Big Data Analytics And Cloud Computing Ijsetr | 3c207f63265b798c50b68a9b977e3dbd

This book is a compendium of the proceedings of the International Conference on Big-Data and Cloud Computing. It includes recent advances in the areas of big data analytics, cloud computing, the Internet of nano things, cloud security, data analytics in the cloud, smart cities and grids, etc. Primarily focusing on the application of knowledge that promotes ideas for solving the problems of the society through cutting-edge technologies, it provides novel ideas that further world-class research and development. This concise compilation of articles approved by a panel of expert reviewers is an invaluable resource for researchers in the area of advanced engineering sciences.

"This book addresses the newest innovative and intelligent applications related to utilizing the large amounts of big data being generated that is increasingly driving decision making and changing the landscape of business intelligence, from governments to private organizations, from communities to individuals"--

The growth of Internet use and technologies has increased exponentially within the business sector. When utilized properly, these applications can enhance business functions and make them easier to perform. Exploring the Convergence of Big Data and the Internet of Things is a pivotal reference source featuring the latest empirical research on the business use of computing devices to send and receive data in conjunction with analytic applications to reduce maintenance costs, avoid equipment failures, and improve business operations. Including research on a broad range of topics such as supply chain, aquaculture, and speech recognition systems, this book is ideally designed for researchers, academicians, and practitioners seeking current research on various technology uses in business.

Find the right big data solution for your business organization Big data management is one of the major challenges facing business, industry, and not-for-profit organizations. Data sets such as customer transactions for a mega-retailer, weather patterns monitored by meteorologists, or social network activity can quickly outpace the capacity of traditional data management tools. If you need to develop or manage big data solutions, you'll appreciate how these four experts define, explain, and guide you through this new and often confusing concept. You'll learn what it is, why it matters, and how to choose and implement solutions that work. Effectively managing big data is an issue of growing importance to businesses, not-for-profit organizations, government, and IT professionals. Authors are experts in information management, big data, and a variety of solutions.

Step-by-step guide to different data movement and processing techniques, using Google Cloud Platform Services Key Features- Learn the basic concept of Cloud Computing along with different Cloud service provides with their supported Models (IaaS/PaaS/SaaS)- Learn the basics of Compute Engine, App Engine, Container Engine, Project and Billing setup in the Google Cloud Platforma- Learn how and when to use Cloud DataFlow, Cloud DataProc and Cloud DataPrep a- Build real-time data pipeline to support real-time analytics using Pub/Sub messaging servicea- Setting up a fully managed GCP Big Data Cluster using Cloud DataProc for running Apache Spark and Apache Hadoop clusters in a simpler, more cost-efficient mannera- Learn how to use Cloud Data Studio for visualizing the data on top of Big Querya- Implement and understand real-world business scenarios for Machine Learning, Data Pipeline EngineeringDescriptionModern businesses are awash with data, making data driven decision-making tasks increasingly complex. As a result, relevant technical expertise and analytical skills are required to do such tasks. This book aims to equip you with enough knowledge of Cloud Computing in conjunction with Google Cloud Data platform to succeed in the role of a Cloud data expert.Current market is trending towards the latest cloud technologies, which is the need of the hour. Google being the pioneer, is dominating this space with the right set of cloud services being offered as part of GCP (Google Cloud Platform). At this juncture, this book will be very vital and will be cover all the services that are being offered by GCP, putting emphasis on Data services.What will you learnBy the end of the book, you will have come across different data services and platforms offered by Google Cloud, and how those services/features can be enabled to serve business needs. You will also see a few case studies to put your knowledge to practice and solve business problems such as building a real-time streaming pipeline engine, Scalable Datawarehouse on Cloud, fully managed Hadoop cluster on Cloud and enabling TensorFlow/Machine Learning API’s to support real-life business problems. Remember to practice additional examples to master these techniques. Who this book is forThis book is for professionals as well as graduates who want to build a career in Google Cloud data analytics technologies. One stop shop for those who wish to get an initial to advance understanding of the GCP data platform. The target audience will be data engineers/professionals who are new, as well as those who are acquainted with the tools and techniques related to cloud and data space. a- Individuals who have basic data understanding (i.e. Data and cloud) and have done some work in the field of data analytics, can refer/use this book to master their knowledge/understanding.a- The highlight of this book is that it will start with the basic cloud computing fundamentals and will move on to cover the advance concepts on GCP cloud data analytics and hence can be referred across multiple different levels of audiences. Table of Contents1. GCP Overview and Architecture2. Data Storage in GCP 3. Data Processing in GCP with Pub/Sub and Dataflow 4. Data Processing in GCP with DataPrep and Dataflow5. Big Query and Data Studio6. Machine Learning with GCP7. Sample Use cases and ExamplesAbout the Author Murari Ramuka is a seasoned Data Analytics professional with 12+ years of experience in enabling data analytics platforms using traditional DW/BI and Cloud Technologies (Azure, Google Cloud Platform) to uncover hidden insights and maximize revenue, profitability and ensure efficient operations management. He has worked with several multinational IT giants like Capgemini, Cognizant, Syntel and Icertis. His LinkedIn Profile: https://www.linkedin.com/in/murari-ramuka-98a4440a/
Big data is currently one of the most critical emerging technologies. Organizations around the world are looking to exploit the explosive growth of data to unlock previously hidden insights in the hope of creating new revenue streams, gaining operational efficiencies, and obtaining greater understanding of customer needs. It is important to think of big data and analytics together. Big data is the term used to describe the recent explosion of different types of data from disparate sources. Analytics is about examining data to derive interesting and relevant trends and patterns, which can be used to inform decisions, optimize processes, and even drive new business models. With today’s deluge of data comes the problems of processing that data, obtaining the correct skills to manage and analyze that data, and establishing rules to govern the data’s use and distribution. The big data technology stack is ever growing and sometimes confusing, even more so when we add the complexities of setting up big data environments with large up-front investments. Cloud computing seems to be a perfect vehicle for hosting big data workloads. However, working on big data in the cloud brings its own challenge of reconciling two contradictory design principles. Cloud computing is based on the concepts of consolidation and resource pooling, but big data systems (such as Hadoop) are built on the shared nothing principle, where each node is independent and self-sufficient. A solution architecture that can allow these mutually exclusive principles to coexist is required to truly exploit the elasticity and ease-of-use of cloud computing for big data environments. This IBM® Redpaper™ publication is aimed at chief architects, line-of-business executives, and CIOs to provide an understanding of the cloud-related challenges they face and give prescriptive guidance for how to realize the benefits of big data solutions quickly and cost-effectively.

Cloud computing offers many advantages to researchers and engineers who need access to high performance computing facilities for solving particular compute-intensive and/or large-scale problems, but whose overall high performance computing (HPC) needs do not justify the acquisition and operation of dedicated HPC facilities. There are, however, a number of fundamental problems which must be addressed, such as the limitations imposed by accessibility, security and communication speed, before these advantages can be exploited to the full. This book presents 14 contributions selected from the International Research Workshop on Advanced High Performance Computing Systems, held in Cetraro, Italy, in June 2012. The papers are arranged in three chapters. Chapter 1 includes five papers on cloud infrastructures, while Chapter 2 discusses cloud applications. The third chapter in the book deals with big data, which is nothing new – large scientific organizations have been collecting large amounts of data for decades - but what is new is that the focus has now broadened to include sectors such as business analytics, financial analyses, Internet service providers, oil and gas, medicine, automotive and a host of others. This book will be of interest to all those whose work involves them with aspects of cloud computing and big data applications.

Vehicular traffic congestion and accidents remain universal issues in today’s world. Due to the continued growth in the use of vehicles, optimizing traffic management operations is an immense challenge. To reduce the number of traffic accidents, improve the performance of transportation systems, enhance road safety, and protect the environment, vehicular ad-hoc networks have been introduced. Current developments in wireless communication, computing paradigms, big data, and cloud computing enable the enhancement of these networks, equipped with wireless communication capabilities and high-performance processing tools. Cloud-Based Big Data Analytics in Vehicular Ad-Hoc Networks is a pivotal reference source that provides vital research on cloud and data analytic applications in intelligent transportation systems. While highlighting topics such as location routing, accident detection, and data warehousing, this publication addresses future challenges in vehicular ad-hoc networks and presents viable solutions. This book is ideally designed for researchers, computer scientists, engineers, automobile industry professionals, IT practitioners, academicians, and students seeking current research on cloud computing models in vehicular networks.

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.
In today's market, emerging technologies are continually assisting in common workplace practices as companies and organizations search for innovative ways to solve modern issues that arise. Prevalent applications including internet of things, big data, and cloud computing all have noteworthy benefits, but issues remain when separately integrating them into the professional practices. Significant research is needed on converging these systems and leveraging each of their advantages in order to find solutions to real-time problems that still exist. Challenges and Opportunities for the Convergence of IoT, Big Data, and Cloud Computing is a pivotal reference source that provides vital research on the relation between these technologies and the impact they collectively have in solving real-world challenges. While highlighting topics such as cloud-based analytics, intelligent algorithms, and information security, this publication explores current issues that remain when attempting to implement these systems as well as the specific applications IoT, big data, and cloud computing have in various professional sectors. This book is ideally designed for academicians, researchers, developers, computer scientists, IT professionals, practitioners, scholars, students, and engineers seeking research on the integration of emerging technologies to solve modern societal issues.

This volume comprises the select proceedings of the annual convention of the Computer Society of India. Divided into 10 topical volumes, the proceedings present papers on state-of-the-art research, surveys, and succinct reviews. The volumes cover diverse topics ranging from communications networks to big data analytics, and from system architecture to cyber security. This volume focuses on Big Data Analytics. The contents of this book will be useful to researchers and students alike.

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

This book reviews the theoretical concepts, leading-edge techniques and practical tools involved in the latest multi-disciplinary approaches addressing the challenges of big data. Illuminating perspectives from both academia and industry are presented by an international selection of experts in security science. Topics and features: describes the innovative advances in theoretical aspects of big data, predictive analytics and cloud-based architectures; examines the applications and implementations that utilize big data in cloud architectures; surveys the state of the art in architectural approaches to the provision of cloud-based big data analytics functions; identifies potential research directions and technologies to facilitate the realization of emerging business models through big data approaches; provides relevant theoretical frameworks, empirical research findings, and numerous case studies; discusses real-world applications of algorithms and techniques to address the challenges of big datasets.

Big data is presenting challenges to cybersecurity. For an example, the Internet of Things (IoT) will reportedly soon generate a staggering 400 zettabytes (ZB) of data a year. Self-driving cars are predicted to churn out 4000 GB of data per hour of driving. Big data analytics, as an emerging analytical technology, offers the capability to collect, store, process, and visualize these vast amounts of data. Big Data Analytics in Cybersecurity examines security challenges surrounding big data and provides actionable insights that can be used to improve the current practices of network operators and administrators. Applying big data analytics in cybersecurity is critical. By exploiting data from the networks and computers, analysts can discover useful network information from data. Decision makers can make more informative decisions by using this analysis, including what actions need to be performed, and improvement recommendations to policies, guidelines, procedures, tools, and other aspects of the network processes. Bringing together experts from academia, government laboratories, and industry, the book provides insight to both new and more experienced security professionals, as well as data analytics professionals who have varying levels of cybersecurity expertise. It covers a wide range of topics in cybersecurity, which include: Network forensics Threat analysis Vulnerability assessment Visualization Cyber training. In addition, emerging security domains such as the IoT, cloud computing, fog computing, mobile computing, and cyber-social networks are examined. The book first focuses on how big data analytics can be used in different aspects of cybersecurity including network forensics, root-cause analysis, and security training. Next it discusses big data challenges and solutions in such emerging cybersecurity domains as fog computing, IoT, and mobile app security. The book concludes by presenting the tools and datasets for future cybersecurity research.

Im Zeitalter des Internet of Things (IoT) erzeugen Edge-Geräte in jedem Sekundenbruchteil gigantische Datenmengen. Dabei besteht das Hauptziel...
of the conference’s most promising papers were selected for this Springer (SCI) book. We eagerly await the important contributions that we know
submitted by members of the program committee and subsequently underwent further rigorous review. Following this second round of review, 13
conference organizers selected the best papers from among those accepted for presentation. The papers were chosen on the basis of review scores
information science, the practical challenges encountered along the way, and the solutions adopted to solve them are all explored here. The
their experiences, and to exchange new ideas and information in a meaningful way. All aspects (theory, applications and tools) of computer and
businesspeople and entrepreneurs, teachers, engineers, computer users, and students to discuss the various fields of computer science, to share
2018), which was held on July 10–12, 2018 in Kanazawa. The aim of the conference was to bring together researchers and scientists,
editors have included resources that address key techniques in the analysis of IoT data. The book demonstrates how to select the appropriate
challenges in IoT data analytics, demand for IoT data analytics, computing platforms, analytical tools, privacy, and security. The distinguished
Internet of Things (IoT) systems. The book includes discussions of the enabling technologies of IoT data analytics, types of IoT data analytics,
emerging leaders in the field Big Data Analytics for Internet of Things delivers a comprehensive overview of all aspects of big data analytics in
Internet of Things (IoT) systems. The book includes discussions of the enabling technologies of IoT data analytics, types of IoT data analytics,
biggest market nowadays. Machine Learning (ML) has the potential to influence the world and is changing how we interact with our
big data analytics. This is because ML can analyze massive amounts of data within a short time. ML can solve problems of pattern
is required for such a system. Therefore, the development of an efficient and high-performance data analytics system is a challenging
the Internet of Things, including IoT architectures, enabling technologies, and applications An exploration of the intersection between the
Internet of Things and Big Data, including IoT as a source of Big Data, the unique characteristics of IoT data, etc. A discussion of the IoT data
analytics, including the data analytical requirements of IoT data and the types of IoT analytics, including predictive, descriptive, and prescriptive
analytics A treatment of machine learning techniques for IoT data analytics Perfect for professionals, industry practitioners, and researchers
engaged in big data analytics related to IoT systems, Big Data Analytics for Internet of Things will also earn a place in the libraries of IoT designers
and manufacturers interested in facilitating the efficient implementation of data analytics strategies.

This book presents the outcomes of the 3rd IEEE/ACIS International Conference on Big Data, Cloud Computing, Data Science & Engineering (BCD
2018), which was held on July 10–12, 2018 in Kanazawa. The aim of the conference was to bring together researchers and scientists,
businesspeople and entrepreneurs, teachers, engineers, computer users, and students to discuss the various fields of computer science, to share
their experiences, and to exchange new ideas and information in a meaningful way. All aspects (theory, applications and tools) of computer and
information science, the practical challenges encountered along the way, and the solutions adopted to solve them are all explored here. The
conference organizers selected the best papers from among those accepted for presentation. The papers were chosen on the basis of review scores
submitted by members of the program committee and subsequently underwent further rigorous review. Following this second round of review, 13
of the conference’s most promising papers were selected for this Springer (SCI) book. We eagerly await the important contributions that we know
these authors will make to the field of computer and information science.

With this book, managers and decision makers are given the tools to make more informed decisions about big data purchasing initiatives. Big Data Analytics: A Practical Guide for Managers not only supplies descriptions of common tools, but also surveys the various products and vendors that supply the big data market. Comparing and contrasting the dif

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

This book addresses topics related to cloud and Big Data technologies, architecture and applications including distributed computing and data centers, cloud infrastructure and security, and end-user services. The majority of the book is devoted to the security aspects of cloud computing and Big Data. Cloud computing, which can be seen as any subscription-based or pay-per-use service that extends the Internet’s existing capabilities, has gained considerable attention from both academia and the IT industry as a new infrastructure requiring smaller investments in hardware platforms, staff training, or licensing software tools. It is a new paradigm that has ushered in a revolution in both data storage and computation. In parallel to this progress, Big Data technologies, which rely heavily on cloud computing platforms for both data storage and processing, have been developed and deployed at breathtaking speed. They are among the most frequently used technologies for developing applications and services in many fields, such as the web, health, and energy. Accordingly, cloud computing and Big Data technologies are two of the most central current and future research mainstreams. They involve and impact a host of fields, including business, scientific research, and public and private administration. Gathering extended versions of the best papers presented at the Third International Conference on Cloud Computing Technologies and Applications (CloudTech’17), this book offers a valuable resource for all Information System managers, researchers, students, developers, and policymakers involved in the technological and application aspects of cloud computing and Big Data.

Data Science and Big Data Analytics is about harnessing the power of data for new insights. The book covers the breadth of activities and methods and tools that Data Scientists use. The content focuses on concepts, principles and practical applications that are applicable to any industry and technology environment, and the learning is supported and explained with examples that you can replicate using open-source software. This book will help you: Become a contributor on a data science team Deploy a structured lifecycle approach to data analytics problems Apply appropriate analytic techniques and tools to analyzing big data Learn how to tell a compelling story with data to drive business action Prepare for EMC Proven Professional Data Science Certification Corresponding data sets are available from the book’s page at Wiley which you can find on the Wiley site by searching for the ISBN 9781118876138. Get started discovering, analyzing, visualizing, and presenting data in a meaningful way today!

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Big data has presented a number of opportunities across industries. With these opportunities come a number of challenges associated with handling, analyzing, and storing large data sets. One solution to this challenge is cloud computing, which supports a massive storage and computation facility in order to accommodate big data processing. Managing and Processing Big Data in Cloud Computing explores the challenges of supporting big data processing and cloud-based platforms as a proposed solution. Emphasizing a number of crucial topics such as data analytics, wireless networks, mobile clouds, and machine learning, this publication meets the research needs of data analysts, IT professionals, researchers, graduate students, and educators in the areas of data science, computer programming, and IT development.

This book is a compendium of the proceedings of the International Conference on Big Data and Cloud Computing. It includes recent advances in the areas of big data analytics, cloud computing, internet of nano things, cloud security, data analytics in the cloud, smart cities and grids, etc. This volume primarily focuses on the application of the knowledge that promotes ideas for solving the problems of the society through cutting-edge technologies. The articles featured in this proceeding provide novel ideas that contribute to the growth of world class research and development. The contents of this volume will be of interest to researchers and professionals alike.

This book constitutes the refereed proceedings of the First International Conference on Big Data Analytics, BDA 2012, held in New Delhi, India, in December 2012. The 5 regular papers and 5 short papers presented were carefully reviewed and selected from 42 submissions. The volume also contains two tutorial papers in the section perspectives on big data analytics. The regular contributions are organized in topical sections on: data analytics applications; knowledge discovery through information extraction; and data models in analytics.

This book introduces the latest research findings in cloud, edge, fog, and mist computing and their applications in various fields using geospatial data. It solves a number of problems of cloud computing and big data, such as scheduling, security issues using different techniques, which researchers from industry and academia have been attempting to solve in virtual environments. Some of these problems are of an intractable nature and so efficient technologies like fog, edge and mist computing play an important role in addressing these issues. By exploring emerging advances in cloud computing and big data analytics and their engineering applications, the book enables researchers to understand the mechanisms needed to implement cloud, edge, fog, and mist computing in their own endeavours, and motivates them to examine their own research findings and developments.

The definitive guide to successfully integrating social, mobile, Big-Data analytics, cloud and IoT principles and technologies The main goal of this book is to spur the development of effective big-data computing operations on smart clouds that are fully supported by IoT sensing, machine learning and analytics systems. To that end, the authors draw upon their original research and proven track record in the field to describe a practical approach integrating big-data theories, cloud design principles, Internet of Things (IoT) sensing, machine learning, data analytics and Hadoop and Spark programming. Part 1 focuses on data science, the roles of clouds and IoT devices and frameworks for big-data computing. Big data analytics and cognitive machine learning, as well as cloud architecture, IoT and cognitive systems are explored, and mobile cloud-IoT-interaction frameworks are illustrated with concrete system design examples. Part 2 is devoted to the principles of and algorithms for machine
learning, data analytics and deep learning in big data applications. Part 3 concentrates on cloud programming software libraries from MapReduce to Hadoop, Spark and TensorFlow and describes business, educational, healthcare and social media applications for those tools. The first book describing a practical approach to integrating social, mobile, analytics, cloud and IoT (SMACT) principles and technologies Covers theory and computing techniques and technologies, making it suitable for use in both computer science and electrical engineering programs Offers an extremely well-informed vision of future intelligent and cognitive computing environments integrating SMACT technologies Fully illustrated throughout with examples, figures and approximately 150 problems to support and reinforce learning Features a companion website with an instructor manual and PowerPoint slides www.wiley.com/go/hwangIOT

Big Data: Principles and Paradigms captures the state-of-the-art research on the architectural aspects, technologies, and applications of Big Data. The book identifies potential future directions and technologies that facilitate insight into numerous scientific, business, and consumer applications. To help realize Big Data's full potential, the book addresses numerous challenges, offering the conceptual and technological solutions for tackling them. These challenges include life-cycle data management, large-scale storage, flexible processing infrastructure, data modeling, scalable machine learning, data analysis algorithms, sampling techniques, and privacy and ethical issues. Covers computational platforms supporting Big Data applications Addresses key principles underlying Big Data computing Examines key developments supporting next generation Big Data platforms Explores the challenges in Big Data computing and ways to overcome them Contains expert contributors from both academia and industry

With the rapid growth of Cloud computing, the size of Cloud data is expanding at a dramatic speed. A huge amount of data is generated and processed by Cloud applications, putting a higher demand on cloud storage. While data reliability should already be a requirement, data in the Cloud needs to be stored in a highly cost-effective manner. This book focuses on the trade-off between data storage cost and data reliability assurance for big data in the Cloud. Throughout the whole Cloud data lifecycle, four major features are presented: first, a novel generic data reliability model for describing data reliability in the Cloud; second, a minimum replication calculation approach for meeting a given data reliability requirement to facilitate data creation; third, a novel cost-effective data reliability assurance mechanism for big data maintenance, which could dramatically reduce the storage space needed in the Cloud; fourth, a cost-effective strategy for facilitating data creation and recovery, which could significantly reduce the energy consumption during data transfer. Captures data reliability with variable disk rates and compares virtual to physical disks Offers methods for reducing cloud-based storage cost and energy consumption Presents a minimum replication benchmark for data reliability requirements to evaluate various replication-based data storage approaches

Data Analysis in the Cloud introduces and discusses models, methods, techniques, and systems to analyze the large number of digital data sources available on the Internet using the computing and storage facilities of the cloud. Coverage includes scalable data mining and knowledge discovery techniques together with cloud computing concepts, models, and systems. Specific sections focus on map-reduce and NoSQL models. The book also includes techniques for conducting high-performance distributed analysis of large data on clouds. Finally, the book examines research trends such as Big Data pervasive computing, data-intensive exascale computing, and massive social network analysis. Introduces data analysis techniques and cloud computing concepts Describes cloud-based models and systems for Big Data analytics Provides examples of the state-of-the-art in cloud data analysis Explains how to develop large-scale data mining applications on clouds Outlines the main research trends in the area of scalable Big Data analysis

Today, cloud computing, big data, and the internet of things (IoT) are becoming indubitable parts of modern information and communication systems. They cover not only information and communication technology but also all types of systems in society including within the realms of business, finance, industry, manufacturing, and management. Therefore, it is critical to remain up-to-date on the latest advancements and applications, as well as current issues and challenges. The Handbook of Research on Cloud Computing and Big Data Applications in IoT is a pivotal
reference source that provides relevant theoretical frameworks and the latest empirical research findings on principles, challenges, and applications of cloud computing, big data, and IoT. While highlighting topics such as fog computing, language interaction, and scheduling algorithms, this publication is ideally designed for software developers, computer engineers, scientists, professionals, academicians, researchers, and students.

Cloud Computing and Big Data technologies have become the new descriptors of the digital age. The global amount of digital data has increased more than nine times in volume in just five years and by 2030 its volume may reach a staggering 65 trillion gigabytes. This explosion of data has led to opportunities and transformation in various areas such as healthcare, enterprises, industrial manufacturing and transportation. New Cloud Computing and Big Data technologies endow researchers and practitioners to collect, manage and analyze the vast quantities of data. In Cloud and Big Data Analytics, Swarm Intelligence and Deep Learning are two developing type of Machine Learning techniques that show enormous potential for solving complex business problems. Deep Learning enables computers to analyze large quantities of unstructured and binary data and to deduce relationships without requiring specific models or programming instructions. This book introduces the state-of-the-art trends and advances in the use of Machine Learning in Cloud and Big Data Analytics. The book will serve as a reference for data scientists, systems architects, developers, new researchers and graduate level students in Computer and Data Science. The book will describe the concepts necessary to understand current Machine Learning issues, challenges and possible solutions as well as upcoming trends in Big Data Analytics.

Clouds are being positioned as the next-generation consolidated, centralized, yet federated IT infrastructure for hosting all kinds of IT platforms and for deploying, maintaining, and managing a wider variety of personal, as well as professional applications and services. Handbook of Research on Cloud Infrastructures for Big Data Analytics focuses exclusively on the topic of cloud-sponsored big data analytics for creating flexible and futuristic organizations. This book helps researchers and practitioners, as well as business entrepreneurs, to make informed decisions and consider appropriate action to simplify and streamline the arduous journey towards smarter enterprises.

Unique prospective on the big data analytics phenomenon for both business and IT professionals The availability of Big Data, low-cost commodity hardware and new information management and analytics software has produced a unique moment in the history of business. The convergence of these trends means that we have the capabilities required to analyze astonishing data sets quickly and cost-effectively for the first time in history. These capabilities are neither theoretical nor trivial. They represent a genuine leap forward and a clear opportunity to realize enormous gains in terms of efficiency, productivity, revenue and profitability. The Age of Big Data is here, and these are truly revolutionary times. This timely book looks at cutting-edge companies supporting an exciting new generation of business analytics. Learn more about the trends in big data and how they are impacting the business world (Risk, Marketing, Healthcare, Financial Services, etc.) Explains this new technology and how companies can use them effectively to gather the data that they need and glean critical insights Explores relevant topics such as data privacy, data visualization, unstructured data, crowd sourcing data scientists, cloud computing for big data, and much more.

The definitive guide to successfully integrating social, mobile, Big-Data analytics, cloud and IoT principles and technologies The main goal of this book is to spur the development of effective big-data computing operations on smart clouds that are fully supported by IoT sensing, machine learning and analytics systems. To that end, the authors draw upon their original research and proven track record in the field to describe a practical approach integrating big-data theories, cloud design principles, Internet of Things (IoT) sensing, machine learning, data analytics and Hadoop and Spark programming. Part 1 focuses on data science, the roles of clouds and IoT devices and frameworks for big-data computing. Big data analytics and cognitive machine learning, as well as cloud architecture, IoT and cognitive systems are explored, and mobile cloud-IoT-interaction frameworks are illustrated with concrete system design examples. Part 2 is devoted to the principles of and algorithms for machine learning, data analytics and deep learning in big data applications. Part 3 concentrates on cloud programming software libraries from MapReduce to Hadoop, Spark and TensorFlow and describes business, educational, healthcare and social media applications for those tools. The first book describing a practical approach to integrating social, mobile, analytics, cloud and IoT (SMACT) principles and technologies Covers theory and computing techniques and technologies, making it suitable for use in both computer science and electrical engineering programs Offers an extremely well-informed vision of future intelligent and cognitive computing environments integrating SMACT technologies Fully illustrated
throughout with examples, figures and approximately 150 problems to support and reinforce learning. Features a companion website with an instructor manual and PowerPoint slides. www.wiley.com/go/hwangIOT Big-Data Analytics for Cloud, IoT and Cognitive Computing satisfies the demand among university faculty and students for cutting-edge information on emerging intelligent and cognitive computing systems and technologies. Professionals working in data science, cloud computing and IoT applications will also find this book to be an extremely useful working resource.

Step-by-step guide to different data movement and processing techniques, using Google Cloud Platform Services.

DESCRIPTION

Modern businesses are awash with data, making data-driven decision-making tasks increasingly complex. As a result, relevant technical expertise and analytical skills are required to do such tasks. This book aims to equip you with enough knowledge of Cloud Computing in conjunction with Google Cloud Data platform to succeed in the role of a Cloud data expert. The current market is trending towards the latest cloud technologies, which is the need of the hour. Google being the pioneer, is dominating this space with the right set of cloud services being offered as part of GCP (Google Cloud Platform). At this juncture, this book will be very vital and will cover all the services that are being offered by GCP, putting emphasis on Data services. This book starts with sophisticated knowledge on Cloud Computing. It also explains different types of data services/technology and machine learning algorithm/Pre-Trained API through real-business problems, which are built on the Google Cloud Platform (GCP). With some of the latest business examples and hands-on guide, this book will enable the developers entering the data analytics fields to implement an end-to-end data pipeline, using GCP Data services. Through the course of the book, you will come across multiple industry-wise use cases, like Building Datawarehouse using Big Query, a sample real-time data analytics solution on machine learning and Artificial Intelligence that helped with the business decision, by employing a variety of data science approaches on Google Cloud environment. Whether your business is at the early stage of cloud implementation in its journey or well on its way to digital transformation, Google Cloud’s solutions and technologies will always help chart a path to success. This book can be used to develop the GCP concepts in an easy way. It contains many examples showcasing the implementation of a GCP service. It enables the learning of the basic and advanced concepts of Google Cloud Data Platform. This book is divided into 7 chapters and provides a detailed description of the core concepts of each of the Data services offered by Google Cloud.

KEY FEATURES

- Learn the basic concept of cloud computing fundamentals and will move on to cover the advance concepts on GCP cloud data analytics and hence can be referred across multiple different levels of audiences.

The internet of things (IoT) has emerged to address the need for connectivity and seamless integration with other devices as well as big data platforms for analytics. However, there are challenges that IoT-based applications face including design and implementation issues; connectivity...
problems; data gathering, storing, and analyzing in cloud-based environments; and IoT security and privacy issues. Emerging Trends in IoT and Integration with Data Science, Cloud Computing, and Big Data Analytics is a critical reference source that provides theoretical frameworks and research findings on IoT and big data integration. Highlighting topics that include wearable sensors, machine learning, machine intelligence, and mobile computing, this book serves professionals who want to improve their understanding of the strategic role of trust at different levels of the information and knowledge society. It is therefore of most value to data scientists, computer scientists, data analysts, IT specialists, academicians, professionals, researchers, and students working in the field of information and knowledge management in various disciplines that include but are not limited to information and communication sciences, administrative sciences and management, education, sociology, computer science, etc. Moreover, the book provides insights and supports executives concerned with the management of expertise, knowledge, information, and organizational development in different types of work communities and environments.

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