Big Data E Privacy By Design Anonimizzazione Pseudonimizzazione Sicurezza Con Contenuto Digitale Per E Accesso On Line

In recent years, technological advances 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. Privacy and Security Policies in Big Data is a pivotal reference source for the latest research on innovative concepts on the management of security and privacy analytics within big data. Featuring extensive coverage on relevant areas such as kinetic knowledge, cognitive analytics, and parallel computing, this publication is an ideal resource for professionals, researchers, academicians, advanced-level students, and technology developers in the field of big data.
Perspectives on the varied challenges posed by big data for health, science, law, commerce, and politics. Big data is ubiquitous but heterogeneous. Big data can be used to tally clicks and traffic on web pages, find patterns in stock trades, track consumer preferences, identify linguistic correlations in large corpuses of texts. This book examines big data not as an undifferentiated whole but contextually, investigating the varied challenges posed by big data for health, science, law, commerce, and politics. Taken together, the chapters reveal a complex set of problems, practices, and policies. The advent of big data methodologies has challenged the theory-driven approach to scientific knowledge in favor of a data-driven one. Social media platforms and self-tracking tools change the way we see ourselves and others. The collection of data by corporations and government threatens privacy while promoting transparency. Meanwhile, politicians, policy makers, and ethicists are ill-prepared to deal with big data's ramifications. The contributors look at big data's effect on individuals as it exerts social control through monitoring, mining, and manipulation; big data and society, examining both its empowering and its constraining effects; big data and science, considering issues of data governance, provenance, reuse, and trust; and big data and organizations, discussing data responsibility, “data harm,” and decision making. Contributors Ryan Abbott, Cristina Alaimo, Kent R. Anderson, Mark Andrejevic, Diane E. Bailey, Mike Bailey, Mark Burdon, Fred H. Cate, Jorge L. Contreras, Simon DeDeo, Hamid R. Ekbia, Allison Goodwell, Jannis Kallinikos, Inna Kouper, M. Lynne Markus, Michael Mattioli, Paul Ohm, Scott Peppet, Beth Plale, Jason Portenoy, Julie Rennecker, Katie Shilton, Dan Sholler, Cassidy R. Sugimoto, Isuru Suriarachchi, Jevin D. West
This book gathers contributions related to the most pressing problems and challenges that new information and communications technologies (ICT) and digital platforms introduce into the labour market, and the impact they have on the way that people work, their rights and even their health and dignity. In addition, there are also chapters studying personal data protection, which is currently a topic of maximum interest due to the New European Regulation about it. The contributors here are drawn from around the world, with several countries represented, such as Portugal, Spain, Italy, Brazil, Australia and Venezuela. The book will appeal lawyers, legal and human resources experts, economists, judges, academics and staff from trade unions, and employers’ representation. The volume features insights and contributions in different languages, with chapters in Spanish (12), English (6) and Portuguese (4).
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.

Responding to growing interest in new regulations adopted by the EU, US, and UK authorities, this book provides a comprehensive overview of the legal and economic aspects of FinTech and the current regulation surrounding it. In particular, the book observes the technological evolution of finance and the 'economic space' that lies between the regulated market and the illegal circulation of capital. Analysing laws that influence the application of technology to the banking and finance sector, the author considers market infrastructure and illustrates how firms execute their activities on a global scale, away from the scope of public supervision and monetary backstops. With globalisation and digitalisation boosting efficiency, the economical relevance of technology is becoming ever more important and therefore this book provides a much-needed examination of the current trends in FinTech regulation, making it an essential read for those researching financial markets, and professionals within the industry.

This edited collection brings together a series of interdisciplinary contributions in the field of Information Technology Law. The topics addressed in this book cover a wide range of theoretical and practical legal issues that have been created by cutting-edge Internet technologies, primarily Big Data, the Internet of Things, and Cloud computing. Consideration is also given to more recent technological breakthroughs that are now used to assist, and — at times — substitute for, human work, such as automation, robots, sensors, and algorithms. The chapters presented in this edition address these issues from the perspective of different legal backgrounds. The first part of the book discusses some of the shortcomings that have prompted legislators to carry out reforms with regard to privacy, data protection, and data security. Notably, some of the complexities and salient points with regard to the new European General Data Protection Regulation (EU GDPR) and the new amendments to the Japan's Personal Information Protection Act (PIPA) have been scrutinized. The second part looks at the vital role of Internet intermediaries (or brokers) for the proper functioning of the globalized electronic market and innovation technologies in general. The third part examines an electronic approach to evidence with an evaluation of how these technologies affect civil and criminal investigations. The authors also explore issues that have emerged in e-commerce, such as Bitcoin and its blockchain network effects. The book aims to explain, systemize and solve some of the lingering legal questions created by the disruptive technological change that characterizes the early twenty-first century.

This volume brings together papers that offer methodologies, conceptual analyses, highlight issues, propose solutions, and discuss practices regarding privacy and data protection. It is one of the results of the eight annual International Conference on Computers, Privacy, and Data Protection, CPDP 2015, held in Brussels in January 2015. The book explores core concepts, rights and values in (upcoming) data protection regulation and their (in)adequacy in view of developments such as Big and Open Data, including the right to be forgotten, metadata, and anonymity. It discusses privacy promoting methods and tools such as a formal systems modeling methodology, privacy by design in various forms (robotics, anonymous payment), the opportunities and burdens of privacy self management, the differentiating role privacy can play in innovation. The book also discusses EU policies with respect to Big and Open Data and provides advice to policy makers regarding these topics. Also attention is being paid to regulation and its effects, for instance in case of the so-called 'EU-cookie law' and groundbreaking cases, such as Europe v. Facebook. This interdisciplinary book was written during what may turn out to be the final stages of the process of

the fundamental revision of the current EU data protection law by the Data Protection Package proposed by the European Commission. It discusses open issues and daring and prospective approaches. It will serve as an insightful resource for readers with an interest in privacy and data protection.

Much of what constitutes Big Data is information about us. Through our online activities, we leave an easy-to-follow trail of digital footprints that reveal who we are, what we buy, where we go, and much more. This eye-opening book explores the raging privacy debate over the use of personal data, with one undeniable conclusion: once data's been collected, we have absolutely no control over who uses it or how it is used. Personal data is the hottest commodity on the market today—truly more valuable than gold. We are the asset that every company, industry, non-profit, and government wants. Privacy and Big Data introduces you to the players in the personal data game, and explains the stark differences in how the U.S., Europe, and the rest of the world approach the privacy issue. You'll learn about: Collectors: social networking titans that collect, share, and sell user data Users: marketing organizations, government agencies, and many others Data markets: companies that aggregate and sell datasets to anyone Regulators: governments with one policy for commercial data use, and another for providing security

This collection explores the relevance of global trade law for data, big data and cross-border data flows. Contributing authors from different disciplines including law, economics and political science analyze developments at the World Trade Organization and in preferential trade venues by asking what future-oriented models for data governance are available and viable in the area of trade law and policy. The collection paints the broad picture of the interaction between digital technologies and trade regulation as well as provides in-depth analyses of critical to the data-driven economy issues, such as privacy and AI, and different countries' perspectives. This title is also available as Open Access on Cambridge Core.

This book helps readers gain an in-depth understanding of electronic health record (EHR) systems, medical big data, and the regulations that govern them. It analyzes both the shortcomings and benefits of EHR systems, exploring the law's response to the creation of these systems, highlighting gaps in the current legal framework, and developing detailed recommendations for regulatory, policy, and technological improvements. Electronic Health Records and Medical Big Data addresses not only privacy and security concerns but also other important challenges, such as those related to data quality and data analysis. In addition, the author formulates a large body of recommendations to improve the technology's safety, security, and efficacy for both clinical and secondary (such as research) uses of medical data.

The significance of big data can be observed in any decision-making process as it is often used for forecasting and predictive analytics. Additionally, big data can be used to build a holistic view of an enterprise through a collection and analysis of large data sets retrospectively. As the data deluge deepens, new methods for analyzing, comprehending, and making use of big data become necessary. Enterprise Big Data Engineering, Analytics, and Management presents novel methodologies and practical approaches to engineering, managing, and analyzing large-scale data sets with a focus on enterprise applications and implementation. Featuring essential big data concepts including data mining, artificial intelligence, and information extraction, this publication provides a platform for retargeting the current research available in the field. Data analysts, IT professionals,

researchers, and graduate-level students will find the timely research presented in this publication essential to furthering their knowledge in the field.

A comprehensive introduction to the theory and practice of contemporary data science analysis for railway track engineering Featuring a practical introduction to state-of-the-art data analysis for railway track engineering, Big Data and Differential Privacy: Analysis Strategies for Railway Track Engineering addresses common issues with the implementation of big data applications while exploring the limitations, advantages, and disadvantages of more conventional methods. In addition, the book provides a unifying approach to analyzing large volumes of data in railway track engineering using an array of proven methods and software technologies. Dr. Attoh-Okine considers some of today's most notable applications and implementations and highlights when a particular method or algorithm is most appropriate. Throughout, the book presents numerous real-world examples to illustrate the latest railway engineering big data applications of predictive analytics, such as the Union Pacific Railroad's use of big data to reduce train derailments, increase the velocity of shipments, and reduce emissions. In addition to providing an overview of the latest software tools used to analyze the large amount of data obtained by railways, Big Data and Differential Privacy: Analysis Strategies for Railway Track Engineering: • Features a unified framework for handling large volumes of data in railway track engineering using predictive analytics, machine learning, and data mining • Explores issues of big data and differential privacy and discusses the various advantages and disadvantages of more conventional data analysis techniques • Implements big data applications while addressing common issues in railway track maintenance • Explores the advantages and pitfalls of data analysis software such as R and Spark, as well as the Apache™ Hadoop® data collection database and its popular implementation MapReduce Big Data and Differential Privacy is a valuable resource for researchers and professionals in transportation science, railway track engineering, design engineering, operations research, and railway planning and management. The book is also appropriate for graduate courses on data analysis and data mining, transportation science, operations research, and infrastructure management. NII ATTOH-OKINE, PhD, PE is Professor in the Department of Civil and Environmental Engineering at the University of Delaware. The author of over 70 journal articles, his main areas of research include big data and data science; computational intelligence; graphical models and belief functions; civil infrastructure systems; image and signal processing; resilience engineering; and railway track analysis. Dr. Attoh-Okine has edited five books in the areas of computational intelligence, infrastructure systems and has served as an Associate Editor of various ASCE and IEEE journals.

When data from all aspects of our lives can be relevant to our health - from our habits at the grocery store and our Google searches to our FitBit data and our medical records - can we really differentiate between big data and health big data? Will health big data be used for good, such as to improve drug safety, or ill, as in insurance discrimination? Will it disrupt health care (and the health care system) as we know it? Will it be possible to protect our health privacy? What barriers will there be to collecting and utilizing health big data? What role should law play, and what ethical concerns may arise? This timely, groundbreaking volume explores these questions and more from a variety of perspectives, examining how law promotes or discourages the use of big data

in the health care sphere, and also what we can learn from other sectors.

This book presents original research articles addressing various aspects of artificial intelligence as applied to economics, law, management and optimization. The topics discussed include economics, policies, finance, law, resource allocation strategies and information technology. Combining the input of contributing professors and researchers from Italian and international universities, the book will be of interest to students, researchers and practitioners, as well as members of the general public interested in the economic and policy implications of artificial intelligence.

With the recent growth of big data and the internet of things (IoT), individuals can now upload, retrieve, store, and collect massive amounts of information to help drive decisions and optimize processes. Due to this, a new age of predictive computing is taking place, and data can now be harnessed to predict unknown occurrences or probabilities based on data collected in real time. Predictive Intelligence Using Big Data and the Internet of Things highlights state-of-the-art research on predictive intelligence using big data, the IoT, and related areas to ensure quality assurance and compatible IoT systems. Featuring coverage on predictive application scenarios to discuss these breakthroughs in real-world settings and various methods, frameworks, algorithms, and security concerns for predictive intelligence, this book is ideally designed for academicians, researchers, advanced-level students, and technology developers.

This book contains a range of invited and submitted papers presented at the 11th IFIP WG 9.2, 9.5, 9.6/11.7, 11.4, 11.6/SIG 9.2.2 International Summer School, held in Karlstad, Sweden, in August 2016. The 17 revised full papers and one short paper included in this volume were carefully selected from a total of 42 submissions and were subject to a two-step review process. The papers combine interdisciplinary approaches to bring together a host of perspectives: technical, legal, regulatory, socio-economic, social, societal, political, ethical, anthropological, philosophical, and psychological.

Big Data of Complex Networks presents and explains the methods from the study of big data that can be used in analysing massive structural data sets, including both very large networks and sets of graphs. As well as applying statistical analysis techniques like sampling and bootstrapping in an interdisciplinary manner to produce novel techniques for analyzing massive amounts of data, this book also explores the possibilities offered by the special aspects such as computer memory in investigating large sets of complex networks. Intended for computer scientists, statisticians and mathematicians interested in the big data and networks, Big Data of Complex Networks is also a valuable tool for researchers in the fields of visualization, data analysis, computer vision and bioinformatics. Key features: Provides a complete discussion of both the hardware and software used to organize big data Describes a wide range of useful applications for managing big data and resultant data sets Maintains a firm focus on massive data and large networks Unveils innovative techniques to help readers handle big data Matthias Dehmer received his PhD in computer science from the Darmstadt University of Technology, Germany. Currently, he is Professor at UMIT – The Health and Life Sciences University, Austria, and the Universität der Bundeswehr München. His research interests are in graph theory, data science, complex networks, complexity, statistics and information theory. Frank Emmert-Streib received his

PhD in theoretical physics from the University of Bremen, and is currently Associate professor at Tampere University of Technology, Finland. His research interests are in the field of computational biology, machine learning and network medicine. Stefan Pickl holds a PhD in mathematics from the Darmstadt University of Technology, and is currently a Professor at Bundeswehr Universität München. His research interests are in operations research, systems biology, graph theory and discrete optimization. Andreas Holzinger received his PhD in cognitive science from Graz University and his habilitation (second PhD) in computer science from Graz University of Technology. He is head of the Holzinger Group HCI-KDD at the Medical University Graz and Visiting Professor for Machine Learning in Health Informatics Vienna University of Technology.

A revelatory exploration of the hottest trend in technology and the dramatic impact it will have on the economy, science, and society at large. Which paint color is most likely to tell you that a used car is in good shape? How can officials identify the most dangerous New York City manholes before they explode? And how did Google searches predict the spread of the H1N1 flu outbreak? The key to answering these questions, and many more, is big data. “Big data” refers to our burgeoning ability to crunch vast collections of information, analyze it instantly, and draw sometimes profoundly surprising conclusions from it. This emerging science can translate myriad phenomena—from the price of airline tickets to the text of millions of books—into searchable form, and uses our increasing computing power to unearth epiphanies that we never could have seen before. A revolution on par with the Internet or perhaps even the printing press, big data will change the way we think about business, health, politics, education, and innovation in the years to come. It also poses fresh threats, from the inevitable end of privacy as we know it to the prospect of being penalized for things we haven’t even done yet, based on big data’s ability to predict our future behavior. In this brilliantly clear, often surprising work, two leading experts explain what big data is, how it will change our lives, and what we can do to protect ourselves from its hazards. Big Data is the first big book about the next big thing. www.big-data-book.com

The subjects of this volume are more relevant than ever, especially in light of the raft of electoral scandals concerning voter profiling. This volume brings together papers that offer conceptual analyses, highlight issues, propose solutions, and discuss practices regarding privacy and data protection. It is one of the results of the twelfth annual International Conference on Computers, Privacy and Data Protection, CPDP, held in Brussels in January 2019. The book explores the following topics: dataset nutrition labels, lifelogging and privacy by design, data protection iconography, the substance and essence of the right to data protection, public registers and data protection, modelling and verification in data protection impact assessments, examination scripts and data protection law in Cameroon, the protection of children's digital rights in the GDPR, the concept of the scope of risk in the GDPR and the ePrivacy Regulation. This interdisciplinary book has been written at a time when the scale and impact of data processing on society – not only on individuals, but also on social systems – is becoming ever starker. It discusses open issues as well as daring and prospective approaches, and will serve as an insightful resource for readers with an interest in computers, privacy and data protection.

Demystifying Big Data, Machine Learning, and Deep Learning for Healthcare Analytics presents the changing world of data

utilization, especially in clinical healthcare. Various techniques, methodologies, and algorithms are presented in this book to organize data in a structured manner that will assist physicians in the care of patients and help biomedical engineers and computer scientists understand the impact of these techniques on healthcare analytics. The book is divided into two parts: Part 1 covers big data aspects such as healthcare decision support systems and analytics-related topics. Part 2 focuses on the current frameworks and applications of deep learning and machine learning, and provides an outlook on future directions of research and development. The entire book takes a case study approach, providing a wealth of real-world case studies in the application chapters to act as a foundational reference for biomedical engineers, computer scientists, healthcare researchers, and clinicians. Provides a comprehensive reference for biomedical engineers, computer scientists, advanced industry practitioners, researchers, and clinicians to understand and develop healthcare analytics using advanced tools and technologies Includes in-depth illustrations of advanced techniques via dataset samples, statistical tables, and graphs with algorithms and computational methods for developing new applications in healthcare informatics Unique case study approach provides readers with insights for practical clinical implementation

Privacy and Big Data"O'Reilly Media, Inc."

This book presents the data privacy protection which has been extensively applied in our current era of big data. However, research into big data privacy is still in its infancy. Given the fact that existing protection methods can result in low data utility and unbalanced trade-offs, personalized privacy protection has become a rapidly expanding research topic.In this book, the authors explore emerging threats and existing privacy protection methods, and discuss in detail both the advantages and disadvantages of personalized privacy protection. Traditional methods, such as differential privacy and cryptography, are discussed using a comparative and intersectional approach, and are contrasted with emerging methods like federated learning and generative adversarial nets. The advances discussed cover various applications, e.g. cyber-physical systems, social networks, and location-based services. Given its scope, the book is of interest to scientists, policy-makers, researchers, and postgraduates alike.

Increasingly, algorithms regulate our lives. Personal data is routinely processed on an unprecedented scale in both private and public sectors. This shift from more subjective and less structured human decision-making processes to automated ones has provoked numerous concerns with regard to the rights and freedoms of natural persons affected. In particular, those attached to profiling that can lead to discrimination influencing crucial opportunities of individuals, such as the ability to obtain credit, insurance, education, a job or even medical treatment. To the extent that automated individual decision-making is based on personal data, in the European Union it is subject to the General Data Protection Regulation. The author examines whether this legislative act affords sufficient protection of natural persons with regard to such processing, identifying the loopholes that hinder or prevent its efficacy and the de lege lata rules and de lege ferenda postulates that could provide individuals with effective protection in relation to automated individual decision-making. She provides an in-depth analysis of such aspects as the following: the GDPR’s background, terminology and material and territorial scope of application; key concerns regarding automated

individual decision-making; specific and general provisions of the GDPR relevant to protection of natural persons with regard to automated individual decision-making; special and general rights of the data subject relevant to automated individual decision-making provided for in the GDPR; key limitations to algorithmic transparency; how profiling can create special categories of personal data by inference from 'ordinary' personal data; and how the version of reality derived from personal data is often at least partially inaccurate. To interpret the rules of the GDPR, the analysis draws on the travaux préparatoires, case law of the Court of Justice of the European Union and national courts that concerns the previous Data Protection Directive, guidelines and opinions of the Article 29 Working Party and the European Data Protection Board, various reports and recommendations and numerous academic writings. In its consideration of some of the most controversial issues in the realm of personal data protection – issues whose role in the information society will grow rapidly – this book represents a major contribution to research and legal guidance at the confluence of law and new technologies concerning algorithmic accountability. Policymakers, regulators and lawyers active in the ongoing development of personal data protection law will become knowledgeable about interpretations and guidelines formulated by European data protection authorities, as well as examples and best practices in the field. Moreover practitioners will find the implementation of automated individual decision-making systems in accordance with the GDPR greatly facilitated. The analysis will assist data protection authorities and judicature in assessing such systems and interpreting the GDPR framework with regard to protection of natural persons in the years to come.

Digital forensics has recently gained a notable development and become the most demanding area in today's information security requirement. This book investigates the areas of digital forensics, digital investigation and data analysis procedures as they apply to computer fraud and cybercrime, with the main objective of describing a variety of digital crimes and retrieving potential digital evidence. Big Data Analytics and Computing for Digital Forensic Investigations gives a contemporary view on the problems of information security. It presents the idea that protective mechanisms and software must be integrated along with forensic capabilities into existing forensic software using big data computing tools and techniques. Features Describes trends of digital forensics served for big data and the challenges of evidence acquisition Enables digital forensic investigators and law enforcement agencies to enhance their digital investigation capabilities with the application of data science analytics, algorithms and fusion technique This book is focused on helping professionals as well as researchers to get ready with next-generation security systems to mount the rising challenges of computer fraud and cybercrimes as well as with digital forensic investigations. Dr Suneeta Satpathy has more than ten years of teaching experience in different subjects of the Computer Science and Engineering discipline. She is currently working as an associate professor in the Department of Computer Science and Engineering, College of Bhubaneswar, affiliated with Biju Patnaik University and Technology, Odisha. Her research interests include computer forensics, cybersecurity, data fusion, data mining, big data analysis and decision mining. Dr Sachi Nandan Mohanty is an associate professor in the Department of Computer Science and Engineering at ICFAI Tech, ICFAI Foundation for Higher Education, Hyderabad, India. His research interests include data mining, big data analysis, cognitive science, fuzzy decision-making,

brain–computer interface, cognition and computational intelligence.

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.

There is a perfect storm brewing. While data is growing at an exponential rate, technology is pushing the transformation envelope making data aggregation and large scale analytic computation easy. What is the most valuable commodity on the market today? It's us. We are the asset that every company, industry, non-profit, and government agency (civil, internal security, military, or intelligence) wants. In fact, the investment community is placing huge bets on "us." Our personal digital data is now considered more valuable than diamonds, rubies, gold, or platinum.

Offers a clear view of the utility and place for survey data within the broader Big Data ecosystem This book presents a collection of snapshots from two sides of the Big Data perspective. It assembles an array of tangible tools, methods, and approaches that illustrate how Big Data sources and methods are being used in the survey and social sciences to improve official statistics and estimates for human populations. It also provides examples of how survey data are being used to evaluate and improve the quality of insights derived from Big Data. Big Data Meets Survey Science: A Collection of Innovative Methods shows how survey data and Big Data are used together for the benefit of one or more sources of data, with numerous chapters providing consistent illustrations and examples of survey data enriching the evaluation of Big Data sources. Examples of how machine learning, data mining, and other data science techniques are inserted into virtually every stage of the survey lifecycle are presented. Topics covered include: Total Error Frameworks for Found Data; Performance and Sensitivities of Home Detection on Mobile Phone Data; Assessing Community Wellbeing Using Google Street View and Satellite Imagery; Using Surveys to Build and Assess RBS Religious Flag; and more. Presents groundbreaking survey methods being utilized today in the field of Big Data Explores how machine learning methods can be applied to the design, collection, and analysis of social science data Filled with examples and illustrations that show how survey data benefits Big Data evaluation Covers methods and applications used in combining Big Data with survey statistics Examines regulations as well as ethical and privacy issues Big Data Meets Survey Science: A Collection of Innovative Methods is an excellent book for both the survey and social science communities as they learn to capitalize on this new revolution. It will also appeal to the broader data and computer science communities looking for new areas of application for emerging methods and data sources.

Digital data collection and surveillance is pervasive and no one can protect your privacy without your help. Before you can help yourself, you need to understand the new technologies, what benefits they provide, and what trade-offs they require. Some of those trade-offs – privacy for convenience – could be softened by our own behavior or be reduced by legislation if we fight for it. This book analyzes why privacy is important to all of us, and it describes the technologies that place your privacy most at risk, starting with modern computing and the Internet.

This book contains a range of keynote papers and submitted papers presented at the 9th IFIP WG 9.2, 9.5, 9.6/11.7, 11.4, 11.6/SIG 9.2.2 International Summer School, held in Patras, Greece, in September 2014. The 9 revised full papers and 3 workshop papers included in this volume were carefully selected from a total of 29 submissions and were subject to a two-step review process. In addition, the volume contains 5 invited keynote papers. The regular papers are organized in topical sections on legal privacy aspects and technical concepts, privacy by design and privacy patterns and privacy technologies and protocols.

Can there be reliable information that is also relevant to decision making? Information for Efficient Decision Making: Big Data, Blockchain and

Relevance focuses on the consolidation of information to facilitate making decisions in firms, in order to make their operations efficient to reduce their costs and consequently, increase their profitability. The advent of blockchain has generated great interest as an alternative to centralized organizations, where the data is gathered through a centralized ledger keeping of activities of the firm. The decentralized ledger keeping is one of the main features of blockchain that has given rise to many issues of technology, development, implementation, privacy, acceptance, evaluation and so on. Blockchain concept is a follow-up to big data environment facilitated by enormous progress in computer hardware, storage capacities and technological prowess. This has resulted in the rapid acquiring of data not considered possible earlier. With shrewd modeling analytics and algorithms, the applications have grown to significant levels. This handbook discusses the progress in data collection, pros and cons of collecting information on decentralized publicly available ledgers and several applications.

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.

Viviamo nell’epoca dell’abbondanza dei dati, da cui tutti traiamo un beneficio in termini di maggiori opportunità di conoscenza del mondo. Questa disponibilità di informazioni, però, non può essere senza limiti, poiché altrimenti ci renderebbe sovraesposti oltre ogni nostro desiderio, muterebbe radicalmente le nostre relazioni sociali e si risolverebbe, in definitiva, nella messa in circolo di una enorme quantità di dati di bassa qualità e scarsa utilità. Il Regolamento Europeo in materia di protezione dei dati personali coglie perfettamente questi rischi nell’introdurre il principio di privacy by design, che si pone l’obiettivo di individuare nuove forme di tutela per le persone basate sulla leva tecnologica, in aggiunta a quelle che tradizionalmente si xsono realizzate intervenendo sulla leva giuridica. Se diritto e tecnologia saranno ben armonizzati, la maggiore disponibilità di dati potrà realmente determinare un cambiamento di tipo cognitivo, permettendoci la scoperta di nuove relazioni tra dati (i Big Data), le persone e gli oggetti (l’internet delle cose). Perché da questa scoperta non nascano rischi per le persone (di sicurezza, ma anche di sottili o gravi discriminazioni) è più che mai necessario rafforzarne la tutela “sin dall’inizio”, ossia intervenendo sui trattamenti dal primo momento in cui un servizio o una nuova applicazione sono pensati e progettati. Il libro si pone l’obiettivo di illustrare le principali modalità disponibili per offrire alle persone nuove tutele “per via tecnologica”, mediante l’adozione di processi di anonimizzazione e pseudonimizzazione dei dati. Esso si rivolge a chi si occupa di tecnologie, se pure a diversi livelli e con diversa formazione: a chi le progetta, a chi le impiega per realizzare servizi, a chi ne disciplina l’uso all’interno delle aziende o in ambito pubblico, a chi prende decisioni strategiche su investimenti e piani di sviluppo. Ciò al fine di portare a più stretto contatto le diverse anime giuridica, tecnologica e oggi anche economica della protezione dei dati personali.Giuseppe D’Acquisto, ingegnere, funzionario direttivo del Garante per la protezione di dati personali, rappresenta l’Autorità nei tavoli di lavoro internazionali che affrontano temi legati all’uso delle tecnologie. È autore di libri e pubblicazioni scientifiche su temi tecnico-regolamentari quali network e search neutrality, data breach, diritto

all’oblio.Maurizio Naldi, docente universitario, è titolare dei corsi di “Sicurezza informatica e Internet” e “Analisi tecnico-economica dei progetti ICT” presso l’Università di Roma Tor Vergata. La sua attività di ricerca riguarda principalmente gli aspetti economici dei servizi e delle tecnologie di rete. È autore di oltre 150 lavori su riviste e conferenze internazionali e Senior Editor della rivista “Electronic Commerce Research and Applications”.

Massive amounts of data on human beings can now be analyzed. Pragmatic purposes abound, including selling goods and services, winning political campaigns, and identifying possible terrorists. Yet 'big data' can also be harnessed to serve the public good: scientists can use big data to do research that improves the lives of human beings, improves government services, and reduces taxpayer costs. In order to achieve this goal, researchers must have access to this data - raising important privacy questions. What are the ethical and legal requirements? What are the rules of engagement? What are the best ways to provide access while also protecting confidentiality? Are there reasonable mechanisms to compensate citizens for privacy loss? The goal of this book is to answer some of these questions. The book's authors paint an intellectual landscape that includes legal, economic, and statistical frameworks. The authors also identify new practical approaches that simultaneously maximize the utility of data access while minimizing information risk.

With the advent of new technologies in big data science, the study of medical problems has made significant progress. Connecting medical studies and computational methods is crucial for the advancement of the medical industry. Big Data Analytics in HIV/AIDS Research provides emerging research on the development and implementation of computational techniques in big data analysis for biological and medical practices. While highlighting topics such as deep learning, management software, and molecular modeling, this publication explores the various applications of data analysis in clinical decision making. This book is a vital resource for medical practitioners, nurses, scientists, researchers, and students seeking current research on the connections between data analytics in the field of medicine.

There are a number of books on computational intelligence (CI), but they tend to cover a broad range of CI paradigms and algorithms rather than provide an in-depth exploration in learning and adaptive mechanisms. This book sets its focus on CI based architectures, modeling, case studies and applications in big data analytics, and business intelligence. The intended audiences of this book are scientists, professionals, researchers, and academicians who deal with the new challenges and advances in the specific areas mentioned above. Designers and developers of applications in these areas can learn from other experts and colleagues through this book.

Serving as a flagship driver towards advance research in the area of Big Data platforms and applications, this book provides a platform for the dissemination of advanced topics of theory, research efforts and analysis, and implementation oriented on methods, techniques and performance evaluation. In 23 chapters, several important formulations of the architecture design, optimization techniques, advanced analytics methods, biological, medical and social media applications are presented. These chapters discuss the research of members from the ICT COST Action IC1406 High-Performance Modelling and Simulation for Big

Data Applications (cHiPSet). This volume is ideal as a reference for students, researchers and industry practitioners working in or interested in joining interdisciplinary works in the areas of intelligent decision systems using emergent distributed computing paradigms. It will also allow newcomers to grasp the key concerns and their potential solutions.

The increase in connected devices in the internet of things (IoT) is leading to an exponential increase in the data that an organization is required to manage. To successfully utilize IoT in businesses, big data analytics are necessary in order to efficiently sort through the increased data. The combination of big data and IoT can thus enable new monitoring services and powerful processing of sensory data streams. The Handbook of Research on Big Data and the IoT is a pivotal reference source that provides vital research on emerging trends and recent innovative applications of big data and IoT, challenges facing organizations and the implications of these technologies on society, and best practices for their implementation. While highlighting topics such as bootstrapping, data fusion, and graph mining, this publication is ideally designed for IT specialists, managers, policymakers, analysts, software engineers, academicians, and researchers.

This book examines various topics and approaches related to the security and privacy in big data and cloud computing, where authors share their expertise in their respective chapters on a broad range of security and privacy challenges and state of the art solutions.

This handbook brings together a variety of approaches to the uses of big data in multiple fields, primarily science, medicine, and business. This single resource features contributions from researchers around the world from a variety of fields, where they share their findings and experience. This book is intended to help spur further innovation in big data. The research is presented in a way that allows readers, regardless of their field of study, to learn from how applications have proven successful and how similar applications could be used in their own field. Contributions stem from researchers in fields such as physics, biology, energy, healthcare, and business. The contributors also discuss important topics such as fraud detection, privacy implications, legal perspectives, and ethical handling of big data.

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