This is the first book to offer a comprehensive yet concise overview of the challenges and opportunities presented by the use of big data in healthcare. The respective chapters address a range of aspects: from health management to patient safety; from the human factor perspective to ethical and economic considerations, and many more. By providing a historical background
on the use of big data, and critically analyzing current approaches together with issues and challenges related to their applications, the book not only sheds light on the problems entailed by big data, but also paves the way for possible solutions and future research directions. Accordingly, it offers an insightful reference guide for health information technology professionals, healthcare managers, healthcare practitioners, and patients alike, aiding them in their decision-making processes; and for students and researchers whose work involves data science-related research issues in healthcare.

**Intelligent Systems Design and Applications**

This Springer Brief provides a comprehensive overview of the background and recent developments of big data. The value chain of big data is divided into four phases: data generation, data acquisition, data storage and data analysis. For each phase, the book introduces the general background, discusses technical challenges and reviews the latest advances. Technologies under discussion include cloud computing, Internet of Things, data centers, Hadoop and more. The authors also explore several representative applications of big data such as enterprise management, online social networks, healthcare and medical applications, collective intelligence and smart grids. This book concludes with a thoughtful discussion of possible research directions and development trends in the field. Big Data: Related Technologies, Challenges and Future Prospects is a concise yet thorough examination of this exciting area. It is designed for researchers and professionals interested in big data or related research. Advanced-level students in computer science and electrical engineering will also find this book useful.

**Internet of Everything and Big Data**

This book reviews a number of issues including: Why data generated from POC machines are considered as Big Data. What are the challenges in storing, managing, extracting knowledge from data from POC devices? Why is it inefficient to use traditional data analysis with big data? What are the solutions for the mentioned issues and challenges? What type of analytics skills are required in health care? What big data technologies and tools can be used efficiently with data generated from POC devices? This book shows how it is feasible to store vast numbers of anonymous data and ask highly specific questions that can be performed in real-time to give precise and meaningful evidence to guide public health policy.
**Big Data**

Effective healthcare delivery is a vital concern for citizens and communities across the globe. The numerous facets of this industry require constant re-evaluation and optimization of management techniques. The Handbook of Research on Healthcare Administration and Management is a pivotal reference source for the latest scholarly material on emerging strategies and methods for delivering optimal healthcare opportunities and solutions. Highlighting issues relating to decision making, process optimization, and technological applications, this book is ideally designed for policy makers, administrators, students, professionals, and researchers interested in achieving superior healthcare solutions.

**Big Data Applications in Geography and Planning**

Learn Big Data from the ground up with this complete and up-to-date resource from leaders in the field Big Data: Concepts, Technology, and Architecture delivers a comprehensive treatment of Big Data tools, terminology, and technology perfectly suited to a wide range of business professionals, academic researchers, and students. Beginning with a fulsome overview of what we mean when we say, “Big Data,” the book moves on to discuss every stage of the lifecycle of Big Data. You’ll learn about the creation of structured, unstructured, and semi-structured data, data storage solutions, traditional database solutions like SQL, data processing, data analytics, machine learning, and data mining. You’ll also discover how specific technologies like Apache Hadoop, SQOOP, and Flume work. Big Data also covers the central topic of big data visualization with Tableau, and you’ll learn how to create scatter plots, histograms, bar, line, and pie charts with that software. Accessibly organized, Big Data includes illuminating case studies throughout the material, showing you how the included concepts have been applied in real-world settings. Some of those concepts include: The common challenges facing big data technology and technologists, like data heterogeneity and incompleteness, data volume and velocity, storage limitations, and privacy concerns Relational and non-relational databases, like RDBMS, NoSQL, and NewSQL databases Virtualizing Big Data through encapsulation, partitioning, and isolating, as well as big data server virtualization Apache software, including Hadoop, Cassandra, Avro, Pig, Mahout, Oozie, and Hive The Big Data analytics lifecycle, including business case evaluation, data preparation, extraction, transformation, analysis, and visualization Perfect for data scientists, data engineers, and database managers, Big Data also
Read Free Big Data Big Challenges Big Opportunities

belongs on the bookshelves of business intelligence analysts who are required to make decisions based on large volumes of information. Executives and managers who lead teams responsible for keeping or understanding large datasets will also benefit from this book.

**Big Data in Healthcare**

Big data, analytics, and artificial intelligence are revolutionizing work, management, and lifestyles and are becoming disruptive technologies for healthcare, e-commerce, and web services. However, many fundamental, technological, and managerial issues for developing and applying intelligent big data analytics in these fields have yet to be addressed. Managerial Perspectives on Intelligent Big Data Analytics is a collection of innovative research that discusses the integration and application of artificial intelligence, business intelligence, digital transformation, and intelligent big data analytics from a perspective of computing, service, and management. While highlighting topics including e-commerce, machine learning, and fuzzy logic, this book is ideally designed for students, government officials, data scientists, managers, consultants, analysts, IT specialists, academicians, researchers, and industry professionals in fields that include big data, artificial intelligence, computing, and commerce.

**Security, Privacy, and Forensics Issues in Big Data**

"The application of big data analytics in all fields of research is a critical driver for the competitiveness of all countries in the modern world. Currently, governments and industry generate large amounts of data driven by record keeping, compliance, regulations, data privacy, and dynamic requirements, and thus there is a need to create better mechanisms to analyse data, and hence support organizational development, as well as providing aid to policymakers' decision-making processes. In this context, there are emerging disruptive opportunities because of Big Data: new business models, and vertical industry segments will emerge through shared relationships with all the stakeholders, and big data analytics is a major asset to support these dynamic relationships. This book was developed with the objective of analysing some of those challenges while at the same time providing a perspective of the potential of big data analytics, and the importance that analytics have for managers
and for policymakers, to help define new strategies and new public policies, respectively. The book is focused on different sectors of activity (i.e. the Health sector, Public Administration, the Education sector, among others), and on different economic dimensions (i.e. Entrepreneurship, and Innovation) and links big data analytics to different fields of research, such as artificial intelligence and other emergent technologies; which are challenging organisations, governments, and societies, with the need to face the new imperative of being prepared for the very uncertain and tremendously complex future - in which big data analytics will play a very decisive and active role"

**Big Data Analytics in Bioinformatics and Healthcare**

Big Data, Big Challenges in Evidence-Based Policy Making is a multi-disciplinary study of how to glean insights from massive data sets to make better public policy decisions. Using a combination of explanatory material, specific examples, and practical suggestions, the book teaches readers how to preserve, use, and publish big data. Each chapter provides real-life examples of how big data can be used in policy making. The book also provides practical insights from archivists and librarians who are on the forefront of preserving data and helping researchers find needed data. To complete the discussion of big data, the book provides a frank and nuanced discussion of privacy risks involved with big data. It also examines the political constraints on how to regulate privacy. In addition, the book offers a comparative review of privacy by examining the different privacy protections in the US and the EU, as well as the delicate system of trading private data between nations. This book can be used to supplement upper level law school courses as well as courses on public health, economics, political science, environmental studies, and information science. The contributors are: Margaret O’Neill Adams, Judith Amsalem, Paula Avila-Guillen, Ana Ayala, Tanya Baytor, Josh Blackman, Linda K. Breggin, Dianne Callan, Christin Cave, Kristofer A. Ekdahl, Francine E. Friedman, Aliza Glasner, Carole Roan Gresenz, James Grimmelmann, Mark D. Johnson, Leslie Johnston, Susan C. Kim, John D. Kraemer, William G. LeFurgy, Jared Lyle, Kathryn Mengerink, Elizabeth Moss, Catherine Powell, Jason S. Roffenbender, Joshua C. Teitelbaum, Matthew C. Thomas, and Zachary Turk.

**Creating Value with Big Data Analytics**

Page 5/20
“Big data” has become a commonly used term to describe large-scale and complex data sets which are difficult to manage and analyze using standard data management methodologies. With applications across sectors and fields of study, the implementation and possible uses of big data are limitless. Effective Big Data Management and Opportunities for Implementation explores emerging research on the ever-growing field of big data and facilitates further knowledge development on methods for handling and interpreting large data sets. Providing multi-disciplinary perspectives fueled by international research, this publication is designed for use by data analysts, IT professionals, researchers, and graduate-level students interested in learning about the latest trends and concepts in big data.

**Machine Learning and Big Data Analytics Paradigms: Analysis, Applications and Challenges**

This book highlights recent research on Intelligent Systems and Nature Inspired Computing. It presents 212 selected papers from the 18th International Conference on Intelligent Systems Design and Applications (ISDA 2018) and the 10th World Congress on Nature and Biologically Inspired Computing (NaBIC), which was held at VIT University, India. ISDA-NaBIC 2018 was a premier conference in the field of Computational Intelligence and brought together researchers, engineers and practitioners whose work involved intelligent systems and their applications in industry and the “real world.” Including contributions by authors from over 40 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering.

**Applications of Big Data Analytics**

This comprehensive book focuses on better big-data security for healthcare organizations. Following an extensive introduction to the Internet of Things (IoT) in healthcare including challenging topics and scenarios, it offers an in-depth analysis of medical body area networks with the 5th generation of IoT communication technology along with its nanotechnology. It also describes a novel strategic framework and computationally intelligent model to measure possible security vulnerabilities in the context of e-health. Moreover, the book addresses healthcare systems that handle large volumes of data driven by patients’ records and health/personal information, including big-data-based knowledge management.
systems to support clinical decisions. Several of the issues faced in storing/processing big data are presented along with the available tools, technologies and algorithms to deal with those problems as well as a case study in healthcare analytics. Addressing trust, privacy, and security issues as well as the IoT and big-data challenges, the book highlights the advances in the field to guide engineers developing different IoT devices and evaluating the performance of different IoT techniques. Additionally, it explores the impact of such technologies on public, private, community, and hybrid scenarios in healthcare. This book offers professionals, scientists and engineers the latest technologies, techniques, and strategies for IoT and big data.

**Big Data Optimization: Recent Developments and Challenges**

This is the first book offering a comprehensive, yet concise, view on both the challenges and opportunities related to the use of big data in health care. The different chapters report on different perspectives: from health management to patient safety; from the human factor perspective to the ethical and economic ones, and more. By providing a historical background on the use of big data, and critically analyzing current approaches together with issues and challenges related to their applications, the work presented not only sheds light on the problems of big data, but also paves the way for possible solutions and future research directions. The book offers a useful reference guide to health information technology professionals, healthcare managers, healthcare practitioners, and patients alike, helping them in their decision making processes, as well as to students and academicians learning or dealing with data science related research issues in healthcare.

**Big Data, Big Challenges: A Healthcare Perspective**

Our newly digital world is generating an almost unimaginable amount of data about all of us. Such a vast amount of data is useless without plans and strategies that are designed to cope with its size and complexity, and which enable organisations to leverage the information to create value. This book is a refreshingly practical, yet theoretically sound roadmap to leveraging big data and analytics. Creating Value with Big Data Analytics provides a nuanced view of big data development, arguing that big data in itself is not a revolution but an evolution of the increasing availability of data that has been observed in recent
times. Building on the authors’ extensive academic and practical knowledge, this book aims to provide managers and analysts with strategic directions and practical analytical solutions on how to create value from existing and new big data. By tying data and analytics to specific goals and processes for implementation, this is a much-needed book that will be essential reading for students and specialists of data analytics, marketing research, and customer relationship management.

**Big Data, Big Challenges in Evidence-Based Policy Making**

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

**Big Data Challenges**

Privacy protection within large databases can be a challenge. By examining the current problems and challenges this domain is facing, more efficient strategies can be established to safeguard personal information against invasive pressures. HCI Challenges and Privacy Preservation in Big Data Security is an informative scholarly publication that discusses how human-computer interaction impacts privacy and security in almost all sectors of modern life. Featuring relevant topics such as large scale security data, threat detection, big data encryption, and identity management, this reference source is ideal for academicians, researchers, advanced-level students, and engineers that are interested in staying current on the advancements and drawbacks of human-computer interaction within the world of big data.
Handbook of Research on Security Considerations in Cloud Computing

This book is intended to present the state of the art in research on machine learning and big data analytics. The accepted chapters covered many themes including artificial intelligence and data mining applications, machine learning and applications, deep learning technology for big data analytics, and modeling, simulation, and security with big data. It is a valuable resource for researchers in the area of big data analytics and its applications.

Applications of Big Data in Healthcare

This timely text/reference reviews the state of the art of big data analytics, with a particular focus on practical applications. An authoritative selection of leading international researchers present detailed analyses of existing trends for storing and analyzing big data, together with valuable insights into the challenges inherent in current approaches and systems. This is further supported by real-world examples drawn from a broad range of application areas, including healthcare, education, and disaster management. The text also covers, typically from an application-oriented perspective, advances in data science in such areas as big data collection, searching, analysis, and knowledge discovery. Topics and features: Discusses a model for data traffic aggregation in 5G cellular networks, and a novel scheme for resource allocation in 5G networks with network slicing Explores methods that use big data in the assessment of flood risks, and apply neural networks techniques to monitor the safety of nuclear power plants Describes a system which leverages big data analytics and the Internet of Things in the application of drones to aid victims in disaster scenarios Proposes a novel deep learning-based health data analytics application for sleep apnea detection, and a novel pathway for diagnostic models of headache disorders Reviews techniques for educational data mining and learning analytics, and introduces a scalable MapReduce graph partitioning approach for high degree vertices Presents a multivariate and dynamic data representation model for the visualization of healthcare data, and big data analytics methods for software reliability assessment This practically-focused volume is an invaluable resource for all researchers, academics, data scientists and business professionals involved in the planning, designing, and implementation of big data analytics projects. Dr. Mohammed M. Alani is an Associate Professor in Computer Engineering and currently is the Provost at Al Khawarizmi International College, Abu Dhabi, UAE. Dr. Hissam Tawfik is a Professor of
Management in the Era of Big Data

This is the first book to offer a comprehensive yet concise overview of the challenges and opportunities presented by the use of big data in healthcare. The respective chapters address a range of aspects: from health management to patient safety; from the human factor perspective to ethical and economic considerations, and many more. By providing a historical background on the use of big data, and critically analyzing current approaches together with issues and challenges related to their applications, the book not only sheds light on the problems entailed by big data, but also paves the way for possible solutions and future research directions. Accordingly, it offers an insightful reference guide for health information technology professionals, healthcare managers, healthcare practitioners, and patients alike, aiding them in their decision-making processes; and for students and researchers whose work involves data science-related research issues in healthcare.

Big Data, Big Challenges

There currently is no in-depth book dedicated to the challenge of the Internet of Everything and Big Data technologies in smart cities. Humankind today is confronting a critical worldwide portability challenge and the framework that moves cities must keep pace with the innovation. Internet of Everything and Big Data: Major Challenges in Smart Cities reviews the applications, technologies, standards, and other issues related to smart cities. This book is dedicated to addressing the major challenges in realizing smart cities and sensing platforms in the era of Big Data cities and Internet of Everything. Challenges vary from cost and energy efficiency to availability and service quality. This book examines security issues and challenges, addresses the total information science challenges, covers exploring and creating IoT environment-related sales adaptive systems, and investigates basic and high-level concepts using the latest techniques implemented by researchers and
businesses. The book is written for analysts, researchers, and specialists who are working on the future generation of the technologies. It will serve as a valuable guide for those in the industry, and students as well.

**Internet of Things and Big Data Technologies for Next Generation Healthcare**

This unique book demonstrates the utility of big data approaches in human geography and planning. Offering a carefully curated selection of case studies, it reveals how researchers are accessing big data, what this data looks like and how such data can offer new and important insights and knowledge.

**Supply Chain Management in the Big Data Era**

Technological advancements in recent years have led to significant developments within a variety of business applications. In particular, data-driven research provides ample opportunity for enterprise growth, if utilized efficiently. Supply Chain Management in the Big Data Era is an authoritative reference source for the latest scholarly material on the implementation of big data analytics for improved operations and supply chain processes. Highlighting emerging strategies from different industry perspectives, this book is ideally designed for managers, professionals, practitioners, and students interested in the most recent research on supply chain innovations.

**Big Data in Psychological Research**

The best-selling author of Big Data is back, this time with a unique and in-depth insight into how specific companies use big data. Big data is on the tip of everyone's tongue. Everyone understands its power and importance, but many fail to grasp the actionable steps and resources required to utilise it effectively. This book fills the knowledge gap by showing how major companies are using big data every day, from an up-close, on-the-ground perspective. From technology, media and retail, to sport teams, government agencies and financial institutions, learn the actual strategies and processes being used to learn about customers, improve manufacturing, spur innovation, improve safety and so much more. Organised for easy dip-in navigation,
each chapter follows the same structure to give you the information you need quickly. For each company profiled, learn what data was used, what problem it solved and the processes put in place to make it practical, as well as the technical details, challenges and lessons learned from each unique scenario. Learn how predictive analytics helps Amazon, Target, John Deere and Apple understand their customers. Discover how big data is behind the success of Walmart, LinkedIn, Microsoft and more. Learn how big data is changing medicine, law enforcement, hospitality, fashion, science and banking. Develop your own big data strategy by accessing additional reading materials at the end of each chapter.

**Big Data in Small Business**

Big Data Application Architecture Pattern Recipes provides an insight into heterogeneous infrastructures, databases, and visualization and analytics tools used for realizing the architectures of big data solutions. Its problem-solution approach helps in selecting the right architecture to solve the problem at hand. In the process of reading through these problems, you will learn harness the power of new big data opportunities which various enterprises use to attain real-time profits. Big Data Application Architecture Pattern Recipes answers one of the most critical questions of this time 'how do you select the best end-to-end architecture to solve your big data problem?'. The book deals with various mission critical problems encountered by solution architects, consultants, and software architects while dealing with the myriad options available for implementing a typical solution, trying to extract insight from huge volumes of data in real-time and across multiple relational and non-relational data types for clients from industries like retail, telecommunication, banking, and insurance. The patterns in this book provide the strong architectural foundation required to launch your next big data application. The architectures for realizing these opportunities are based on relatively less expensive and heterogeneous infrastructures compared to the traditional monolithic and hugely expensive options that exist currently. This book describes and evaluates the benefits of heterogeneity which brings with it multiple options of solving the same problem, evaluation of trade-offs and validation of 'fitness-for-purpose' of the solution.

**Integrating Deep Learning Algorithms to Overcome Challenges in Big Data Analytics**
This book is a wonderful collection of chapters that posits how managers need to cope in the Big Data era. It highlights many of the emerging developments in technologies, applications, and trends related to management’s needs in this Big Data era.

—Dr. Jay Liebowitz, Harrisburg University of Science and Technology

This book presents some meaningful work on Big Data analytics and its applications. Each chapter generates helpful guidance to the readers on Big Data analytics and its applications, challenges, and prospects that is necessary for organizational strategic direction.

—Dr. Alex Koohang, Middle Georgia State University

Big Data is a concept that has caught the attention of practitioners, academicians, and researchers. Big Data offers organizations the possibility of gaining a competitive advantage by managing, collecting, and analyzing massive amounts of data. As the promises and challenges posed by Big Data have increased over the past decade, significant issues have developed regarding how data can be used for improving management. Big Data can be understood as large amounts of data generated by the Internet and a variety of connected smart devices and sensors. This book discusses the main challenges posed by Big Data in a manner relevant to both practitioners and scholars. It examines how companies can leverage Big Data analytics to act and optimize the business. This book brings together the theory and practice of management in the era of Big Data. It offers a look at the current state of Big Data, including a comprehensive overview of both research and practical applications. By bringing together conceptual thinking and empirical research on the nature, meaning, and development of Big Data in management, this book unifies research on Big Data in management to stimulate new directions for academic investigation as well as practice.

**Big Data Application Architecture Q&A**

As technology evolves and electronic data becomes more complex, digital medical record management and analysis becomes a challenge. In order to discover patterns and make relevant predictions based on large data sets, researchers and medical professionals must find new methods to analyze and extract relevant health information. Big Data Analytics in Bioinformatics and Healthcare merges the fields of biology, technology, and medicine in order to present a comprehensive study on the emerging information processing applications necessary in the field of electronic medical record management. Complete with interdisciplinary research resources, this publication is an essential reference source for researchers, practitioners, and students interested in the fields of biological computation, database management, and health information.
technology, with a special focus on the methodologies and tools to manage massive and complex electronic information.

**Big Data and Analytics**

This edited volume is devoted to Big Data Analysis from a Machine Learning standpoint as presented by some of the most eminent researchers in this area. It demonstrates that Big Data Analysis opens up new research problems which were either never considered before, or were only considered within a limited range. In addition to providing methodological discussions on the principles of mining Big Data and the difference between traditional statistical data analysis and newer computing frameworks, this book presents recently developed algorithms affecting such areas as business, financial forecasting, human mobility, the Internet of Things, information networks, bioinformatics, medical systems and life science. It explores, through a number of specific examples, how the study of Big Data Analysis has evolved and how it has started and will most likely continue to affect society. While the benefits brought upon by Big Data Analysis are underlined, the book also discusses some of the warnings that have been issued concerning the potential dangers of Big Data Analysis along with its pitfalls and challenges.

**Health Data Privacy under the GDPR**

This book presents and discusses the main strategic and organizational challenges posed by Big Data and analytics in a manner relevant to both practitioners and scholars. The first part of the book analyzes strategic issues relating to the growing relevance of Big Data and analytics for competitive advantage, which is also attributable to empowerment of activities such as consumer profiling, market segmentation, and development of new products or services. Detailed consideration is also given to the strategic impact of Big Data and analytics on innovation in domains such as government and education and to Big Data-driven business models. The second part of the book addresses the impact of Big Data and analytics on management and organizations, focusing on challenges for governance, evaluation, and change management, while the concluding part reviews real examples of Big Data and analytics innovation at the global level. The text is supported by informative illustrations and case studies, so that practitioners can use the book as a toolbox to improve understanding and
exploit business opportunities related to Big Data and analytics.

**HCI Challenges and Privacy Preservation in Big Data Security**

Big data has always been a major challenge in geoinformatics as geospatial data come in various types and formats, new geospatial data are acquired very fast, and geospatial databases are inherently very large. And while there have been advances in hardware and software for handling big data, they often fall short of handling geospatial big data ef

**Internet of Things Technologies for HealthCare**

This book brings together an impressive range of academic and intelligence professional perspectives to interrogate the social, ethical and security upheavals in a world increasingly driven by data. Written in a clear and accessible style, it offers fresh insights to the deep reaching implications of Big Data for communication, privacy and organisational decision-making. It seeks to demystify developments around Big Data before evaluating their current and likely future implications for areas as diverse as corporate innovation, law enforcement, data science, journalism, and food security. The contributors call for a rerthinking of the legal, ethical and philosophical frameworks that inform the responsibilities and behaviours of state, corporate, institutional and individual actors in a more networked, data-centric society. In doing so, the book addresses the real world risks, opportunities and potentialities of Big Data.

**Managerial Perspectives on Intelligent Big Data Analytics**

This important book considers the ways in which small and medium-sized enterprises (SMEs) can thrive in the age of big data. To address this central issue from multiple viewpoints, the editors introduce a collection of experiences, insights, and guidelines from a variety of expert researchers, each of whom provides a piece to solve this puzzle.
Handbook of Research on Healthcare Administration and Management

This book constitutes the proceedings of the Third International Conference on Internet of Things (IoT) Technologies for HealthCare, HealthyIoT 2016, held in Västerås, Sweden, October 18-19, 2016. The conference also included the First Workshop on Emerging eHealth through Internet of Things (EHIoT 2016). IoT as a set of existing and emerging technologies, notions and services provides many solutions to delivery of electronic healthcare, patient care, and medical data management. The 31 revised full papers presented along with 9 short papers were carefully reviewed and selected from 43 submissions in total. The papers cover topics such as healthcare support for the elderly, real-time monitoring systems, security, safety and communication, smart homes and smart caring environments, intelligent data processing and predictive algorithms in e-Health, emerging eHealth IoT applications, signal processing and analysis, and smartphones as a healthy thing.

Big Data in Practice

Data science revolves around two giants: Big Data analytics and Deep Learning. It is becoming challenging to handle and retrieve useful information due to how fast data is expanding. This book presents the technologies and tools to simplify and streamline the formation of Big Data as well as Deep Learning systems. This book discusses how Big Data and Deep Learning hold the potential to significantly increase data understanding and decision-making. It also covers numerous applications in healthcare, education, communication, media, and entertainment. Integrating Deep Learning Algorithms to Overcome Challenges in Big Data Analytics offers innovative platforms for integrating Big Data and Deep Learning and presents issues related to adequate data storage, semantic indexing, data tagging, and fast information retrieval. FEATURES Provides insight into the skill set that leverages one’s strength to act as a good data analyst Discusses how Big Data and Deep Learning hold the potential to significantly increase data understanding and help in decision-making Covers numerous potential applications in healthcare, education, communication, media, and entertainment Offers innovative platforms for integrating Big Data and Deep Learning Presents issues related to adequate data storage, semantic indexing, data tagging, and fast information retrieval from Big Data This book is aimed at industry professionals, academics, research scholars, system
Cloud computing has quickly become the next big step in security development for companies and institutions all over the world. With the technology changing so rapidly, it is important that businesses carefully consider the available advancements and opportunities before implementing cloud computing in their organizations. The Handbook of Research on Security Considerations in Cloud Computing brings together discussion on current approaches to cloud-based technologies and assesses the possibilities for future advancements in this field. Highlighting the need for consumers to understand the unique nature of cloud-delivered security and to evaluate the different aspects of this service to verify if it will meet their needs, this book is an essential reference source for researchers, scholars, postgraduate students, and developers of cloud security systems.

Combating Security Challenges in the Age of Big Data

The growth of data-collecting goods and services, such as ehealth and mhealth apps, smart watches, mobile fitness and dieting apps, electronic skin and ingestible tech, combined with recent technological developments such as increased capacity of data storage, artificial intelligence and smart algorithms, has spawned a big data revolution that has reshaped how we understand and approach health data. Recently the COVID-19 pandemic has foregrounded a variety of data privacy issues. The collection, storage, sharing and analysis of health-related data raises major legal and ethical questions relating to privacy, data protection, profiling, discrimination, surveillance, personal autonomy and dignity. This book examines health privacy questions in light of the General Data Protection Regulation (GDPR) and the general data privacy legal framework of the European Union (EU). The GDPR is a complex and evolving body of law that aims to deal with several technological and societal health data privacy problems, while safeguarding public health interests and addressing its internal gaps and uncertainties. The book answers a diverse range of questions including: What role can the GDPR play in regulating health surveillance and big (health) data analytics? Can it catch up with internet-age developments? Are the solutions to the

Big Data, Big Challenges: A Healthcare Perspective

Cloud computing has quickly become the next big step in security development for companies and institutions all over the world. With the technology changing so rapidly, it is important that businesses carefully consider the available advancements and opportunities before implementing cloud computing in their organizations. The Handbook of Research on Security Considerations in Cloud Computing brings together discussion on current approaches to cloud-based technologies and assesses the possibilities for future advancements in this field. Highlighting the need for consumers to understand the unique nature of cloud-delivered security and to evaluate the different aspects of this service to verify if it will meet their needs, this book is an essential reference source for researchers, scholars, postgraduate students, and developers of cloud security systems.
challenges posed by big health data to be found in the law? Does the GDPR provide adequate tools and mechanisms to ensure public health objectives and the effective protection of privacy? How does the GDPR deal with data that concern children’s health and academic research? By analysing a number of diverse questions concerning big health data under the GDPR from various perspectives, this book will appeal to those interested in privacy, data protection, big data, health sciences, information technology, the GDPR, EU and human rights law.

**Big Data**

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.

**Legal Challenges of Big Data**

Big Data in Psychological Research provides an overview of big data theory, research design and analysis, collection methods, applications, ethical concerns, best practices, and future research directions for psychologists.
Top 10 Challenges of Big Data Analytics

The main objective of this book is to provide the necessary background to work with big data by introducing some novel optimization algorithms and codes capable of working in the big data setting as well as introducing some applications in big data optimization for both academics and practitioners interested, and to benefit society, industry, academia, and government. Presenting applications in a variety of industries, this book will be useful for the researchers aiming to analyses large scale data. Several optimization algorithms for big data including convergent parallel algorithms, limited memory bundle algorithm, diagonal bundle method, convergent parallel algorithms, network analytics, and many more have been explored in this book.

Effective Big Data Management and Opportunities for Implementation

With the proliferation of devices connected to the internet and connected to each other, the volume of data collected, stored, and processed is increasing every day, which brings new challenges in terms of information security. As big data expands with the help of public clouds, traditional security solutions tailored to private computing infrastructures and confined to a well-defined security perimeter, such as firewalls and demilitarized zones (DMZs), are no longer effective. New security functions are required to work over the heterogenous composition of diverse hardware, operating systems, and network domains. Security, Privacy, and Forensics Issues in Big Data is an essential research book that examines recent advancements in big data and the impact that these advancements have on information security and privacy measures needed for these networks. Highlighting a range of topics including cryptography, data analytics, and threat detection, this is an excellent reference source for students, software developers and engineers, security analysts, IT consultants, academicians, researchers, and professionals.

Big Data

This groundbreaking book explores the new legal and economic challenges triggered by big data, and analyses the
interactions among and between intellectual property, competition law, free speech, privacy and other fundamental rights vis-à-vis big data analysis and algorithms.

**Big Data**

Applications of Big Data in Healthcare: Theory and Practice begins with the basics of Big Data analysis and introduces the tools, processes and procedures associated with Big Data analytics. The book unites healthcare with Big Data analysis and uses the advantages of the latter to solve the problems faced by the former. The authors present the challenges faced by the healthcare industry, including capturing, storing, searching, sharing and analyzing data. This book illustrates the challenges in the applications of Big Data and suggests ways to overcome them, with a primary emphasis on data repositories, challenges, and concepts for data scientists, engineers and clinicians. The applications of Big Data have grown tremendously within the past few years and its growth can not only be attributed to its competence to handle large data streams but also to its abilities to find insights from complex, noisy, heterogeneous, longitudinal and voluminous data. The main objectives of Big Data in the healthcare sector is to come up with ways to provide personalized healthcare to patients by taking into account the enormous amounts of already existing data. Provides case studies that illustrate the business processes underlying the use of big data and deep learning health analytics to improve health care delivery Supplies readers with a foundation for further specialized study in clinical analysis and data management Includes links to websites, videos, articles and other online content to expand and support the primary learning objectives for each major section of the book

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