Beyond Big Data Smart Homes

Is the Brexit vote successful big data politics or the end of democracy? Why do airlines overbook, and why do banks get it wrong so often? How does big data enable Netflix to forecast a hit, CERN to find the Higgs boson and medics to discover if red wine really is good for you? And how are companies using big data to benefit from smart meters, use advertising that spies on you and develop the gig economy, where workers are managed by the whim of an algorithm? The volumes of data we now access can give unparalleled abilities to make predictions, respond to customer demand and solve problems. But Big Brother ' s shadow hovers over it. Though big data can set us free and enhance our lives, it has the potential to create an underclass and a totalitarian state. With big data ever-present, you can ' t afford to ignore it. Acclaimed science writer Brian Clegg - a habitual early adopter of new technology (and the owner of the second-ever copy of Windows in the UK) - brings big data to life.

Every day, new warnings emerge about artificial intelligence rebelling against us. All the while, a more immediate dilemma flies under the radar. Have forces been unleashed that are thrusting humanity down an ill-advised path, one that's increasingly making us behave like simple machines? In this wide-reaching, interdisciplinary book, Brett Frischmann and Evan Selinger examine what's happening to our lives as society embraces big data, predictive analytics, and smart environments. They explain how the goal of designing programmable worlds goes hand in hand with engineering predictable and programmable people. Detailing new frameworks, provocative case studies, and mind-blowing thought experiments, Frischmann and Selinger reveal hidden connections between fitness trackers, electronic contracts, social media platforms, robotic companions, fake news, autonomous cars, and more. This powerful analysis should be read by anyone interested in understanding exactly how technology threatens the future of our society, and what we can do now to build something better.

This book aims to explain Data Analytics towards decision making in terms of models and algorithms, theoretical concepts, applications, experiments in relevant domains or focused on specific issues. It explores the concepts of database technology, machine learning, knowledge-based system, high performance computing, information retrieval, finding patterns hidden in large datasets and data visualization. Also, it presents various paradigms including pattern mining, clustering, classification, and data analysis. Overall aim is to provide technical solutions in the field of data analytics and data mining. Features: Covers descriptive statistics with respect to predictive analytics and business analytics. Discusses different data analytics platforms for real-time applications. Explain SMART business models. Includes algorithms in data sciences alongwith automated methods and models. Explores varied challenges

encountered by researchers and businesses in the realm of real-time analytics. This book aims at researchers and graduate students in data analytics, data sciences, data mining, and signal processing.

Systems Simulation and Modelling for Cloud Computing and Big Data Applications provides readers with the most current approaches to solving problems through the use of models and simulations, presenting SSM based approaches to performance testing and benchmarking that offer significant advantages. For example, multiple big data and cloud application developers and researchers can perform tests in a controllable and repeatable manner. Inspired by the need to analyze the performance of different big data processing and cloud frameworks, researchers have introduced several benchmarks, including BigDataBench, BigBench, HiBench, PigMix, CloudSuite and GridMix, which are all covered in this book. Despite the substantial progress, the research community still needs a holistic, comprehensive big data SSM to use in almost every scientific and engineering discipline involving multidisciplinary research. SSM develops frameworks that are applicable across disciplines to develop benchmarking tools that are useful in solutions development. Examines the methodology and requirements of benchmarking big data and cloud computing tools, advances in big data frameworks and benchmarks for large-scale data analytics, and frameworks for benchmarking and predictive analytics in big data deployment Discusses applications using big data benchmarks, such as BigDataBench, BigBench, HiBench, MapReduce, HPCC, ECL, HOBBIT, GridMix and PigMix, and applications using big data frameworks, such as Hadoop, Spark, Samza, Flink and SQL frameworks Covers development of big data benchmarks to evaluate workloads in state-of-the-practice heterogeneous hardware platforms, advances in modeling and simulation tools for performance evaluation, security problems and scalable cloud computing environments

This book constitutes the refereed proceedings of the 12th European Conference on Ambient Intelligence, AmI 2015, held in Athens, Greece, in November 2015. The 21 revised full papers presented together with 5 short papers were carefully reviewed and selected from 48 submissions. Over the past 20 years, the vision of Ambient Intelligence has gradually materialized into a plethora of technologies and devices, which are being introduced into almost every aspect of everyday life, thus affecting our abilities, activities, behavior and in the end,shaping a new way of thinking.

Beyond Smart and Connected Governments

The Future Home is Wise, Not Smart

Handbook of Research on Big Data and the IoT

Data Science and Big Data: An Environment of Computational Intelligence

Principles of Data Science

Data Driven Decision Making using Analytics

Wireless World in 2050 and Beyond: A Window into the Future!

The Internet of Things (IoT) has seen the eventual shift to the "Internet of Everything" in the recent years, unveiling its ubiquitous presence spanning from smart transports to smart healthcare, from smart education to smart shopping. With the 5G rollouts across the different countries of the world, it raises newer perspectives toward the integration of 5G in IoT. For IoT-based smart devices, 5G not only means speed, but also better stability, efficiency, and more secure connectivity. The reach of 5G in IoT is extending in multifarious areas like self-driving vehicles, smart grids for renewable energy, AI-enabled robots on factory floors, intelligent healthcare services . . . The endless list is the real future of 5G in IoT. Features: Fundamental and applied perspectives to 5G integration in IoT Transdisciplinary vision with aspects of Artificial Intelligence, Industry 4.0, and hands-on practice tools Discussion of trending research issues in 5G and IoT As 5G technologies catalyze a paradigm shift in the domain of IoT, this book serves as a reference for the researchers in the field of IoT and 5G, proffering the landscape to the trending aspects as well as the key topics of discussion in the years to come.

This book provides readers with a thorough understanding of various research areas within the field of data science. The book introduces readers to various techniques for data acquisition, extraction, and cleaning, data summarizing and modeling, data analysis and communication techniques, data science tools, deep learning, and various data science applications. Researchers can extract and conclude various future ideas and topics that could result in potential publications or thesis. Furthermore, this book contributes to Data Scientists' preparation and to enhancing their knowledge of the field. The book provides a rich collection of manuscripts in highly regarded data science topics, edited by professors with long experience in the field of data science. Introduces various techniques, methods, and algorithms adopted by Data Science experts Provides a detailed explanation of data science perceptions, reinforced by practical examples Presents a road map of future trends suitable for innovative data science research and practice

Because of the increased access to high-speed Internet and smart phones, many patients have started to use mobile applications to manage various health needs. These devices and mobile apps are now increasingly used and integrated with telemedicine and telehealth via the medical Internet of Things (IoT). Big Data Management and the Internet of Things for Improved Health Systems is a critical scholarly resource that examines the digital transformation of healthcare. Featuring coverage on a broad range of topics, such as brain computer interface, data reduction techniques, and risk factors, this book is geared towards academicians, practitioners, researchers, and students seeking research on health and well-being data.

This book constitutes the revised selected papers of the 17th Smoky Mountains Computational Sciences and

Engineering Conference, SMC 2020, held in Oak Ridge, TN, USA*, in August 2020. The 36 full papers and 1 short paper presented were carefully reviewed and selected from a total of 94 submissions. The papers are organized in topical sections of computational applications: converged HPC and artificial intelligence; system software: data infrastructure and life cycle; experimental/observational applications: use cases that drive requirements for AI and HPC convergence; deploying computation: on the road to a converged ecosystem; scientific data challenges. *The conference was held virtually due to the COVID-19 pandemic.

This book presents a practical framework for the application of big data, cloud, and pervasive and complex systems to sustainable solutions for urban environmental challenges. It covers the technologies, potential, and possible and impact of big data on energy efficiency and the urban environment. The book first introduces key aspects of big data, cloud services, pervasive computing, and mobile technologies from a pragmatic design perspective, including sample open source firmware. Cloud services, mobile and embedded platforms, interfaces, operating system design methods, networking, and middleware are all considered. The authors then explore in detail the framework, design principles, architecture and key components of developing energy systems to support sustainable urban environments. The included case study provides a pathway to improve the eco-efficiency of urban transport, demonstrating how to design an energy efficient next generation urban navigation system by leveraging vast cloud data sets on user-behavior. Ultimately, this resource maps big data's pivotal intersection with rapid global urbanization along the path to a sustainable future.

Geospatial Technology and Smart Cities

Real-Time Applications with Storm, Spark, and More Hadoop Alternatives

Big Data for Urban Sustainability

ICT Policy, Research, and Innovation

Smart Homes and Beyond

Human-Computer Interaction and Beyond

The Web at Graduation and Beyond

Beyond Big DataUsing Social MDM to Drive Deep Customer InsightIBM Press

This volume constitutes the refereed proceedings of the 5th International Conference on Big Data Innovations and Applications, Innovate-Data 2019, held in Istanbul, Turkey, in August 2019. The 15 revised full papers and 1 short paper presented in this volume were carefully reviewed and selected from 48 submissions. The papers are organized in topical sections on advances in big data systems; machine learning and data analytics; big data innovation and applications; security and risk analysis.

This book provides a comprehensive introduction to the study of sensors and the Internet of Things (IoT) from a

government and public policy perspective. Since 2011, federal spending on IoT has been growing at a compound annual rate of ten percent. New technologies, such as sensors, and new kinds of data, such as big data, are creating new ways to systematically capture data and to use it to respond to complex problems. Some of these new technologies and applications have been identified and studied in recent literature in terms of their relevance to government. This volume adds to the literature by presenting sound theories and concepts for understanding the opportunities and challenges governments face when seeking to improve public services and government operations through the use of IoT. It also includes innovative methodologies for building understanding of the potential of a smart and connected government. In addition, the book offers relevant case studies and practical recommendations for the development, management, and evaluation of public policies and government programs.

This book presents fundamental and applied research in developing geospatial modeling solutions to manage the challenges that urban areas are facing today. It aims to connect the academics, researchers, experts, town planners, investors and government officials to exchange ideas. The areas addressed include urban heat island analysis, urban flood vulnerability and risk mapping, green spaces, solar energy, infrastructure management, among others. The book suggests directions for smart city research and outlines practical propositions. As an emerging and critical area of research and development, much research is now being done with regard to cities. At the international level and in India alike, the "smart cities" concept is a vital topic for universities and research centers, and well as for civic bodies, town planners and policymakers. As such, the book offers a valuable resource for a broad readership.

The Future and FinTech examines the fundamental financial technologies and its growing impact on the Banking, Financial Services and Insurance (BFSI) sectors. With global investment amounting to more than $100 billion in 2020, the proliferation of FinTech has underpinned the direction payments, loans, wealth management, insurance, and cryptocurrencies are heading.This book presents FinTech from an industrial perspective in the context of architecture and its basic building blocks, e.g., Artificial Intelligence (AI), Blockchain, Cloud, Big Data, Internet of Things (IoT), and its connections to real-life applications at work. It provides a detailed guidance on how FinTech digitalizes business operations, improves productivity and efficiency, and optimizes resource management with the help of some new concepts, such as AIOps, MLOps and DevSecOps. Readers will also discover how FinTech Innovations connect BFSI to the rest of the world with growing interests in Open Banking, Banking-as-a-Service (BaaS) and FinTech-as-a-Service (FaaS).To help readers understand how FinTech has unlocked numerous opportunities for tapping into the massive substantial group of customers, this book illustrates the massive changes already underway and provides insights into changes yet to come through practical examples and applications with illustrative figures and summary tables, making this book a handy quick reference for all things of FinTech.Related Link(s)

The Future of IoT

Advances in Mobile Cloud Computing and Big Data in the 5G Era

Using Social MDM to Drive Deep Customer Insight

How the Information Revolution Is Transforming Our Lives

A Social Network Approach
Proceedings of ICBDCC 2019
Future And Fintech, The: Abcdi And Beyond

Big Data Analytics in the Insurance Market is an industry-specific guide to creating operational effectiveness, managing risk, improving financials, and retaining customers. A must for people seeking to broaden their knowledge of big data concepts and their real-world applications, particularly in the field of insurance.

Artificial Intelligence and Big Data Analytics for Smart Healthcare serves as a key reference for practitioners and experts involved in healthcare as they strive to enhance the value added of healthcare and develop more sustainable healthcare systems. It brings together insights from emerging sophisticated information and communication technologies such as big data analytics, artificial intelligence, machine learning, data science, medical intelligence, and, by dwelling on their current and prospective applications, highlights managerial and policymaking challenges they may generate. The book is split into five sections: big data infrastructure, framework and design for smart healthcare; signal processing techniques for smart healthcare applications; business analytics (descriptive, diagnostic, predictive and prescriptive) for smart healthcare; emerging tools and techniques for smart healthcare; and challenges (security, privacy, and policy) in big data for smart healthcare. The content is carefully developed to be understandable to different members of healthcare chain to leverage collaborations with researchers and industry. Presents a holistic discussion on the new landscape of data driven medical technologies including Big Data, Analytics, Artificial Intelligence, Machine Learning, and Precision Medicine Discusses such technologies with case study driven approach with reference to real world application and systems, to make easier the understanding to the reader not familiar with them Encompasses an international collaboration perspective, providing understandable knowledge to professionals involved with healthcare to leverage productive partnerships with technology developers

A comprehensive discussion of the findings of the PICASSO initiative on ICT policy ICT Policy, Research, and Innovation: Perspectives and Prospects for EU-US Collaboration provides a clearly readable overview of selected information and communication technology (ICT) and policy topics. Rather than deluge the reader with technical details, the distinguished authors provide just enough technical background to make sense of the underlying policy discussions. The book covers policy, research, and innovation topics on technologies as wide-ranging as: Internet of Things Cyber physical systems 5G Big data ICT Policy, Research, and Innovation compares and contrasts the policy approaches taken by the EU and the US in a variety of areas. The potential for future cooperation is outlined as well. Later chapters provide policy perspectives about some major issues affecting EU/US development cooperation, while the book closes with a discussion of how the development of these new technologies is changing our conceptions of fundamental aspects of society.

This Open Access book examines the ambivalences of data power. Firstly, the ambivalences between global infrastructures and local invisibilities challenge the grand narrative of the ephemeral nature of a global data infrastructure. They make visible local working and living conditions, and the resources and arrangements required to operate and run them. Secondly, the book examines ambivalences between the state and data justice. It considers data justice in relation to state surveillance and data capitalism, and reflects on the ambivalences between an "entrepreneurial state" and a "welfare state." Thirdly, the authors discuss

ambivalences of everyday practices and collective action, in which civil society groups, communities, and movements try to position the interests of people against the "big players" in the tech industry. The book includes eighteen chapters that provide new and varied perspectives on the role of data and data infrastructures in our increasingly datafied societies. Andreas Hepp is Professor of Media and Communications and Head of ZeMKI, Centre for Media, Communication and Information Research, University of Bremen, Germany. He is the author of 12 monographs including The Mediated Construction of Reality (with Nick Couldry, 2017), Transcultural Communication (2015) and Cultures of Mediatization (2013). Juliane Jarke is a senior researcher at the Institute for Information Management Bremen (ifi b) and Centre for Media, Communication and Information Research (ZeMKI) at the University of Bremen, Germany. Jarke co-edited The Datafication of Education (with Andreas Breiter, 2019) and Probes as Participatory Design Practice (with Susanne Maa, 2018). Leif Kramp is a post-doctoral media, communication and history scholar and Research Coordinator of the Centre for Media, Communication and Information Research at the University of Bremen (ZeMKI), Germany. Kramp has authored and edited various books about the transformation of media and journalism and is a founding member of the German Association of Media and Journalism Criticism (VfMJ).

Smart Home Technologies and Services for Geriatric Rehabilitation provides a toolbox for healthcare stakeholders involved in decision-making for the design, development and implementation of smart home solutions. The book provides an in-depth look at the field of smart homes with readers from both research and practice in mind. It addresses the roles and contributions of smart home technologies and services in supporting geriatric rehabilitation and discusses the challenges of current practice and future innovation, especially with wireless technology and 5G advancements. This reference offers advice on how to implement solutions in the home, and how to framework the modalities of modifying and measuring responses to rehabilitation interventions in geriatric populations. Acceptability, usability and adherence are all considered. Content coverage includes how to navigate policies, regulations, standards and how to build business models. The book's editorial team is multidisciplinary, multisectoral, and from very different regions of the world, thus ensuring a comprehensive scope and global approach. Offers an overview on the state-of-the-art, advanced technologies used in home healthcare to improve patient safety and care Explores the challenges of current practices and discusses new perspectives for future innovations in geriatric rehabilitation services Combines the technical aspects of computer science and technology design with the practical aspects of care giving

ICOST 2006 : 4th International Conference on Smart Homes and Health Telematics

Digitalization, Aggregation, Optimization, Monetization

ICT, Geoscience Modeling, GIS and Remote Sensing

5th International Conference, Innovate-Data 2019, Istanbul, Turkey, August 26–28, 2019, Proceedings

Personalized Privacy Protection in Big Data

Big Data Analytics in the Insurance Market

Big Data Analytics

This book provides a comprehensive treatment of the rapidly changing world of Web-based business technologies and their often-disruptive innovations. The history of the Web is a short one. Indeed many college graduates today were not even born when the Web first emerged. It is therefore an opportune time

to view the Web as having reached the point of graduation. The Web has led to new ways in which businesses connect and operate, and how individuals communicate and socialize; related technologies include cloud computing, social commerce, crowd sourcing, and the Internet of Things, to name but a few. These developments, including their technological foundations and business impacts, are at the heart of the book. It contextualizes these topics by providing a brief history of the World Wide Web, both in terms of the technological evolution and its resultant business impacts. The book was written for a broad audience, including technology managers and students in higher education. It is also intended as a guide for people who grew up with a background in business administration or engineering or a related area but who, in the course of their career paths, have reached a point where IT-related decisions have become their daily business, e.g., in digital transformation. The book describes the most important Web technologies and related business applications, and especially focuses on the business implications of these technologies. As such, it offers a solid technology- and business-focused view on the impact of the Web, and balances rules and approaches for strategy development and decision making with a certain technical understanding of what goes on "behind the scenes."

Individual users and business organizations are shifting their data storage and utilizing cloud computing because of its easy availability and reduced costs. Although, this technology is creating an easy way to store, share, and access data, serious security concerns have been generated. Critical Research on Scalability and Security Issues in Virtual Cloud Environments is a critical scholarly resource that examines the concept of cloud computing and explores the various shortcomings of using the cloud. Featuring coverage on a broad range of topics such as cloud architecture for scalability, data vulnerability, and server virtualization management, this book is geared towards academicians, practitioners, and researchers seeking current research on developing effective security measures for cloud paradigm.

This book introduces the concept of the wise home. Whilst smart homes focus on automation technologies, forcing users to deal with complex and incomprehensible control and programming procedures, the wise home is different. By going beyond intelligence (or smartness) the wise home puts technology in the background and supports explicit (enhanced user-experience) as well as implicit (artificial intelligence) interaction adequate to the end-user's needs. The theoretical basis of the wise home is explored and examples for its application for future living are presented based on empirical studies and field work carried out by the author. Principles of HCI and the meaning of the home from differing scientific perspective are discussed and a research model (based on the concept of user experience (UX)) and iterations is introduced. This has resulted in field deployment guides being produced through a systematic development process. The Future Home is Wise, not Smart will be essential reading to home system developers, designers and researchers, responsible for smart home deployment or Ambient Assisted

Living (AAL) who will get insights on how to follow a novel approach in developing and adapting smart home systems to their users' needs. Students with an interest in software design for pervasive systems will benefit by receiving information on how to develop and customise systems for the specific needs of living environments.

"The thought behind this publication is to continue to develop an active research community dedicated to explore how Smart Homes and Health Telematics can foster independent living and offer an enhanced quality of life for ageing and disabled people. As we begin to witness the effects of changing demographics on todays society we begin to appreciate that the increase in the number of elderly and in the prevalence of those suffering from chronic disease and disabilities are likely to further increase in the next two to three decades. To react to the needs of this cohort to provide an environment within which the people can reside for as long as possible, whilst maintaining their quality of life and independence, is a widespread concern for all. As such, there is real benefit to further investigate the role of technologies to address these changes and subsequently offer practical solutions to support independent living. The editors feel that within the realms of Smart Homes and Health Telematics real, affordable and useful services can be developed which will have the necessary underlying technological and service delivery infrastructures to allow seamless integration into existing care delivery paradigms. The introduction of technology can provide a positive impact. However, it is necessary to avoid any detrimental effects if reliance upon technology within the home environment becomes so great that people will not leave their own home in fear of losing the support once outside of the home, or its close proximity. This publication focuses on promoting personal autonomy and extending the quality of life by considering including smart services inside and outside of the home."

This book presents a comprehensive and up-to-date treatise of a range of methodological and algorithmic issues. It also discusses implementations and case studies, identifies the best design practices, and assesses data analytics business models and practices in industry, health care, administration and business.Data science and big data go hand in hand and constitute a rapidly growing area of research and have attracted the attention of industry and business alike. The area itself has opened up promising new directions of fundamental and applied research and has led to interesting applications, especially those addressing the immediate need to deal with large repositories of data and building tangible, user-centric models of relationships in data. Data is the lifeblood of today's knowledge-driven economy.Numerous data science models are oriented towards end users and along with the regular requirements for accuracy (which are present in any modeling), come the requirements for ability to process huge and varying data sets as well as robustness, interpretability, and simplicity (transparency). Computational intelligence with its underlying methodologies and tools helps address data analytics needs.The book is of interest to those researchers and practitioners involved in data

science, Internet engineering, computational intelligence, management, operations research, and knowledge-based systems.

Deep Learning: Convergence to Big Data Analytics

Big Data Innovations and Applications

Driving Scientific and Engineering Discoveries Through the Convergence of HPC, Big Data and AI

The Ambivalences of Data Power

Smart Home Technologies and Services for Geriatric Rehabilitation

Third International Workshop, HCI-KDD 2013, Held at SouthCHI 2013, Maribor, Slovenia, July 1-3, 2013, Proceedings

High-Performance Computing and Big Data Analysis

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.

This book gathers visionary ideas from leading academics and scientists to predict the future of wireless communication and enabling technologies in 2050 and beyond. The content combines a wealth of illustrations, tables, business models, and novel approaches to the evolution of wireless communication. The book also provides glimpses into the future of emerging technologies, end-to-end systems, and entrepreneurial and business models, broadening readers' understanding of potential future advances in the field and their influence on society at large

The historical ways in which electricity was generated in large central power plants and delivered to passive customers through a one-way transmission and distribution network – as everyone knows – is radically changing to one where consumers can generate, store and consume a significant portion of their energy needs energy locally. This, however, is only the first step, soon to be followed by the ability to share or trade with others using the distribution network. More exciting opportunities are possible with the increased digitalization of BTM assets, which in turn can be aggregated into large portfolios of flexible load and generation and optimized using artificial intelligence and machine learning. Examines the latest advances in digitalization of behind-the-meter assets including distributed generation, distributes storage and electric vehicles and – more important – how these assets can be aggregated and remotely monitored unleashing tremendous value and a myriad of innovative services and business models Examines what lies behind-the-meter (BTM) of typical customers and why managing these assets increasingly matter Describes how smart aggregators with

intelligent software are creating value by optimizing how energy may be generated, consumed, stored o potentially shared o traded and between consumers; prosumers and prosumagers (that is, prosumers with storage) Explores new business models that are likely to disrupt the traditional interface between the incumbents and their customers

User Interface Design, Human Centered Design, User Centered Design, Human Centered AI, User Experience, Assistive Technologies, Natural Language Processing, Usability, Smart Homes, Smart cities, User Interaction, Internet of Things, Big Data, Smart Environments, Smart Healthcare Systems, Computer Science

This book constitutes the refereed proceedings of the Third Workshop on Human-Computer Interaction and Knowledge Discovery, HCI-KDD 2013, held in Maribor, Slovenia, in July 2013, at SouthCHI 2013. The 20 revised papers presented were carefully reviewed and selected from 68 submissions. The papers are organized in topical sections on human-computer interaction and knowledge discovery, knowledge discovery and smart homes, smart learning environments, and visualization data analytics.

Big Data Analytics Beyond Hadoop

Sensors and the Internet of Things in the Public Sector

Second International Congress, TopHPC 2019, Tehran, Iran, April 23–25, 2019, Revised Selected Papers

Big Data

Systems Simulation and Modeling for Cloud Computing and Big Data Applications

12th European Conference, AmI 2015, Athens, Greece, November 11-13, 2015, Proceedings

Ambient Intelligence

Social networking has increased drastically in recent years, resulting in an increased amount of data being created daily. Furthermore, diversity of issues and complexity of the social networks pose a challenge in social network mining. Traditional algorithm software cannot deal with such complex and vast amounts of data, necessitating the development of novel analytic approaches and tools. This reference work deals with social network aspects ofbig data analytics. It covers theory, practices and challenges in social networking. The book spans numerous disciplines like neural networking, deep learning, artificial intelligence, visualization, e-learning in higher education, e-healthcare, security and intrusion detection.

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 reports on the latest advances on the theories, practices, standards and strategies that are related to the modern technology paradigms, the Mobile Cloud computing (MCC) and Big Data, as the pillars and their association with the emerging 5G mobile networks. The book includes 15 rigorously refereed chapters written by leading international researchers, providing the readers with technical and scientific information about various aspects of Big Data and Mobile Cloud Computing, from basic concepts to advanced findings, reporting the state-of-the-art on Big Data management. It demonstrates and discusses methods and practices to improve multi-source Big Data manipulation techniques, as well as the integration of resources availability through the 3As (Anywhere, Anything, Anytime) paradigm, using the 5G access technologies.

Popularity of information technology not only changes the façade of data management, but powers smart home and city movement. Despite there are many different types of smart home technologies, lots of them share similar goal of sustainable development. Heaps of these tools improve energy generation or save energy and reduce water wastage. Beyond doubt, some of them achieve the win-win-win co-development in environment, social and economics. In this paper, we firstly discuss three generations of smart home: (1) Bluetooth and Zigbee enables smart technologies, (2) smart home with artificial intelligence and (3) smart home robot which can stroll around home. We then adopt big data analytics method to study the popularity of smart home and home automation searches in Google from 2004 to 2016. Finally, we search for the latest smart home technologies that can achieve the goal of sustainable development. The results show that nations which are keen on smart home and home automation devices do not only restrict on the richest countries in the World. All the top three cities with the largest number of Google searches in home automation over the past decade come from India. They are famous information technology (IT) hubs with many IT personnel. We speculate that interests in smart home/home automation are correlated with residents' computer literacy rather than economic wealthiness. Besides, the research shows that many of the sustainable home technologies mainly focus on energy saving. Water saving smart home devices only happen once in a blue moon. That may be reflected in the

relative high costs in using electricity as compared to water in many cities around the World. In short, the research offers academic, practical and policy contribution.

This book aims through 11 chapters discussing the problems and challenges and some future research points from the recent technologies point of view such as artificial intelligence and the Internet of things (IoT) that can help the environment and healthcare sectors reducing COVID-19.

Perspectives and Prospects for EU-US Collaboration

17th Smoky Mountains Computational Sciences and Engineering Conference, SMC 2020, Oak Ridge, TN, USA, August 26-28, 2020, Revised Selected Papers

Knowledge Management in the Development of Data-Intensive Systems

Big Data Analytics Approach

Big Data Management and the Internet of Things for Improved Health Systems

Critical Research on Scalability and Security Issues in Virtual Cloud Environments

New Perspectives in Critical Data Studies

This book constitutes revised and selected papers from the Second International Congress on High-Performance Computing and Big Data Analysis, TopHPC 2019, held in Tehran, Iran, in April 2019. The 37 full papers and 2 short papers presented in this volume were carefully reviewed and selected from a total of 103 submissions. The papers in the volume are organized acording to the following topical headings: deep learning; big data analytics; Internet of Things.- data mining, neural network and genetic algorithms; performance issuesand quantum computing.

Master alternative Big Data technologies that can do what Hadoop can't: real-time analytics and iterative machine learning. When most technical professionals think of Big Data analytics today, they think of Hadoop. But there are many cutting-edge applications that Hadoop isn't well suited for, especially real-time analytics and contexts requiring the use of iterative machine learning algorithms. Fortunately, several powerful new technologies have been developed specifically for use cases such as these. Big Data Analytics Beyond Hadoop is the first guide specifically designed to help you take the next steps beyond Hadoop. Dr. Vijay Srinivas Agneeswaran introduces the breakthrough Berkeley Data Analysis Stack (BDAS) in detail, including its motivation, design, architecture, Mesos cluster management, performance, and more. He presents realistic use cases and up-to-date example code for: Spark, the next generation in-memory computing technology from UC Berkeley Storm, the parallel real-time Big Data analytics technology from Twitter GraphLab, the next-generation graph processing paradigm from CMU and the University of Washington (with comparisons to alternatives such

as Pregel and Piccolo) Halo also offers architectural and design guidance and code sketches for scaling machine learning algorithms to Big Data, and then realizing them in real-time. He concludes by previewing emerging trends, including real-time video analytics, SDNs, and even Big Data governance, security, and privacy issues. He identifies intriguing startups and new research possibilities, including BDAS extensions and cutting-edge model-driven analytics. Big Data Analytics Beyond Hadoop is an indispensable resource for everyone who wants to reach the cutting edge of Big Data analytics, and stay there: practitioners, architects, programmers, data scientists, researchers, startup entrepreneurs, and advanced students.

Data-intensive systems are software applications that process and generate Big Data. Data-intensive systems support the use of large amounts of data strategically and efficiently to provide intelligence. For example, examining industrial sensor data or business process data can enhance production, guide proactive improvements of development processes, or optimize supply chain systems. Designing data-intensive software systems is difficult because distribution of knowledge across stakeholders creates a symmetry of ignorance, because a shared vision of the future requires the development of new knowledge that extends and synthesizes existing knowledge. Knowledge Management in the Development of Data-Intensive Systems addresses new challenges arising from knowledge management in the development of data-intensive software systems. These challenges concern requirements, architectural design, detailed design, implementation and maintenance. The book covers the current state and future directions of knowledge management in development of data-intensive software systems. The book features both academic and industrial contributions which discuss the role software engineering can play for addressing challenges that confront developing, maintaining and evolving systems;data-intensive software systems of cloud and mobile services; and the scalability requirements they imply. The book features software engineering approaches that can efficiently deal with data-intensive systems as well as applications and use cases benefiting from data-intensive systems. Providing a comprehensive reference on the notion of data-intensive systems from a technical and non-technical perspective, the book focuses uniquely on software engineering and knowledge management in the design and maintenance of data-intensive systems. The book covers constructing, deploying, and maintaining high quality software products and software engineering in and for dynamic and flexible environments. This book provides a holistic guide for those who need to understand the impact of variability on all aspects of the software life cycle. It leverages practical experience and evidence to look ahead at the challenges faced by organizations in a fast-moving world with increasingly fast-changing customer requirements and expectations.

This book is a compendium of the proceedings of the International Conference on Big-Data and Cloud Computing. The papers discuss the recent advances in the areas of big data analytics, data analytics in cloud,

smart cities and grid, etc. This volume primarily focuses on the application of knowledge which promotes ideas for solving problems of the society through cutting-edge big-data technologies. The essays featured in this proceeding provide novel ideas that contribute for the growth of world class research and development. It will be useful to researchers in the area of advanced engineering sciences.

Drive Powerful Business Value by Extending MDM to Social, Mobile, Local, and Transactional Data Enterprises have long relied on Master Data Management (MDM) to improve customer-related processes. But MDM was designed primarily for structured data. Today, crucial information is increasingly captured in unstructured, transactional, and social formats: from tweets and Facebook posts to call center transcripts. Even with tools like Hadoop, extracting usable insight is difficult—often, because it's so difficult to integrate new and legacy data sources. In Beyond Big Data, five of IBM's leading data management experts introduce powerful new ways to integrate social, mobile, location, and traditional data. Drawing on pioneering experience with IBM's enterprise customers, they show how Social MDM can help you deepen relationships, improve prospect targeting, and fully engage customers through mobile channels. Business leaders and practitioners will discover powerful new ways to combine social and master data to improve performance and uncover new opportunities. Architects and other technical leaders will find a complete reference architecture, in-depth coverage of relevant technologies and use cases, and domain-specific best practices for their own projects. Coverage Includes How Social MDM extends fundamental MDM concepts and techniques Architecting Social MDM: components, functions, layers, and interactions Identifying high value relationships: person to product and person to organization Mapping Social MDM architecture to specific products and technologies Using Social MDM to create more compelling customer experiences Accelerating your transition to highly-targeted, contextual marketing Incorporating mobile data to improve employee productivity Avoiding privacy and ethical pitfalls throughout your ecosystem Previewing Semantic MDM and other emerging trends

A Human-Centered Perspective

Intelligent Computing Solutions

Human-Computer Interaction and Knowledge Discovery in Complex, Unstructured, Big Data

Sustainable Smart Home and Home Automation

5G and Beyond

Intelligence in Big Data Technologies—Beyond the Hype

This book presents deep learning techniques, concepts, and algorithms to classify and analyze big data. Further, it offers an introductory level understanding of the new

programming languages and tools used to analyze big data in real-time, such as Hadoop, SPARK, and GRAPHX. Big data analytics using traditional techniques face various challenges, such as fast, accurate and efficient processing of big data in real-time. In addition, the Internet of Things is progressively increasing in various fields, like smart cities, smart homes, and e-health. As the enormous number of connected devices generate huge amounts of data every day, we need sophisticated algorithms to deal, organize, and classify this data in less processing time and space. Similarly, existing techniques and algorithms for deep learning in big data field have several advantages thanks to the two main branches of the deep learning, i.e. convolution and deep belief networks. This book offers insights into these techniques and applications based on these two types of deep learning. Further, it helps students, researchers, and newcomers understand big data analytics based on deep learning approaches. It also discusses various machine learning techniques in concatenation with the deep learning paradigm to support high-end data processing, data classifications, and real-time data processing issues. The classification and presentation are kept quite simple to help the readers and students grasp the basics concepts of various deep learning paradigms and frameworks. It mainly focuses on theory rather than the mathematical background of the deep learning concepts. The book consists of 5 chapters, beginning with an introductory explanation of big data and deep learning techniques, followed by integration of big data and deep learning techniques and lastly the future directions.

The Global Environmental Effects During and Beyond COVID-19

Business Impacts and Developments

Advances Towards Smart and Interconnected Environments (Part I)

Artificial Intelligence and Big Data Analytics for Smart Healthcare

Re-Engineering Humanity

Behind and Beyond the Meter

A Human-Centric Perspective on Next Generation Domestic Technologies