

Internet Of Things Journal

Health Care Paradigms in the Internet of Things Ecosystem brings all IoT-enabled health care related technologies into a single platform so that undergraduate and postgraduate students, researchers, academicians and industry leaders can easily understand IoT-based healthcare systems. The book uses data and network engineering and intelligent decision support system-by-design principles to design a reliable IoT-enabled health care ecosystem and to implement cyber-physical pervasive infrastructure solutions. It takes the reader on a journey that begins with understanding the healthcare monitoring paradigm in IoT-enabled technologies and how it can be applied in various aspects. In addition, the book walks readers through real-time challenges and presents a guide on how to build a safe infrastructure for IoT-based health care. It also helps researchers and practitioners understand the e-health care architecture through IoT and the state-of-the-art in IoT countermeasures. Readers will find this to be a comprehensive discussion on functional frameworks for IoT-based healthcare systems, intelligent medicine, RFID technology, HMI, Cognitive Interpretation, Brain-Computer Interface, Remote Health Monitoring systems, wearable sensors, WBAN, and security and privacy issues in IoT-based health care monitoring systems. Presents the complete functional framework workflow in IoT-enabled healthcare technologies Explains concepts of location-aware protocols and decisive mobility in IoT healthcare Provides complete coverage of intelligent data processing and wearable sensor technologies in IoT-enabled healthcare Explores the Human Machine Interface and its implications in patient-care systems in IoT healthcare Explores security and privacy issues and challenges related to data-intensive technologies in healthcare-based Internet of Things

The ubiquity of modern technologies has allowed for increased connectivity between people and devices across the globe. This connected infrastructure of networks creates numerous opportunities for applications and uses. As the applications of the internet of things continue to progress so do the security concerns for this technology. The study of threat prevention in the internet of things is necessary as security breaches in this field can ruin industries and lives. Securing the Internet of Things: Concepts, Methodologies, Tools, and Applications is a vital reference source that examines recent developments and emerging trends in security and privacy for the internet of things through new models, practical solutions, and technological advancements related to security. Highlighting a range of topics such as cloud security, threat detection, and open source software, this multi-volume book is ideally designed for engineers, IT consultants, ICT procurement managers, network system integrators, infrastructure service providers, researchers, academics, and professionals interested in current research on security practices pertaining to the internet of things.

RESOURCE MANAGEMENT FOR ON-DEMAND MISSION-CRITICAL INTERNET OF THINGS APPLICATIONS

Discover an insightful and up-to-date treatment of resource management in Internet of Things technology In Resource Management for On-Demand Mission-Critical Internet of Things Applications, an expert team of engineers delivers an insightful analytical perspective on modeling and decision support for mission-critical Internet of Things applications. The authors dissect the complex IoT ecosystem and provide a cross-layer perspective on the design and operation of IoT, especially in the context of smart and connected communities. The book offers an economic perspective on resource management in IoT systems with a particular emphasis on three main areas: spectrum management via reservation, allocation of cloud/fog resources to IoT applications, and resource provisioning to smart city service requests. It leverages theories from dynamic mechanism design, optimal control theory, and spatial point processes, providing an overview of integrated decision-making frameworks. Finally, the authors discuss future directions and relevant problems on the economics of resource management from new perspectives, like security and resilience. Readers will also enjoy the inclusion of: A thorough introduction and overview of IoT applications in smart cities, mission critical IoT services and requirements, and key metrics and research challenges A comprehensive exploration of the allocation of spectrum resources to mission critical IoT applications, including the massive surge of IoT and spectrum scarcity problem Practical discussions of the provisioning of cloud/fog computing resources to IoT applications, including allocation policy In-depth examinations of resource provisioning to spatio-temporal service requests in smart cities Perfect for engineers working on Internet of Things and cyber-physical systems, Resource Management for On-Demand Mission-Critical Internet of Things Applications is also an indispensable reference for graduate students, researchers, and professors with an interest in IoT resource management.

Development in information and communication technologies has led to the advancement of business and enabled enterprises to produce on a global scale. Productivity is a key function in maintaining a competitive advantage in today's market. The internet of things has rapidly become prevalent in the productivity efforts of businesses. Understanding these technologies and how to implement them into current business practices is vital for researchers and practitioners. Internet of Things (IoT) Applications for Enterprise Productivity is a collection of innovative research on the advancing methods productivity efforts of business through the implementation of the internet of things. While highlighting topics including employee motivation, enterprise productivity, and supply chain tracking, this book is ideally designed for manufacturing professionals, industrialists, engineers, managers, practitioners, academicians, and students seeking current research on enterprise production systems and its transformation using internet of things technologies.

The internet of things (IoT) enhances customer experience, increases the amount of data gained through connected devices, and widens the scope of analytics. This provides a range of exciting marketing possibilities such as selling

existing products and services more effectively, delivering truly personalized customer experiences, and potentially creating new products and services. *Smart Marketing With the Internet of Things* is an essential reference source that discusses the use of the internet of things in marketing, as well as its importance in enhancing the customer experience. Featuring research on topics such as augmented reality, sensor networks, and wearable technology, this book is ideally designed for business professionals, marketing managers, marketing strategists, academicians, researchers, and graduate-level students seeking coverage on the use of IoT in enhancing customer marketing outcomes.

In recent years, the need for smart equipment has increased exponentially with the upsurge in technological advances. To work to their fullest capacity, these devices need to be able to communicate with other devices in their network to exchange information and receive instructions. *Computational Intelligence in the Internet of Things* is an essential reference source that provides relevant theoretical frameworks and the latest empirical research findings in the area of computational intelligence and the Internet of Things. Featuring research on topics such as data analytics, machine learning, and neural networks, this book is ideally designed for IT specialists, managers, professionals, researchers, and academicians.

The internet of things (IoT) has emerged as a trending technology that is continually being implemented into various practices within the field of engineering and science due to its versatility and various benefits. Despite the levels of innovation that IoT provides, researchers continue to search for networks that maintain levels of sustainability and require fewer resources. A network that measures up to these expectations is Narrowband IoT (NB-IoT), which is a low power wide area version of IoT networks and is suitable for larger projects. Engineers and other industry professionals are in need of in-depth knowledge on this growing technology and its various applications. *Principles and Applications of Narrowband Internet of Things (NB-IoT)* is an essential reference source that provides an in-depth understanding on the recent advancements of NB-IoT as well as the crucial roles of emerging low power IoT networks in various regions of the world. Featuring research on topics such as security monitoring, sustainability, and cloud infrastructure, this book is ideally designed for developers, engineers, practitioners, researchers, students, managers, and policymakers seeking coverage on the large-scale deployment and modern applications of NB-IoT.

The internet of things (IoT) has massive potential to transform current business models and enhance human lifestyles. With the current pace of research, IoT will soon find many new horizons to touch. IoT is now providing a base of technological advancement in various realms such as pervasive healthcare, smart homes, smart cities, connected logistics, automated supply chain, manufacturing units, and many more. IoT is also paving the path for the emergence of the digital revolution in industrial technology, termed Industry 4.0. *Transforming the Internet of Things for Next-*

Generation Smart Systems focuses on the internet of things (IoT) and how it is involved in modern day technologies in a variety of domains. The chapters cover IoT in sectors such as agriculture, education, business and management, and computer science applications. The multi-disciplinary view of IoT provided within this book makes it an ideal reference work for IT specialists, technologists, engineers, developers, practitioners, researchers, academicians, and students interested in how IoT will be implemented in the next generation of smart systems and play an integral role in advancing technology in the future.

The ubiquity of modern technologies has allowed for increased connectivity between people and devices across the globe. This connected infrastructure of networks creates numerous opportunities for applications and uses. The Internet of Things: Breakthroughs in Research and Practice is an authoritative reference source for the latest academic material on the interconnectivity of networks and devices in the digital era and examines best practices for integrating this advanced connectivity across multiple fields. Featuring extensive coverage on innovative perspectives, such as secure computing, regulatory standards, and trust management, this book is ideally designed for engineers, researchers, professionals, graduate students, and practitioners seeking scholarly insights on the Internet of Things.

Every day approximately three-hundred thousand to four-hundred thousand new malware are registered, many of them being adware and variants of previously known malware. Anti-virus companies and researchers cannot deal with such a deluge of malware – to analyze and build patches. The only way to scale the efforts is to build algorithms to enable machines to analyze malware and classify and cluster them to such a level of granularity that it will enable humans (or machines) to gain critical insights about them and build solutions that are specific enough to detect and thwart existing malware and generic-enough to thwart future variants. Advances in Malware and Data-Driven Network Security comprehensively covers data-driven malware security with an emphasis on using statistical, machine learning, and AI as well as the current trends in ML/statistical approaches to detecting, clustering, and classification of cyber-threats. Providing information on advances in malware and data-driven network security as well as future research directions, it is ideal for graduate students, academicians, faculty members, scientists, software developers, security analysts, computer engineers, programmers, IT specialists, and researchers who are seeking to learn and carry out research in the area of malware and data-driven network security.

With the help of artificial intelligence, machine learning, and big data analytics, the internet of things (IoT) is creating partnerships within industry where machines, processes, and humans communicate with one another. As this radically changes traditional industrial operations, this results in the rapid design, cheap manufacture, and effective customization of products. Answering the growing demand of customers and their preferences has become a challenge for such partnerships. Industrial Internet of Things and Cyber-Physical Systems: Transforming the Conventional to Digital is a collection of innovative research that discusses development, implementation, and business impacts of IoT technologies on sustainable societal development and improved life

quality. Highlighting a wide range of topics such as green technologies, wireless networks, and IoT policy, this book is ideally designed for technology developers, entrepreneurs, industrialists, programmers, engineers, technicians, researchers, academicians, and students.

An essential guide to the modeling and design techniques for securing systems that utilize the Internet of Things Modeling and Design of Secure Internet of Things offers a guide to the underlying foundations of modeling secure Internet of Things' (IoT) techniques. The contributors—noted experts on the topic—also include information on practical design issues that are relevant for application in the commercial and military domains. They also present several attack surfaces in IoT and secure solutions that need to be developed to reach their full potential. The book offers material on security analysis to help with in understanding and quantifying the impact of the new attack surfaces introduced by IoT deployments. The authors explore a wide range of themes including: modeling techniques to secure IoT, game theoretic models, cyber deception models, moving target defense models, adversarial machine learning models in military and commercial domains, and empirical validation of IoT platforms. This important book: Presents information on game-theory analysis of cyber deception Includes cutting-edge research finding such as IoT in the battlefield, advanced persistent threats, and intelligent and rapid honeynet generation Contains contributions from an international panel of experts Addresses design issues in developing secure IoT including secure SDN-based network orchestration, networked device identity management, multi-domain battlefield settings, and smart cities Written for researchers and experts in computer science and engineering, Modeling and Design of Secure Internet of Things contains expert contributions to provide the most recent modeling and design techniques for securing systems that utilize Internet of Things.

The internet of things (IoT) has drawn great attention from both academia and industry, since it offers a challenging notion of creating a world where all things around us are connected to the internet and communicate with each other with minimal human intervention. Another component for helping IoT to succeed is cloud computing. The combination of cloud computing and IoT will enable new monitoring services and powerful processing of sensory data streams. These applications, alongside implementation details and challenges, should also be explored for successful mainstream adoption. IoT is also fueled by the advancement of digital technologies, and the next generation era will be cloud-based IoT systems. Integration and Implementation of the Internet of Things Through Cloud Computing studies, analyzes, and presents cloud-based IoT-related technologies, protocols, and standards along with recent research and development in cloud-based IoT. It also presents recent emerging trends and technological advances of cloud-based IoT, innovative applications, and the challenges and implications for society. The chapters included take a strong look at the societal and social aspects of this technology along with its implementations and technological analyses. This book is intended for IT specialists, technologists, practitioners, researchers, academicians, and students who are interested in the next era of IoT through cloud computing.

This book covers challenges and solutions in establishing Industry 4.0 standards for Internet of Things. It proposes a clear view about the role of Internet of Things in establishing standards. The sensor design for industrial problem, challenges faced, and

LEARN MORE ABOUT FOUNDATIONAL AND ADVANCED TOPICS IN INTERNET OF THINGS TECHNOLOGY WITH THIS ALL-IN-ONE GUIDE *Enabling the Internet of Things: Fundamentals, Design, and Applications* delivers a comprehensive starting point for anyone hoping to understand the fundamentals and design of Internet of Things (IoT) systems. The book's distinguished academics and authors offer readers an opportunity to understand IoT concepts via programming in an abstract way. Readers will learn about IoT fundamentals, hardware and software components, IoT protocol stacks, security, IoT applications and implementations, as well as the challenges, and potential solutions, that lie ahead. Readers will learn about the social aspects of IoT systems, as well as receive an introduction to the Blockly Programming Language, IoT Microcontrollers, IoT Microprocessors, systems on a chip and IoT Gateway Architecture. The book also provides implementation of simple code examples in Packet Tracer, increasing the usefulness and practicality of the book. *Enabling the Internet of Things* examines a wide variety of other essential topics, including: The fundamentals of IoT, including its evolution, distinctions, definitions, vision, enabling technologies, and building blocks An elaboration of the sensing principles of IoT and the essentials of wireless sensor networks A detailed examination of the IoT protocol stack for communications An analysis of the security challenges and threats faced by users of IoT devices, as well as the countermeasures that can be used to fight them, from the perception layer to the application layer Perfect as a supplementary text for undergraduate students taking computer science or electrical engineering courses, *Enabling the Internet of Things* also belongs on the bookshelves of industry professionals and researchers who regularly work with and on the Internet of Things and who seek a better understanding of its foundational and advanced topics.

The scientific monograph *Mobility IoT* deals with innovative technologies influencing industry and connectivity sectors in the future industrial, urban, social and sustainable development. The mobility and Internet of Things are worldwide phenomena almost in everyday life. It is a challenge in many industries, not only in car manufacturing sector but additionally in e-mobility, smart cities, smart factories (Industry 4.0), smart logistics, social mobility, technological innovations, sustainability, multicultural development, Internet of Things sectors, etc., belonging to the topic of SMART Mobility IoT issue. Features practical, tested applications in Internet of Things mobility as presented at Mobility IoT 2018 Includes application domains such as urban mobility, smart factory, social mobility, and sustainability Applicable to researchers, academics, students, and professionals

Blockchain and artificial intelligence (AI) in industrial internet of things is an emerging field of research at the intersection of information science, computer science, and electronics engineering. The radical digitization of industry coupled with the explosion of the internet of things (IoT) has set up a paradigm shift for industrial and manufacturing companies. There exists a need for a comprehensive collection of original research of the best performing methods and state-of-the-art

approaches in this area of blockchain, AI, and the industrial internet of things in this new era for industrial and manufacturing companies. Blockchain and AI Technology in the Industrial Internet of Things compares different approaches to the industrial internet of things and explores the direct impact blockchain and AI technology have on the betterment of the human life. The chapters provide the latest advances in the field and provide insights and concerns on the concept and growth of the industrial internet of things. While including research on security and privacy, supply chain management systems, performance analysis, and a variety of industries, this book is ideal for professionals, researchers, managers, technologists, security analysts, executives, practitioners, researchers, academicians, and students looking for advanced research and information on the newest technologies, advances, and approaches for blockchain and AI in the industrial internet of things.

The industrial internet is a new and upcoming technology that is changing the practices of organizations and corporations everywhere. Through research and application, opportunities can arise from implementing these new systems and devices. The Internet of Things in the Modern Business Environment is an essential reference source for the latest scholarly research on varying aspects of the interworking of smart devices within a business setting and explores the impact of these devices on company operations and models. Featuring extensive coverage on a broad range of topics such as supply chain management, information sharing, and data analytics, this publication is ideally designed for researchers, managers, and students seeking current research on the expansion of technology in commerce.

This book looks at the growing segment of Internet of Things technology (IoT) known as Internet of Medical Things (IoMT), an automated system that aids in bridging the gap between isolated and rural communities and the critical healthcare services that are available in more populated and urban areas. Many technological aspects of IoMT are still being researched and developed, with the objective of minimizing the cost and improving the performance of the overall healthcare system. This book focuses on innovative IoMT methods and solutions being developed for use in the application of healthcare services, including post-surgery care, virtual home assistance, smart real-time patient monitoring, implantable sensors and cameras, and diagnosis and treatment planning. It also examines critical issues around the technology, such as security vulnerabilities, IoMT machine learning approaches, and medical data compression for lossless data transmission and archiving. Internet of Medical Things is a valuable reference for researchers, students, and postgraduates working in biomedical, electronics, and communications engineering, as well as practicing healthcare professionals.

This book discusses Internet of Things (IoT) as it relates to enterprise applications, systems, and infrastructures. The authors discuss IoT and how it's disrupting industries such as enterprise manufacturing, enterprise transportation,

enterprise smart market, enterprise utilities, and enterprise healthcare. They cover how IoT in the enterprise will have a major impact on the lives of consumers and professionals around the world and how it will change the way we think about professional and consumer networks. The book's topics include IoT enterprise system architecture, IoT enabling enterprise technologies, and IoT enterprise services and applications. Examples include enterprise on demand, market impacts, and implications on smart technologies, big data enterprise management, and future enterprise Internet design for various IoT use cases, such as share markets, healthcare, smart cities, smart environments, smart communications and smart homes.

Provides comprehensive coverage of the current state of IoT, focusing on data processing infrastructure and techniques. Written by experts in the field, this book addresses the IoT technology stack, from connectivity through data platforms to end-user case studies, and considers the tradeoffs between business needs and data security and privacy throughout. There is a particular emphasis on data processing technologies that enable the extraction of actionable insights from data to inform improved decision making. These include artificial intelligence techniques such as stream processing, deep learning and knowledge graphs, as well as data interoperability and the key aspects of privacy, security and trust.

Additional aspects covered include: creating and supporting IoT ecosystems; edge computing; data mining of sensor datasets; and crowd-sourcing, amongst others. The book also presents several sections featuring use cases across a range of application areas such as smart energy, transportation, smart factories, and more. The book concludes with a chapter on key considerations when deploying IoT technologies in the enterprise, followed by a brief review of future research directions and challenges. The Internet of Things: From Data to Insight Provides a comprehensive overview of the Internet of Things technology stack with focus on data driven aspects from data modelling and processing to presentation for decision making Explains how IoT technology is applied in practice and the benefits being delivered. Acquaints readers that are new to the area with concepts, components, technologies, and verticals related to and enabled by IoT Gives IoT specialists a deeper insight into data and decision-making aspects as well as novel technologies and application areas Analyzes and presents important emerging technologies for the IoT arena Shows how different objects and devices can be connected to decision making processes at various levels of abstraction The Internet of Things: From Data to Insight will appeal to a wide audience, including IT and network specialists seeking a broad and complete understanding of IoT, CIOs and CIO teams, researchers in IoT and related fields, final year undergraduates, graduate students, post-graduates, and IT and science media professionals.

A comprehensive overview of the Internet of Things' core concepts, technologies, and applications Internet of Things A to Z offers a holistic approach to the Internet of Things (IoT) model. The Internet of Things refers to uniquely identifiable

objects and their virtual representations in an Internet-like structure. Recently, there has been a rapid growth in research on IoT communications and networks, that confirms the scalability and broad reach of the core concepts. With contributions from a panel of international experts, the text offers insight into the ideas, technologies, and applications of this subject. The authors discuss recent developments in the field and the most current and emerging trends in IoT. In addition, the text is filled with examples of innovative applications and real-world case studies. Internet of Things A to Z fills the need for an up-to-date volume on the topic. This important book: Covers in great detail the core concepts, enabling technologies, and implications of the Internet of Things Addresses the business, social, and legal aspects of the Internet of Things Explores the critical topic of security and privacy challenges for both individuals and organizations Includes a discussion of advanced topics such as the need for standards and interoperability Contains contributions from an international group of experts in academia, industry, and research Written for ICT researchers, industry professionals, and lifetime IT learners as well as academics and students, Internet of Things A to Z provides a much-needed and comprehensive resource to this burgeoning field.

This book explains the application of Artificial Intelligence and Internet of Things on green energy systems. The design of smart grids and intelligent networks enhances energy efficiency, while the collection of environmental data through sensors and their prediction through machine learning models improve the reliability of green energy systems.

Internet of Things (IoT) is a recent technology paradigm that creates a global network of machines and devices that are capable of communicating with each other. Security cameras, sensors, vehicles, buildings, and software are examples of devices that can exchange data between each other. IoT is recognized as one of the most important areas of future technologies and is gaining vast recognition in a wide range of applications and fields related to smart homes and cities, military, education, hospitals, homeland security systems, transportation and autonomous connected cars, agriculture, intelligent shopping systems, and other modern technologies. This book explores the most important IoT automated and smart applications to help the reader understand the principle of using IoT in such applications.

Presents an Cyber-Assurance approach to the Internet of Things (IoT) This book discusses the cyber-assurance needs of the IoT environment, highlighting key information assurance (IA) IoT issues and identifying the associated security implications. Through contributions from cyber-assurance, IA, information security and IoT industry practitioners and experts, the text covers fundamental and advanced concepts necessary to grasp current IA issues, challenges, and solutions for the IoT. The future trends in IoT infrastructures, architectures and applications are also examined. Other topics discussed include the IA protection of IoT systems and information being stored, processed or transmitted from unauthorized access or modification of machine-2-machine (M2M) devices, radio-frequency identification (RFID)

networks, wireless sensor networks, smart grids, and supervisory control and data acquisition (SCADA) systems. The book also discusses IA measures necessary to detect, protect, and defend IoT information and networks/systems to ensure their availability, integrity, authentication, confidentiality, and non-repudiation. Discusses current research and emerging trends in IA theory, applications, architecture and information security in the IoT based on theoretical aspects and studies of practical applications Aids readers in understanding how to design and build cyber-assurance into the IoT Exposes engineers and designers to new strategies and emerging standards, and promotes active development of cyber-assurance Covers challenging issues as well as potential solutions, encouraging discussion and debate amongst those in the field Cyber-Assurance for the Internet of Things is written for researchers and professionals working in the field of wireless technologies, information security architecture, and security system design. This book will also serve as a reference for professors and students involved in IA and IoT networking. Tyson T. Brooks is an Adjunct Professor in the School of Information Studies at Syracuse University; he also works with the Center for Information and Systems Assurance and Trust (CISAT) at Syracuse University, and is an information security technologist and science-practitioner. Dr. Brooks is the founder/Editor-in-Chief of the International Journal of Internet of Things and Cyber-Assurance, an associate editor for the Journal of Enterprise Architecture, the International Journal of Cloud Computing and Services Science, and the International Journal of Information and Network Security.

As the applications of the Internet of Things continue to progress, so do the security concerns for this technology. The study of threat prevention in the Internet of Things is necessary, as security breaches in this field can ruin industries and lives. Security Breaches and Threat Prevention in the Internet of Things provides a comprehensive examination of the latest strategies and methods for tracking and blocking threats within industries that work heavily with this technology. Featuring chapters on emerging topics such as security threats in autonomous vehicles, digital forensics, secure communications, and image encryption, this critical reference source is a valuable tool for all academicians, graduate students, practitioners, professionals, and researchers who are interested in expanding their knowledge of security practices pertaining to the Internet of Things.

This book presents chapters from diverse range of authors on different aspects of how Blockchain and IoT are converging and the impacts of these developments. The book provides an extensive cross-sectional and multi-disciplinary look into this trend and how it affects artificial intelligence, cyber-physical systems, and robotics with a look at applications in aerospace, agriculture, automotive, critical infrastructures, healthcare, manufacturing, retail, smart transport systems, smart cities, and smart healthcare. Cases include the impact of Blockchain for IoT Security; decentralized access control systems in IoT; Blockchain architecture for scalable access management in IoT; smart and

sustainable IoT applications incorporating Blockchain, and more. The book presents contributions from international academics, researchers, and practitioners from diverse perspectives. Presents how Blockchain and IoT are converging and the impacts of these developments on technology and its application; Discusses IoT and Blockchain from cross-sectional and multi-disciplinary perspectives; Includes contributions from researchers, academics, and professionals from around the world.

A Systematic Approach to Learn the Principles, Paradigms and Applications of Internet of Things DESCRIPTION In this book, Principles, Paradigm frameworks, and Applications of IoT (Internet of Things) in the modern era are presented. It also provides a sound understanding of the IoT concepts, architecture, and applications, and improves the awareness of readers about IoT technologies and application areas. A key objective of this book is to provide a systematic source of reference for all aspects of IoT. This book comprises nine chapters with close co-operation and contributions from four different authors, spanning across four countries and providing a global, broad perspective on major topics on the Internet of Things. **KEY FEATURES** - IoT applications in various sectors like Education, Smart City, Politics, Healthcare, Agriculture, etc. - Adoption of the IoT technology and strategies for various sectors - To present case studies and innovative applications of the IoT - To analyze and present the state of the art of the IoT and related technologies and methodologies - To propose new models, practical solutions and technological advances of the IoT **WHAT WILL YOU LEARN** - Become aware of the IoT components, their connectivity to form the IoT altogether, and future possibilities with IoT. - Understand how the various components of cloud computing work together to form the basic architecture of cloud computing. - Examine the relationship between the various layers in the IoT architecture. - Understand the programming framework for the Internet of Things (IoT) and various programming paradigms. **WHO THIS BOOK IS FOR** This book is intended for professionals, researchers, instructors, and designers of a smart system, who will benefit from reading this book. **TABLE OF CONTENTS** 1. IoT Introduction 2. IoT Architectures and Protocols 3. Programming Framework for IoT 4. Virtualization and IoT 5. Security, Privacy and Challenges in IoT 6. IoT Applications Areas 7. IoT and Cloud 8. Smart City Using IoT integration 9. Case Studies 10. Important Key Terms 11. References

The progressive combination of cloud computing and Internet of Things (IoT) will enable new monitoring services, create powerful processing of sensory data streams, and provide a new method for intelligent perception and connection.

Examining Cloud Computing Technologies Through the Internet of Things is a pivotal reference source for scholarly research on the latest and innovative facets of cloud-based Internet of Things systems including technical evaluations and comparisons of existing concepts. Featuring coverage on a broad range of topics such as fog computing, network programming, and data security, this book is geared towards advanced-level students, researchers, and professionals

interested in exploring and implementing the IoT and related technologies.

The internet of things (IoT) has had a major impact on academic and industrial fields. Applying these technologies to healthcare systems reduces medical costs while enriching the patient-centric approach to medicine, allowing for better overall healthcare proficiency. However, usage of IoT in healthcare is still suffering from significant challenges with respect to the cost and accuracy of medical sensors, non-standard IoT system architectures, assorted wearable devices, the huge volume of generated data, and interoperability issues. Incorporating the Internet of Things in Healthcare Applications and Wearable Devices is an essential publication that examines existing challenges and provides solutions for building smart healthcare systems with the latest IoT-enabled technology and addresses how IoT improves the proficiency of healthcare with respect to wireless sensor networks. While highlighting topics including mobility management, sensor integration, and data analytics, this book is ideally designed for computer scientists, bioinformatics analysts, doctors, nurses, hospital executives, medical students, IT specialists, software developers, computer engineers, industry professionals, academicians, researchers, and students seeking current research on how these emerging wireless technologies improve efficiency within the healthcare domain.

This book reviews the convergence technologies like cloud computing, artificial intelligence (AI) and Internet of Things (IoT) in healthcare and how they can help all stakeholders in the healthcare sector. The book is a proficient guide on the relationship between AI, IoT and healthcare and gives examples into how IoT is changing all aspects of the healthcare industry. Topics include remote patient monitoring, the telemedicine ecosystem, pattern imaging analytics using AI, disease identification and diagnosis using AI, robotic surgery, prediction of epidemic outbreaks, and more. The contributors include applications and case studies across all areas of computational intelligence in healthcare data. The authors also include workflow in IoT-enabled healthcare technologies and explore privacy and security issues in healthcare-based IoT. Covers concepts of artificial intelligence and applications of computational intelligence, IoT and cloud computing in medical domain; Discusses how the fusion of Internet of Things, AI and cloud computing help in diagnosis, prediction, and storage of medical records in health care domain; Includes case studies throughout on applications of computational intelligence in healthcare data.

This book's objective is to explore the concepts and applications related to Internet of Things with the vision to identify and address existing challenges. Additionally, the book provides future research directions in this domain, and explores the different applications of IoT and its associated technologies. Studies investigate applications for crowd sensing and sourcing, as well as smart applications to healthcare solutions, agriculture and intelligent disaster management. This book will appeal to students, practitioners, industry professionals and researchers working in the field of IoT and its

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integration with other technologies to develop comprehensive solutions to real-life problems

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

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