistency and inconsistency coin 2016 held in conjunction with dexa 2016 in porto portugal in september 2016 the other three papers were selected from submissions to a call for contributions to this edition each of the papers highlights a particular subtopic however all are concerned with logical inconsistencies that are either to be systematically avoided or reasoned with consistently i e without running the danger of an explosion of inferences

Transactions on Large-Scale Data- and Knowledge-

Centered Systems XXXIV

2017-10-06

applied data centric social sciences aim to develop both methodology and practical applications of various fields of social sciences and businesses with rich data specifically in the social sciences a vast amount of data on human activities may be useful for understanding collective human nature in this book the author introduces several mathematical techniques for handling a huge volume of data and analysing collective human behaviour the book is constructed from data oriented investigation with mathematical methods and expressions used for dealing with data for several specific problems the fundamental philosophy underlying the book is that both mathematical and physical concepts are determined by the purposes of data analysis this philosophy is shown throughout exemplar studies of several fields in socio economic systems from a data centric point of view the author proposes a concept that may change people s minds and cause them to start thinking from the basis of data several goals underlie the chapters of the book the first is to describe mathematical and statistical methods for data analysis and toward that end the author delineates methods with actual data in each chapter the second is to find a cyber physical link between data and data generating mechanisms as data are always provided by some kind of data generating process in the real world the third goal is to provide an impetus for the concepts and methodology set forth in this book to be applied to socio economic systems

Applied Data-Centric Social Sciences

2014-07-29

computational intelligence for multimedia big data on the cloud with engineering applications covers timely topics including the neural network

nn particle swarm optimization pso evolutionary algorithm ga fuzzy sets fs and rough sets rs etc furthermore the book highlights recent research on representative techniques to elaborate how a data centric system formed a powerful platform for the processing of cloud hosted multimedia big data and how it could be analyzed processed and characterized by ci the book also provides a view on how techniques in ci can offer solutions in modeling relationship pattern recognition clustering and other problems in bioengineering it is written for domain experts and developers who want to understand and explore the application of computational intelligence aspects opportunities and challenges for design and development of a data centric system in the context of multimedia cloud big data era and its related applications such as smarter healthcare homeland security traffic control trading analysis and telecom etc researchers and phd students exploring the significance of data centric systems in the next paradigm of computing will find this book extremely useful presents a brief overview of computational intelligence paradigms and its significant role in application domains illustrates the state of the art and recent developments in the new theories and applications of ci approaches familiarizes the reader with computational intelligence concepts and technologies that are successfully used in the implementation of cloud centric multimedia services in massive data processing provides new advances in the fields of ci for bio engineering application

Computational Intelligence for Multimedia Big Data on the Cloud with Engineering Applications

2018-08-21

encompassing a broad range of forms and sources of data this textbook introduces data systems through a progressive presentation introduction to data systems covers data acquisition starting with local files then progresses to data acquired from relational databases from rest apis and through web

scraping it teaches data forms formats from tidy data to relationally defined sets of tables to hierarchical structure like xml and json using data models to convey the structure operations and constraints of each data form the starting point of the book is a foundation in python programming found in introductory computer science classes or short courses on the language and so does not require prerequisites of data structures algorithms or other courses this makes the material accessible to students early in their educational career and equips them with understanding and skills that can be applied in computer science data science data analytics and information technology programs as well as for internships and research experiences this book is accessible to a wide variety of students by drawing together content normally spread across upper level computer science courses it offers a single source providing the essentials for data science practitioners in our increasingly data centric world students from all domains will benefit from the data aptitude built by the material in this book

Introduction to Data Systems

2020-12-04

the book offers insight into the healthcare system by exploring emerging technologies and ai based applications and implementation strategies it includes current developments for future directions as well as covering the concept of the healthcare system along with its ecosystem data centric ai solutions and emerging technologies in the healthcare ecosystem focuses on the mechanisms of proposing and incorporating solutions along with architectural concepts design principles smart solutions decision making process and intelligent predictions it offers state of the art approaches for overall innovations developments and implementation of the smart healthcare ecosystem and highlights medical signal and image processing algorithms healthcare based computer vision systems and discusses explainable ai xai techniques for healthcare this book will be useful to

researchers involved in ai iot data and emerging technologies in the medical industry it is also suitable as supporting material for undergraduate and graduate level courses in related engineering disciplines

Data-Centric AI Solutions and Emerging Technologies in the Healthcare Ecosystem

2023-10-12

this book addresses the key security challenges in the big data centric computing and network systems and discusses how to tackle them using a mix of conventional and state of the art techniques the incentive for joining big data and advanced analytics is no longer in doubt for businesses and ordinary users alike technology giants like google microsoft amazon facebook apple and companies like uber airbnb nvidia expedia and so forth are continuing to explore new ways to collect and analyze big data to provide their customers with interactive services and new experiences with any discussion of big data security is not however far behind large scale data breaches and privacy leaks at governmental and financial institutions social platforms power grids and so forth are on the rise that cost billions of dollars the book explains how the security needs and implementations are inherently different at different stages of the big data centric system namely at the point of big data sensing and collection delivery over existing networks and analytics at the data centers thus the book sheds light on how conventional security provisioning techniques like authentication and encryption need to scale well with all the stages of the big data centric system to effectively combat security threats and vulnerabilities the book also uncovers the state of the art technologies like deep learning and blockchain which can dramatically change the security landscape in the big data era

Combating Security Challenges in the Age of Big Data

2020-05-26

nist sp 800 154 march 2016 threat modeling is a form of risk assessment that models aspects of the attack and defense sides of a particular logical entity such as a piece of data an application a host a system or an environment this publication examines data centric system threat modeling which is threat modeling that is focused on protecting particular types of data within systems the publication provides information on the basics of data centric system threat modeling so that organizations can successfully use it as part of their risk management processes the general methodology provided by the publication is not intended to replace existing methodologies but rather to define fundamental principles that should be part of any sound data centric system threat modeling methodology why buy a book you can download for free first you gotta find it and make sure it s the latest version not always easy then you gotta print it using a network printer you share with 100 other people and its outta paper and the toner is low take out the toner cartridge shake it then put it back if it s just 10 pages no problem but if it s a 250 page book you will need to punch 3 holes in all those pages and put it in a 3 ring binder takes at least an hour an engineer that s paid 75 an hour has to do this himself who has assistant s anymore if you are paid more than 10 an hour and use an ink jet printer buying this book will save you money it s much more cost effective to just order the latest version from amazon com this book is published by 4th watch books and includes copyright material we publish compact tightly bound full size books 8 by 11 inches with glossy covers 4th watch books is a service disabled veteran owned small business sdvosb and is not affiliated with the national institute of standards and technology for more titles published by 4th watch books please visit cybah webplus net nist sp 500 299 nist cloud computing security reference

architecture nist sp 500 291 nist cloud computing standards roadmap version 2 nist sp 500 293 us government cloud computing technology roadmap volume 1 2 nist sp 500 293 us government cloud computing technology roadmap volume 3 draft nist sp 1800 8 securing wireless infusion pumps nistir 7497 security architecture design process for health information exchanges hies nist sp 800 66 implementing the health insurance portability and accountability act hipaa security rule nist sp 1800 1 securing electronic health records on mobile devices nist sp 800 177 trustworthy email nist sp 800 184 guide for cybersecurity event recovery nist sp 800 190 application container security guide nist sp 800 193 platform firmware resiliency guidelines nist sp 1800 1 securing electronic health records on mobile devices nist sp 1800 2 identity and access management for electric utilities nist sp 1800 5 it asset management financial services nist sp 1800 6 domain name systems based electronic mail security nist sp 1800 7 situational awareness for electric utilities nist sp 500 288 specification for ws biometric devices ws bd nist sp 500 304 data format for the interchange of fingerprint facial other biometric information nist sp 800 32 public key technology and the federal pki infrastructure

Guide to Data-Centric System Threat Modeling

2016-03-31

this book addresses the challenges and opportunities of information data processing and management it also covers a range of methods techniques and strategies for making it more efficient approaches to increasing its usage and ways to minimize information data loss while improving customer satisfaction information and communication technologies icts and the service systems associated with them have had an enormous impact on businesses and our day to day lives over the past three decades and continue to do so this development has led to the emergence of new application areas and relevant disciplines which in turn present new challenges and opportunities for

service system usage the book provides practical insights into various aspects of ict technologies for service systems techniques for information data processing and modeling in service systems strategies for the provision of information data processing and management methods for collecting and analyzing information data applications benefits and challenges of service system implementation solutions to increase the performance of various service systems using the latest ict technologies

Data-Centric Business and Applications

2020-06-21

this book brings insight to the hr management system and offers data centric approaches and ai enabled applications for the design and implementation strategies used for workforce development and management designing workforce management systems for industry 4 0 data centric and ai enabled approaches focuses on the mechanisms of proposing solutions along with architectural concepts design principles smart solutions and intelligent predictions with visualization simulation data visualization for the metrics of management systems and robotic process automation applications and tools are also offered this book is also useful as a reference for those involved in ai enabled applications data analytics data visualization as well as systems engineering and systems designing

Designing Workforce Management Systems for Industry 4.0

2023-10-11

this book explores various aspects of software creation and development as well as data and information processing it covers relevant topics such as business analysis business rules requirements engineering software

development processes software defect prediction information management systems and knowledge management solutions lastly the book presents lessons learned in information and data management processes and procedures

Data-Centric Security in Software Defined Networks (SDN)

2019-12-15

this book contributes to illustrating the methodological and technological issues of data management in pervasive systems by using the databenc project as the running case study for a variety of research contributions sensor data management user originated data operation and reasoning multimedia data management data analytics and reasoning for event detection and decision making context modelling and control automatic data and service tailoring for personalization and recommendation the book is organized into the following main parts i multimedia information management ii sensor data streams and storage iii social networks as information sources iv context awareness and personalization the case study is used throughout the book as a reference example

Data-Centric Business and Applications

2015-10-17

this book building on the authors previous work presents new communication and networking technologies challenges and opportunities of information data processing and transmission it also discusses the development of more intelligent and efficient communication technologies which are an essential part of current day to day life information and communication technologies icts have an enormous impact on businesses and our day to day lives over the past three decades and continue to do so modern methods of

business information processing are opening exciting new opportunities for doing business on the basis of information technologies the book contains research that spans a wide range of communication and networking technologies including wireless sensor networks optical and telecommunication networks storage area networks error free transmission and signal processing

Data Management in Pervasive Systems

2021-06-04

this book discusses processes and procedures in information data processing and management the global market is becoming more and more complex with an increased availability of data and information and as a result doing business with information is becoming more popular with a significant impact on modern society immensely this means that there is a growing need for a common understanding of how to create access use and manage business information as such this book explores different aspects of data and information processing including information generation representation structuring organization storage retrieval navigation human factors in information systems and the use of information it also analyzes the challenges and opportunities of doing business with information and presents various perspectives on business information managing

Data-Centric Business and Applications

2019

the book gives a comprehensive overview of security issues in cyber physical systems by examining and analyzing the vulnerabilities it also brings current understanding of common web vulnerabilities and its analysis while maintaining awareness and knowledge of contemporary standards practices procedures and methods of open application security project this

book is a medium to funnel creative energy and develop new skills of hacking and analysis of security and expedites the learning of the basics of investigating crimes including intrusion from the outside and damaging practices from the inside how criminals apply across devices networks and the internet at large and analysis of security data features helps to develop an understanding of how to acquire prepare visualize security data unfolds the unventured sides of the cyber security analytics and helps spread awareness of the new technological boons focuses on the analysis of latest development challenges ways for detection and mitigation of attacks advanced technologies and methodologies in this area designs analytical models to help detect malicious behaviour the book provides a complete view of data analytics to the readers which include cyber security issues analysis threats vulnerabilities novel ideas analysis of latest techniques and technology mitigation of threats and attacks along with demonstration of practical applications and is suitable for a wide ranging audience from graduates to professionals practitioners and researchers

Data-centric Business and Applications

2022-06-24

this book discusses the best research roadmaps strategies and challenges in data centric approach of artificial intelligence ai in various domains it presents comparative studies of model centric and data centric ai it also highlights different phases in data centric approach and data centric principles the book presents prominent use cases of data centric ai it serves as a reference guide for researchers and practitioners in academia and industry

Security Analytics

2023-11-11

this book provides a systematic and comparative description of the vast

number of research issues related to the quality of data and information it does so by delivering a sound integrated and comprehensive overview of the state of the art and future development of data and information quality in databases and information systems to this end it presents an extensive description of the techniques that constitute the core of data and information quality research including record linkage also called object identification data integration error localization and correction and examines the related techniques in a comprehensive and original methodological framework quality dimension definitions and adopted models are also analyzed in detail and differences between the proposed solutions are highlighted and discussed furthermore while systematically describing data and information quality as an autonomous research area paradigms and influences deriving from other areas such as probability theory statistical data analysis data mining knowledge representation and machine learning are also included last not least the book also highlights very practical solutions such as methodologies benchmarks for the most effective techniques case studies and examples the book has been written primarily for researchers in the fields of databases and information management or in natural sciences who are interested in investigating properties of data and information that have an impact on the quality of experiments processes and on real life the material presented is also sufficiently self contained for masters or phd level courses and it covers all the fundamentals and topics without the need for other textbooks data and information system administrators and practitioners who deal with systems exposed to data quality issues and as a result need a systematization of the field and practical methods in the area will also benefit from the combination of concrete practical approaches with sound theoretical formalisms

Data Centric Artificial Intelligence: A Beginner's Guide

2016-03-23

this book discusses processes and procedures in information data processing and management the global market is becoming more and more complex with an increased availability of data and information and as a result doing business with information is becoming more popular with a significant impact on modern society immensely this means that there is a growing need for a common understanding of how to create access use and manage business information as such this book explores different aspects of data and information processing including information generation representation structuring organization storage retrieval navigation human factors in information systems and the use of information it also analyzes the challenges and opportunities of doing business with information and presents various perspectives on business information managing

Data and Information Quality

2018-07-16

the book offers insight into the healthcare system by exploring emerging technologies and ai based applications and implementation strategies it includes current developments for future directions as well as covering the concept of the healthcare system along with its ecosystem data centric ai solutions and emerging technologies in the healthcare ecosystem focuses on the mechanisms of proposing and incorporating solutions along with architectural concepts design principles smart solutions decision making process and intelligent predictions it offers state of the art approaches for overall innovations developments and implementation of the smart healthcare ecosystem and highlights medical signal and image processing algorithms healthcare based computer vision systems and discusses explainable ai xai techniques for healthcare this book will be useful to researchers involved in ai iot data and emerging technologies in the medical industry it is also suitable as supporting material for undergraduate and graduate level courses in related engineering disciplines

Data-Centric Business and Applications

2023-10-09

the book focuses on applying the data centric security dcs concept and leveraging the unique capabilities of software defined networks sdn to improve the security and resilience of corporate and government information systems used to process critical information and implement business processes requiring special protection as organisations increasingly rely on information technology cyber threats to data and infrastructure can significantly affect their operations and adversely impact critical business processes appropriate authentication authorisation monitoring and response measures must be implemented within the perimeter of the system to protect against adversaries however sophisticated attackers can compromise the perimeter defences and even remain in the system for a prolonged time without the owner being aware of these facts therefore new security paradigms such as zero trust and dcs aim to provide defence under the assumption that the boundary protections will be breached based on experience and lessons learned from research on the application of dcs to defence systems the authors present an approach to integrating the dcs concept with sdn they introduce a risk aware approach to routing in sdn enabling defence in depth and enhanced security for data in transit the book describes possible paths for an organisation to transition towards dcs indicating some open and challenging issues requiring further investigation to allow interested readers to conduct detailed studies and evaluate the exemplary implementation of dcs over sdn the text includes a short tutorial on using the emulation environment and links to the websites from which the software can be downloaded

Data-Centric AI Solutions and Emerging Technologies in the Healthcare Ecosystem

2024-05-05

mastering data driven systems a comprehensive handbook unearth the secrets of constructing cutting edge data driven systems with this holistic guide tailored for professionals students and enthusiasts alike here s why this book is the key to unlocking the next era of tech innovation solid foundations grasp the essentials with foundations of data driven architectures and build on a rock solid base design excellence dive deep into data modeling and design and its advanced counterpart setting the blueprint for efficient systems next gen storage not one but two comprehensive chapters on modern and advanced storage solutions ensuring your data is always ready and resilient integration mastery with a dual focus on data integration and transformation understand the magic of merging diverse datasets seamlessly analytics powerhouse unlock insights like never before with advanced analytics frameworks and engines and real time analytics and stream processing ai synergy discover the groundbreaking confluence of data and artificial intelligence ai where data meets its most powerful ally microservices edge enhance flexibility with system scalability with microservices making your systems adaptable and agile guarding data dive into the intricacies of data governance with two focused chapters ensuring quality and trust in your data driven endeavors machine learning magic harness the prowess of advanced machine learning in data driven systems for predictive and actionable insights all encompassing integration unpack the complexities of multi modal data integration in system design reliability performance ensure your systems are always up fast and responsive with chapters on scalability and performance optimization safety first safeguard your assets with advanced data security and compliance conclusion synthesize your newfound knowledge and gaze into the future of data driven systems embrace the

future with this handbook and elevate your projects designs and understanding to newfound heights secure your key to the future of data driven systems dive in today

Data-Centric Security in Software Defined Networks (SDN)

2023-12-10

this textbook covers all central activities of data warehousing and analytics including transformation preparation aggregation integration and analysis it discusses the full spectrum of the journey of data from operational transactional databases to data warehouses and data analytics as well as the role that data warehousing plays in the data processing lifecycle it also explains in detail how data warehouses may be used by data engines such as bi tools and analytics algorithms to produce reports dashboards patterns and other useful information and knowledge the book is divided into six parts ranging from the basics of data warehouse design part i star schema part ii snowflake and bridge tables part iii advanced dimensions and part iv multi fact and multi input to more advanced data warehousing concepts part v data warehousing and evolution and data analytics part vi olap bi and analytics this textbook approaches data warehousing from the case study angle each chapter presents one or more case studies to thoroughly explain the concepts and has different levels of difficulty hence learning is incremental in addition every chapter has also a section on further readings which give pointers and references to research papers related to the chapter all these features make the book ideally suited for either introductory courses on data warehousing and data analytics or even for self studies by professionals the book is accompanied by a web page that includes all the used datasets and codes as well as slides and solutions to exercises

Architecting Data-Driven Systems Book 2

2022-02-04

the development of the net framework with the associated release of the c programming language is set to stimulate a new wave of application development this book aims to provide the information needed to develop powerful data centric applications using c to do this it covers the new features of ado net that deliver efficient data access and manipulation and the xml handling capabilities of the net framework accepting that data centric applications will utilize a variety of sources and inputs it also looks at additional topics such as using ado with c messaging services and utililizing the registry and active directory this information is put into context within a number of case studies including one showing how to migrate an application from visual basic 6 to c

Data Warehousing and Analytics

2001-12-23

most existing companies struggle currently because they lack the tools and strategies to move product departments into independent platforms that can be retrofitted to form dynamic new products based on consumer demands this book provides managers and professionals with the necessary approaches for designing software and hardware architectures to support data platform organizations specifically it demonstrates how to automate the decomposition of existing platforms into smaller parts that can be reused to form new variations this task requires significant analysis and design methodologies and procedures to create an infrastructure based on data as opposed to products these new knowledge bases allow data centric professionals to pursue actions that can better predict and respond to the unexpected featuring case examples from companies such as lego fedex general electric ge pfizer p g

and more this book is appropriate for c level executives engaged in the digital transformation of their firms entrepreneurs of digital platform companies and senior software engineers that need to design internet of things iot devices and integrate them with block chain and multi cloud architectures in addition this book is also useful for graduate level coursework in data science

Data-Centric Business and Applications

2023-04-25

with this textbook vaisman and zimányi deliver excellent coverage of data warehousing and business intelligence technologies ranging from the most basic principles to recent findings and applications to this end their work is structured into three parts part i describes fundamental concepts including conceptual and logical data warehouse design as well as querying using mdx dax and sql olap this part also covers data analytics using power bi and analysis services part ii details implementation and deployment including physical design etl and data warehouse design methodologies part iii covers advanced topics and it is almost completely new in this second edition this part includes chapters with an in depth coverage of temporal spatial and mobility data warehousing graph data warehouses are also covered in detail using neo4j the last chapter extensively studies big data management and the usage of hadoop spark distributed in memory columnar nosql and newsql database systems and data lakes in the context of analytical data processing as a key characteristic of the book most of the topics are presented and illustrated using application tools specifically a case study based on the well known northwind database illustrates how the concepts presented in the book can be implemented using microsoft analysis services and power bi all chapters have been revised and updated to the latest versions of the software tools used kpis and dashboards are now also developed using dax and power bi and the chapter on etl has been expanded with the implementation of etl processes in postgresql review questions and exercises complement each chapter to

support comprehensive student learning supplemental material to assist instructors using this book as a course text is available online and includes electronic versions of the figures solutions to all exercises and a set of slides accompanying each chapter overall students practitioners and researchers alike will find this book the most comprehensive reference work on data warehouses with key topics described in a clear and educational style i can only invite you to dive into the contents of the book feeling certain that once you have completed its reading or maybe targeted parts of it you will join me in expressing our gratitude to alejandro and esteban for providing such a comprehensive textbook for the field of data warehousing in the first place and for keeping it up to date with the recent developments in this current second edition from the foreword by panos vassiliadis university of ioannina greece

DATA CENTRIC.NET,

2023-07-17

poor data quality can seriously hinder or damage the efficiency and effectiveness of organizations and businesses the growing awareness of such repercussions has led to major public initiatives like the data quality act in the usa and the european 2003 98 directive of the european parliament batini and scannapieco present a comprehensive and systematic introduction to the wide set of issues related to data quality they start with a detailed description of different data quality dimensions like accuracy completeness and consistency and their importance in different types of data like federated data web data or time dependent data and in different data categories classified according to frequency of change like stable long term and frequently changing data the book s extensive description of techniques and methodologies from core data quality research as well as from related fields like data mining probability theory statistical data analysis and machine learning gives an excellent overview of the current state of the art the presentation is completed by a

short description and critical comparison of tools and practical methodologies which will help readers to resolve their own quality problems this book is an ideal combination of the soundness of theoretical foundations and the applicability of practical approaches it is ideally suited for everyone researchers students or professionals interested in a comprehensive overview of data quality issues in addition it will serve as the basis for an introductory course or for self study on this topic

Developing a Path to Data Dominance

2006-09-27

master powerful techniques and approaches for securing iot systems of all kinds current and emerging internet of things iot technology adoption is accelerating but iot presents complex new security challenges fortunately iot standards and standardized architectures are emerging to help technical professionals systematically harden their iot environments in orchestrating and automating security for the internet of things three cisco experts show how to safeguard current and future iot systems by delivering security through new nfv and sdn architectures and related iot security standards the authors first review the current state of iot networks and architectures identifying key security risks associated with nonstandardized early deployments and showing how early adopters have attempted to respond next they introduce more mature architectures built around nfv and sdn you ll discover why these lend themselves well to iot and iot security and master advanced approaches for protecting them finally the authors preview future approaches to improving iot security and present real world use case examples this is an indispensable resource for all technical and security professionals business security and risk managers and consultants who are responsible for systems that incorporate or utilize iot devices or expect to be responsible for them understand the challenges involved in securing current iot networks and architectures master iot security fundamentals standards and

modern best practices systematically plan for iot security leverage software defined networking sdn and network function virtualization nfv to harden iot networks deploy the advanced iot platform and use mano to manage and orchestrate virtualized network functions implement platform security services including identity authentication authorization and accounting detect threats and protect data in iot environments secure iot in the context of remote access and vpns safeguard the iot platform itself explore use cases ranging from smart cities and advanced energy systems to the connected car preview evolving concepts that will shape the future of iot security

Data Warehouse Systems

2018-06-04

this book explores various aspects of data engineering and information processing in this second volume the authors assess the challenges and opportunities involved in doing business with information their contributions on business information processing and management reflect diverse viewpoints not only technological but also business and social as the global marketplace grows more and more complex due to the increasing availability of data the information business is steadily gaining popularity and has a huge impact on modern society thus there is a growing need for consensus on how business information can be created accessed used and managed

Data Quality

2019-07-16

the pervasive application of internet of things iot has been seen in many aspects in human daily life and industrial production the concept of iot originates from traditional machine to machine m2m communications which aimed at solving domain specific and applicationspecific problems today the rapid progress of communication technologies the maturation of internet

infrastructures the continuously reduced cost of sensors and emergence of more open standards have witnessed the approaching of the expected iot era which envisions full connectivity between the physical world and the digital world via the internet protocol the popularity of cloud computing technology has enhanced this iot transform benefiting from the superior computing capability and flexible data storage let alone the security reliability and scalability advantages however there are still a series of obstacles confronted by the industry in deployment of iot services first due to the heterogeneity of hardware devices and application scenarios the interoperability and compatibility between link layer protocols sub systems and back end services are significantly challenging second the device management requires a uniform scheme to implement the commissioning communication authorization and identity management to guarantee security last the heterogeneity of data format speed and storage mechanism for different services pose a challenge to further data mining this thesis aims to solve these aforementioned challenges by proposing a data centric iot framework based on public cloud platforms it targets at providing a universal architecture to facilitate the deployment of iot services in massive iot and broadband iot categories the framework involves three representative communication protocols namely wifi thread and lo rawan to enable support for local personal and wide area networks a security assessment taxonomy for wireless communications in building automation networks is proposed as a tool to evaluate the security performance of adopted protocols so as to mitigate potential network flaws and guarantee the security azure cloud platform is adopted in the framework to provide device management data processing and storage visualization and intelligent services thanks to the mature cloud infrastructure and the uniform device model and data model we also exhibit the value of the study by applying the framework into the digitalization procedure of the green plant wall industry based on the framework a remote monitoring and management system for green plant wall is developed as a showcase to validate the feasibility furthermore three specialized visualization methods are proposed and a neuron network based anomaly

detection method is deployed in the project showing the potential of the framework in terms of data analytics and intelligence

Orchestrating and Automating Security for the Internet of Things

2019-08-21

this book reports on the latest advances in mobile technologies for collecting storing and processing mobile big data in connection with wireless communications it presents novel approaches and applications in which mobile big data is being applied from an engineering standpoint and addresses future theoretical and practical challenges related to the big data field from a mobility perspective further it provides an overview of new methodologies designed to take mobile big data to the cloud enable the processing of real time streaming events on the move and enhance the integration of resource availability through the anywhere anything anytime paradigm by providing both academia and industry researchers and professionals with a timely snapshot of emerging mobile big data centric systems and highlighting related pitfalls as well as potential solutions the book fills an important gap in the literature and fosters the further development in the area of mobile technologies for exploiting mobile big data

Data-Centric Business and Applications

2017-10-31

A Data-centric Internet of Things Framework

Based on Public Cloud

2004

Mobile Big Data

Towards a Data-centric Internet