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Programming the Photon: Getting Started with the Internet of Things
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Hands-On Internet of Things with MQTT
Handbook of Artificial Intelligence
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Getting Started with the Photon
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Advances in Software Engineering, Education, and e-Learning
Emerging Real-World Applications of Internet of Things
Embedded Machine Learning for Cyber-Physical, IoT, and Edge Computing
Intelligent Analytics for Industry 4.0 Applications
Smart Cities—Opportunities and Challenges
Advances in Signal Processing, Embedded Systems and IoT
Machine Learning Techniques and Analytics for Cloud Security

ALVARADO DAPHNE

Node.js for Embedded Systems Packt Publishing Ltd
Boards are back and more powerful than ever! With fresh offerings from Arduino and Raspberry Pi and powerhouse boards like DFRobot's LattePanda Sigma and Nvidia's Jetson Orin Nano, itÃ?Â¢Ã¢?Â¬Ã¢?Â¢s easier than ever to put epic computing power for your next project in the palm of your hand. In this issue of Make: we track new trends in microcontrollers and single board computers, and show you the ones we're most excited about. And if you still can't find the right board for you, we show you how to design and manufacture your own custom chips for cheap! Next, use machine learning and Particle to automagically unmute your mic when someone says "You're muted!" Then, use a Waveshare RP2040 board to build a mini oscilloscope for your workbench for about $25. Annual Boards Guide: Meet the hottest new boards, and compare specs for 80+ microcontrollers and single board computers in our annual comparison guide. Plus, 31 projects: Craft an illuminated, animated, tessellated tote bag using LED pebble lights and 3D-printed fabric Build an optical transmitter for covert communication Sew a soft touch panel matrix for wearable electronics Super-size classic wooden Froebel blocks for a fun playground experience Harvest disposable vape batteries and give e-waste a 2nd life Build a metal detector circuit, 3D print a Kirby fume extractor, or laser-cut an emoji fortune teller And much more!
What's New in TensorFlow 2.0 Packt Publishing Ltd
How can we build bridges from the digital world of the Internet to the analog world that surrounds us? By bringing accessibility to embedded components such as sensors and microcontrollers, JavaScript and Node.js might shape the world of physical computing as they did for web browsers. This practical guide shows hardware and software engineers, makers, and web developers how to talk in JavaScript with a variety of hardware platforms. Authors Patrick Mulder and Kelsey Breseman also delve into the basics of microcontrollers, single-board computers, and other hardware components. Use JavaScript to program microcontrollers with Arduino and Espruino Prototype IoT devices with the Tessel 2 development platform Learn about electronic input and output components, including sensors Connect microcontrollers to the Internet with the Particle Photon toolchain Run Node.js on single-board computers such as Raspberry Pi and Intel Edison Talk to embedded devices with Node.js libraries such as Johnny-Five, and remotely control the devices with Bluetooth Use MQTT as a message broker to connect devices across networks Explore ways to use robots as building blocks for shared experiences
Learning IoT with Particle Photon and Electron Elsevier
*Simplified way to understand IoT Product Development*Easy to learn and quick to understand.*Programming concepts with Explanation and Circuit Diagram*Logic box explains key fundamentals of each program.*Particle Electron and Photon programming reference guide.*Lots of real-life programs along with output screenshot.*Quickly and user-friendly guideline to develop IoT products.
Building Smart Drones with ESP8266 and Arduino Springer Nature
Leverage the WiFi chip to build exciting Quadcopters Key Features Learn to create a fully functional Drone with Arduino and ESP8266 and their modified versions of hardware. Enhance your drone's functionalities by implementing smart features. A project-based guide that will get you developing next-level drones to help you monitor a particular area with mobile-like devices. Book Description With the use of drones, DIY projects have taken off. Programmers are rapidly moving from traditional application programming to developing exciting multi-utility projects. This book will teach you to build industry-level drones with Arduino and ESP8266 and their modified versions of hardware. With this book, you will explore techniques for leveraging the tiny WiFi chip to enhance your drone and control it over a mobile phone. This book will start with teaching you how to solve problems while building your own WiFi controlled Arduino based drone. You will also learn how to build a Quadcopter and a mission critical drone. Moving on you will learn how to build a prototype drone that will be given a mission to complete which it will do it itself. You will also learn to build various exciting projects such as gliding and racing drones. By the end of this book you will learn how to maintain and troubleshoot your drone. By the end of this book, you will have learned to build drones using ESP8266 and Arduino and leverage their functionalities to the fullest. What you will learn Includes a number of projects that utilize different ESP8266 and Arduino capabilities, while interfacing with external hardware Covers electrical engineering and programming concepts, interfacing with the World through analog and digital sensors, communicating with a computer and other devices, and internet connectivity Control and fly your quadcopter, taking into account weather conditions Build a drone that can follow the user wherever he/she goes Build a mission-control drone and learn how to use it effectively Maintain your vehicle as much as possible and repair it whenever required Who this book is for If you are a programmer or a DIY enthusiast and keen to create a fully functional drone with Arduino and ESP8266, then this book is for you. Basic skills in electronics and programming would be beneficial. This book is not for the beginners as it includes lots of ideas not detailed how you can do that. If you are a beginner, then you might get lost here. The prerequisites of the book include a good knowledge of Arduino, electronics, programming in C or C++ and lots of interest in creating things out of nothing.
Learning JavaScript Robotics IGI Global
Design, build, and program your own remarkable robots with JavaScript and open source hardware About This Book Learn how to leverage Johnny-Five's Read, Eval, Print Loop, and Event API to write robot code with JavaScript Unlock a world of exciting possibilities by hooking your JavaScript-programmed robots up to the internet and using external data and APIs Move your project code from the Arduino Uno to a multitude of other robotics platforms Who This Book Is For If you've worked with Arduino before or are new to electronics and would like to try writing sketches in JavaScript, then this book is for you! Basic knowledge of JavaScript and Node.js will help you get the most out of this book. What You Will Learn Familiarise yourself with Johnny-Five Read, Eval, and Print Loop (REPL) to modify and debug robotics code in real time Build robots with basic output devices to create projects that light up, make noise, and more Create projects with complex output devices, and employ the Johnny-Five API to simplify the use of components that require complex interfaces,

such as I2C Make use of sensors and input devices to allow your robotics projects to survey the world around them and accept input from users Use the Sensor and Motor objects to make it much easier to move your robotics projects Learn about the Animation API that will allow you to program complex movements using timing and key frames Bring in other devices to your Johnny-Five projects, such as USB devices and remotes Connect your Johnny-Five projects to external APIs and create your own Internet of Things! In Detail There has been a rapid rise in the use of JavaScript in recent times in a variety of applications, and JavaScript robotics has seen a rise in popularity too. Johnny-Five is a framework that gives NodeBots a consistent API and platform across several hardware systems. This book walks you through basic robotics projects including the physical hardware builds and the JavaScript code for them. You'll delve into the concepts of Johnny-Five and JS robotics. You'll learn about various components such as Digital GPIO pins, PWM output pins, Sensors, servos, and motors to be used with Johnny-Five along with some advanced components such as I2C, and SPI. You will learn to connect your Johnny-Five robots to internet services and other NodeBots to form networks. By the end of this book, you will have explored the benefits of the Johnny-Five framework and the many devices it unlocks. Style and approach This step-by-step guide to the Johnny-Five ecosystem is explained in a conversational style, packed with examples and tips. Each chapter also explores the Johnny-Five documentation to enable you to start exploring the API on your own.

Ubiquitous Computing and Computing Security of IoT Springer Nature

This book constitutes refereed proceedings of the 8th Conference on Information and Communication Technologies of Ecuador, TICEC 2020, held in November 2020. Due to the COVID-19 pandemic the conference was held online. The 36 full and 7 short papers were carefully reviewed and selected from 117 qualified submissions. The papers are organized according to the following topical sections: biomedical sensors and wearables systems; data science; ICT´s applications; industry 4.0; smart cities; software development; technology and environment.

Internet of Things A to Z Springer Nature

“With futuristic homes on the rise, learn to control and automate the living space with intriguing IoT projects.” About This Book Build exciting (six) end-to-end home automation projects with Raspberry Pi 3, Seamlessly communicate and control your existing devices and build your own home automation system, Automate tasks in your home through projects that are reliable and fun Who This Book Is For This book is for all those who are excited about building home automation systems with Raspberry Pi 3. It's also for electronic hobbyists and developers with some knowledge of electronics and programming. What You Will Learn Integrate different embedded microcontrollers and development boards like Arduino, ESP8266, Particle Photon and Raspberry Pi 3, creating real life solutions for day to day tasks and home automation Create your own magic mirror that lights up with useful information as you walk up to it Create a system that intelligently decides when to water your garden and then goes ahead and waters it for you Use the Wi-fi enabled Adafruit ESP8266 Huzzah to create your own networked festive display lights Create a simple machine learning application and build a parking automation system using Raspberry Pi Learn how to work with AWS cloud services and connect your home automation to the cloud Learn how to work with Windows IoT in Raspberry Pi 3 and build your own Windows IoT Face Recognition door locking system In Detail Raspberry Pi 3 Home Automation Projects addresses the challenge of applying real-world projects to automate your house using Raspberry Pi 3 and Arduino. You will learn how to customize and program the Raspberry Pi 3 and Arduino-based boards in several home automation projects around your house, in order to develop home devices that will really rejuvenate your home. This book aims to help you integrate different microcontrollers like Arduino, ESP8266 Wi-Fi module, Particle Photon and Raspberry Pi 3 into the real world, taking the best of these boards to develop some exciting home automation projects. You will be able to use these projects in everyday tasks, thus making life easier and comfortable. We will start with an interesting project creating a Raspberry Pi-Powered smart mirror and move on to Automated Gardening System, which will help you build a simple smart gardening system with plant-sensor devices and Arduino to keep your garden healthy with minimal effort. You will also learn to build projects such as CheerLights into a holiday display, a project to erase parking headaches with OpenCV and Raspberry Pi 3, create Netflix's "The Switch" for the living room and lock down your house like Fort Knox with a Windows IoT face recognition-based door lock system. By the end of the book, you will be able to build and automate the living space with intriguing IoT projects and bring a new degree of interconnectivity to your world. Style and approach End to end home automation projects with Raspberry Pi 3.

Empirical Aspects of Advancements in Science, Engineering and Technologies McGraw Hill Professional

Internet of Things: Challenges, Advances, and Applications provides a comprehensive introduction to IoT, related technologies, and common issues in the adoption of IoT on a large scale. It surveys recent technological advances and novel solutions for challenges in the IoT environment. Moreover, it provides detailed discussion of the utilization of IoT and its underlying technologies in critical application areas, such as smart grids, healthcare, insurance, and the automotive industry. The chapters of this book are authored by several international researchers and industry experts. This book is composed of 18 self-contained chapters that can be read, based on interest. Features: Introduces IoT, including its history, common definitions, underlying technologies, and challenges Discusses technological advances in IoT and implementation considerations Proposes novel solutions for common implementation issues Explores critical application domains, including large-scale electric power distribution networks, smart water and gas grids, healthcare and e-Health applications, and the insurance and automotive industries The book is an excellent reference for researchers and post-graduate students working in the area of IoT, or related areas. It also targets IT professionals interested in gaining deeper knowledge of IoT, its challenges, and application areas.

IoT Product Development with Programming John Wiley & Sons

This book addresses a broad range of topics, from newly proposed techniques in Artificial Intelligence (AI) and Machine Learning to various applications such as decision-making, pattern classification for data, image and signals, robotics, and control systems. Big data applications are discussed, while improved methods and wholly new methods for using deep learning technologies are also presented. The topics covered are comprehensive and reflect a wide range of technologies in the area. In particular, the latest methods in deep learning approaches and applications are discussed in many parts of the

book, providing a better understanding of these new technologies. The book's general scope includes the latest methods in the areas of Artificial Intelligence and Machine Learning for use in distributed computing as well as decision support systems. As the book covers a rather wide area, its intended readership ranges from those working in AI and machine learning technologies to those working on applications utilizing these technologies, researchers new to these areas who need background information on the technologies and applications, and more experienced researchers looking for new methods and applications.

Information and Communication Technologies Packt Publishing Ltd

Artificial Intelligence (AI) is an interdisciplinary science with multiple approaches to solve a problem. Advancements in machine learning (ML) and deep learning are creating a paradigm shift in virtually every tech industry sector. This handbook provides a quick introduction to concepts in AI and ML. The sequence of the book contents has been set in a way to make it easy for students and teachers to understand relevant concepts with a practical orientation. This book starts with an introduction to AI/ML and its applications. Subsequent chapters cover predictions using ML, and focused information about AI/ML algorithms for different industries (health care, agriculture, autonomous driving, image classification and segmentation, SEO, smart gadgets and security). Each industry use-case demonstrates a specific aspect of AI/ML techniques that can be used to create pipelines for technical solutions such as data processing, object detection, classification and more. Additional features of the book include a summary and references in every chapter, and several full-color images to visualize concepts for easy understanding. It is an ideal handbook for both students and instructors in undergraduate level courses in artificial intelligence, data science, engineering and computer science who are required to understand AI/ML in a practical context.

Internet of Things CRC Press

Develop applications on one of the most popular platforms for IoT using Particle Photon and Electron with this fast-paced guide About This Book Get an introduction to IoT architecture, command-line build tools and applications of IoT devices and sensors Design and develop connected IoT applications using Particle Photon and Electron in a step-by-step manner, gaining an entry point into the field of IoT Get tips on troubleshooting IoT applications Who This Book Is For This book is for developers, IoT enthusiasts and hobbyists who want to enhance their knowledge of IoT machine-to-machine architecture using Particle Photon and Electron, and implement cloud-based IoT projects. What You Will Learn Setup the Particle Photon and Electron on the cloud using the command-line tools Build and deploy applications on the Photon and Electron using the Web-based IDE Setup a local cloud server to interact with Particle Photon and Electron Connect various components and sensors to Particle Photon and Electron Tinker with the existing firmware and deploy a custom firmware on the Photon and Electron Setup communication between two or more Particle Photon and Electron Debug and troubleshoot Particle Photon and Electron projects Use webhooks to communicate with various third-party server applications In Detail IoT is basically the network of physical devices, vehicles, buildings and other items—embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data.. The number of connected devices is growing rapidly and will continue to do so over years to come. By 2020, there will be more than 20 billion connected devices and the ability to program such devices will be in high demand. Particle provides prototyping boards for IoT that are easy to program and deploy. Most importantly, the boards provided by Particle can be connected to the Internet very easily as they include Wi-Fi or a GSM module. Starting with the basics of programming Particle Photon and Electron, this book will take you through setting up your local servers and running custom firmware, to using the Photon and Electron to program autonomous cars. This book also covers in brief a basic architecture and design of IoT applications. It gives you an overview of the IoT stack. You will also get information on how to debug and troubleshoot Particle Photon and Electron and set up your own debugging framework for any IoT board. Finally, you'll tinker with the firmware of the Photon and Electron by modifying the existing firmware and deploying them to your boards. By the end of this book, you should have a fairly good understanding of the IoT ecosystem and you should be able to build standalone projects using your own local server or the Particle Cloud Server. Style and approach This project-based guide contains easy-to-follow steps to program Particle Photon and Electron. You will learn to build connected applications with the help of projects of increasing complexity, and with each project, a new concept in IoT is taught.

Smart Agriculture "O'Reilly Media, Inc."

This book presents the proceedings of four conferences: The 16th International Conference on Frontiers in Education: Computer Science and Computer Engineering + STEM (FECS'20), The 16th International Conference on Foundations of Computer Science (FCS'20), The 18th International Conference on Software Engineering Research and Practice (SERP'20), and The 19th International Conference on e-Learning, e-Business, Enterprise Information Systems, & e-Government (EEE'20). The conferences took place in Las Vegas, NV, USA, July 27-30, 2020 as part of the larger 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20), which features 20 major tracks. Authors include academics, researchers, professionals, and students. This book contains an open access chapter entitled, "Advances in Software Engineering, Education, and e-Learning". Presents the proceedings of four conferences as part of the 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20); Includes the tracks Computer Engineering + STEM, Foundations of Computer Science, Software Engineering Research, and e-Learning, e-Business, Enterprise Information Systems, & e-Government; Features papers from FECS'20, FCS'20, SERP'20, EEE'20, including one open access chapter.

Advances in Data Science and Information Engineering Springer Nature

Simplified way to understand IoT Product Development Programming concepts with Explanation and Circuit Diagram Easy to learn and quick to understand. Logic box explains key fundamentals of each program. Particle Electron and Photon programming reference guide Lots of real-life programs along with output screenshot Quickly and user-friendly guideline to develop IoT products.

Raspberry Pi 3 Home Automation Projects Springer

Explore the Internet of Things and build useful, functioning Photon projects Quickly learn to construct your own electronics devices and control them over the Internet with help from this DIY guide. Programming the Photon: Getting Started with the Internet of

Things features clear explanations and step-by-step examples that use inexpensive, easy-to-find components. Discover how to connect to Wi-Fi networks, attach hardware to I/O ports, write custom programs, and work from the cloud. You will learn how to troubleshoot and tweak your Photon creations—even interface with social media sites! · Set up your Photon board and connect to the Particle cloud · Start constructing and programming custom IoT projects · Learn the syntax of both the C and Arduino languages · Incorporate switches, sensors, and other input devices · Control hardware through the Photon's outputs · Control your creations through the Internet · Add functions with Particle shields and add-on boards · Link real-time data to your board via the IFTTT Web Service · Integrate with websites—Facebook, Twitter, Gmail, and more!

Programming Arduino: Getting Started with Sketches, Second Edition Maker Media, Inc.

Harness the power of Python to analyze your IoT data KEY FEATURES ● Learn how to build an IoT Data Analytics infrastructure. ● Explore advanced techniques for IoT Data Analysis with Python. ● Gain hands-on experience applying IoT Data Analytics to real-world situations. DESCRIPTION Python is a popular programming language for data analytics, and it is also well-suited for IoT Data Analytics. By leveraging Python's versatility and its rich ecosystem of libraries and tools, Data Analytics for IoT can unlock valuable insights, enable predictive capabilities, and optimize decision-making in various IoT applications and domains. The book begins with a foundation in IoT fundamentals, its role in digital transformation, and why Python is the preferred language for IoT Data Analytics. It then covers essential data analytics concepts, how to establish an IoT Data Analytics environment, and how to design and manage real-time IoT data flows. Next, the book discusses how to implement Descriptive Analytics with Pandas, Time Series Forecasting with Python libraries, and Monitoring, Preventive Maintenance, Optimization, Text Mining, and Automation strategies. It also introduces Edge Computing and Analytics, discusses Continuous and Adaptive Learning concepts, and explores data flow and use cases for Edge Analytics. Finally, the book concludes with a chapter on IoT Data Analytics for self-driving cars, using the CRISP-DM framework for data collection, modeling, and deployment. By the end of the book, you will be equipped with the skills and knowledge needed to extract valuable insights from IoT data and build real-world applications. WHAT YOU WILL LEARN ● Explore the essentials of IoT Data Analytics and the Industry 4.0 revolution. ● Learn how to set up the IoT Data Analytics environment. ● Equip Python developers with data analysis foundations. ● Learn to build data lakes for real-time IoT data streaming. ● Learn to deploy machine learning models on edge devices. ● Understand Edge Computing with MicroPython for efficient IoT Data Analytics. WHO THIS BOOK IS FOR If you are an experienced Python developer who wants to master IoT Data Analytics, or a newcomer who wants to learn Python and its applications in IoT, this book will give you a thorough understanding of IoT Data Analytics and practical skills for real-world use cases. TABLE OF CONTENTS 1. Necessity of Analytics Across IoT 2. Up and Running with Data Analytics Fundamentals 3. Setting Up IoT Analytics Environment 4. Managing Data Pipeline and Cleaning 5. Designing Data Lake and Executing Data Transformation 6. Implementing Descriptive Analytics Using Pandas 7. Time Series Forecasting and Predictions 8. Monitoring and Preventive Maintenance 9. Model Deployment on Edge Devices 10. Understanding Edge Computing with MicroPython 11. IoT Analytics for Self-driving Vehicles

IoT Product Development with Programming Apress

Unleash the power of the Raspberry Pi 3 board to create interesting IoT projects Key Features Learn how to interface various sensors and actuators with the Raspberry Pi 3 and send this data to the cloud. Explore the possibilities offered by the IoT by using the Raspberry Pi to upload measurements to Google Docs. A practical guide that will help you create a Raspberry Pi robot using IoT modules. Book Description This book is designed to introduce you to IoT and Raspberry Pi 3. It will help you create interesting projects, such as setting up a weather station and measuring temperature and humidity using sensors; it will also show you how to send sensor data to cloud for visualization in real-time. Then we shift our focus to leveraging IoT for accomplishing complex tasks, such as facial recognition using the Raspberry Pi camera module, AWS Rekognition, and the AWS S3 service. Furthermore, you will master security aspects by building a security surveillance system to protect your premises from intruders using Raspberry Pi, a camera, motion sensors, and AWS Cloud. We'll also create a real-world project by building a Wi-Fi – controlled robot car with Raspberry Pi using a motor driver circuit, DC motor, and a web application. This book is a must-have as it provides a practical overview of IoT's existing architectures, communication protocols, and security threats at the software and hardware levels—security being the most important aspect of IoT. What you will learn Understand the concept of IoT and get familiar with the features of Raspberry Pi Learn to integrate sensors and actuators with the Raspberry Pi Communicate with cloud and Raspberry using communication protocols such as HTTP and MQTT Build DIY projects using Raspberry Pi, JavaScript/node.js and cloud (AWS) Explore the best practices to ensure the security of your connected devices Who this book is for If you're a developer or electronics engineer and are curious about the Internet of Things, then this is the book for you. With only a rudimentary understanding of electronics, the Raspberry Pi, or similar credit-card sized computers, and some programming experience, you will be taught to develop state-of-the-art solutions for the Internet of Things in an instant.

Build Better Chatbots Packt Publishing Ltd

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.

Proceedings of the Second International Conference on Emerging Trends in Engineering (ICETE 2023) Springer

"The Ultimate Modern Guide To The Internet Of Things" is a book that explores the world of IoT and its impact on our lives and businesses. This book covers the latest technological trends, such as digital transformation, artificial intelligence, and virtual reality, and how they drive businesses to become more competitive. It highlights how the Internet of Things is the frontier of the digital revolution, improving productivity, reducing costs, and bringing new products and services to consumers. The book provides insights into how IoT is changing the way we do business, work, and communicate with each other. It explains how IoT can lead to better inventory management, manufacturing processes, and delivery times in a smart factory. It also showcases real-life examples of IoT transforming industries like healthcare and hospitality with remote diagnosis and personalised guest experiences. This book is a comprehensive guide to understanding the inside out of IoT and everything relevant to it, from connecting devices to creating human value. It covers everything from the basics of digital transformation and artificial intelligence to the complex integration and security requirements for the full implementation of IoT. Whether you're a business owner or an IoT enthusiast, this book will take you on a journey to discover the potential of the Internet of Things and how it can shape our future.

Insights Beyond Ir4.0 with Ioe Checksheets For Implementation - a Basic Reference Manual Springer Nature

This book presents recent advances towards the goal of enabling efficient implementation of machine learning models on resource-constrained systems, covering different application domains. The focus is on presenting interesting and new use cases of applying machine learning to innovative application domains, exploring the efficient hardware design of efficient machine learning accelerators, memory optimization techniques, illustrating model compression and neural architecture search techniques for energy-efficient and fast execution on resource-constrained hardware platforms, and understanding hardware-software codesign techniques for achieving even greater energy, reliability, and performance benefits.

Proceedings of Third International Conference on Advances in Computer Engineering and Communication Systems Bentham Science Publishers

MACHINE LEARNING TECHNIQUES AND ANALYTICS FOR CLOUD SECURITY This book covers new methods, surveys, case studies, and policy with almost all machine learning techniques and analytics for cloud security solutions The aim of Machine Learning Techniques and Analytics for Cloud Security is to integrate machine learning approaches to meet various analytical issues in cloud security. Cloud security with ML has long-standing challenges that require methodological and theoretical handling. The conventional cryptography approach is less applied in resource-constrained devices. To solve these issues, the machine learning approach may be effectively used in providing security to the vast growing cloud environment. Machine learning algorithms can also be used to meet various cloud security issues, such as effective intrusion detection systems, zero-knowledge authentication systems, measures for passive attacks, protocols design, privacy system designs, applications, and many more. The book also contains case studies/projects outlining how to implement various security features using machine learning algorithms and analytics on existing cloud-based products in public, private and hybrid cloud respectively. Audience Research scholars and industry engineers in computer sciences, electrical and electronics engineering, machine learning, computer security, information technology, and cryptography.

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