Learning Iot With Particle Photon And Electron

IoT Product Development with Programming
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Building Smart Drones with ESP8266 and Arduino
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Make: Volume 87
Smart Cities—Opportunities and Challenges
Embedded Machine Learning for Cyber-Physical, IoT, and Edge Computing
Learning Progressive Web Apps
Node.js for Embedded Systems
Smart Agriculture
Proceedings of the Second International Conference on Emerging Trends in Engineering (ICETE 2023)
Handbook of Artificial Intelligence
Advances in Software Engineering, Education, and e-Learning
IoT Product Development with Programming
Internet of Things A to Z
The Ultimate Modern Guide To The Internet Of Things (IoT)
BASIC IoT BLUEPRINT:FROM DEVICES TO DATA
IoT Data Analytics using Python
Concise Guide to the Internet of Things
Advanced Deep Learning Applications in Big Data Analytics
Getting Started with the Photon
Emerging Real-World Applications of Internet of Things
Distributed Computing and Artificial Intelligence, Special Sessions II, 15th

International Conference
Proceedings of Third International Conference on Advances in Computer Engineering and Communication Systems
Ubiquitous Computing and Computing Security of IoT
Build Better Chatbots
Computational Intelligence for Medical Internet of Things (MIoT) Applications
What's New in TensorFlow 2.0
The Photon Kit Development Workshop

SUMMERS SKINNER

IoT Product Development with Programming John Wiley & Sons
“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.

Hands-On Internet of Things with MQTT

Addison-Wesley Professional

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!

Empirical Aspects of Advancements in Science, Engineering and Technologies

Springer Nature

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!

Building Smart Drones with ESP8266 and Arduino CRC Press This comprehensive guide dig into the fundamentals of IoT technology, providing students with a thorough understanding of its concepts, applications, and business implications. It equips them with the knowledge and skills necessary to navigate the rapidly evolving IoT landscape. Through engaging learning experiences, students gain knowledge about the strategic

implementation and management of IoT solutions, preparing them for success in today's technology-driven world.

Programming Arduino: Getting Started with Sketches, Second Edition Packt Publishing Ltd

This is an open access book. The 2nd International Conference on Emerging Trends in Engineering (ICETE 2023) will be held in-person from April 28-30, 2023 at University College of Engineering, Osmania University, Hyderabad, India. Since its inception in 2019, The International Conference on Emerging Trends in Engineering (ICETE) has established to enhance the information exchange of theoretical research and practical advancements at national and international levels in the fields of Bio-Medical, Civil, Computer Science, Electrical, Electronics & Communication Engineering, Mechanical and Mining Engineering. This encourages and promotes professional interaction among students, scholars, researchers, educators, professionals from industries and other groups to share latest findings in their respective fields towards sustainable developments. ICETE 2023 promises to be an exciting and innovative event with keynote and invited talks, oral and poster presentations. We invite you to submit your latest research work to ICETE 2023 and look forward to welcoming you in-person to University College of Engineering, Osmania University,

Hyderabad, India. We are closely monitoring the COVID-19 situation. We will be taking all necessary precautions and adhere to the COVID-19 guidelines issued by the Government of Telangana & Osmania University, India. Information and Communication Technologies CRC Press 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.

Programming the Photon: Getting Started with the Internet of Things

HighTechEasy Publishing

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

Intelligent Analytics for Industry 4.0 Applications
Packt Publishing Ltd
This provides a comprehensive overview of the key principles of security concerns surrounding the upcoming Internet of Things (IoT), and introduces readers to the protocols adopted in the IoT. It also analyses the vulnerabilities, attacks and defense mechanisms, highlighting the security issues in the context of big data. Lastly, trust management approaches and ubiquitous learning applications are examined in detail. As such, the book sets the stage for developing and securing IoT applications both today and in the future.

Internet of Things
Springer
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.

Learning IoT with Particle Photon and Electron IGI Global

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.

Raspberry Pi 3 Home Automation Projects

Bentham Science Publishers

This book includes original, peer-reviewed research articles from International Conference on Advances in Computer Engineering and Communication Systems

(ICACECS 2022), held in VNR Vignana Jyoythi Institute of Engineering and Technology (VNR VJIET), Hyderabad, Telangana, India, during August 11–12, 2022. The book focuses on “Smart Innovations in Mezzanine Technologies, Data Analytics, Networks and Communication Systems” enlargements and reviews on the advanced topics in artificial intelligence, machine learning, data mining and big data computing, knowledge engineering, semantic Web, cloud computing, Internet of Things, cybersecurity, communication systems, and distributed computing and smart systems.

Learning Iot with Particle Core and Photon 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.

Machine Learning Techniques and Analytics for Cloud Security Enel Publications

The Internet of things (IoT) is a network of

connected physical objects or things that are working along with sensors, wireless transceiver modules, processors, and software required for connecting, processing, and exchanging data among the other devices over the Internet. These objects or things are devices ranging from simple handheld devices to complex industrial heavy machines. A thing in IoT can be any living or non-living object that can be provided capabilities to sense, process, and exchange data over a network. The IoT provides people with the ability to handle their household works to industrial tasks smartly and efficiently without the intervention of another human. The IoT provides smart devices for home automation as well as business solutions for delivering insights into everything from real-time monitoring of working systems to supply chain and logistics operations. The IoT has become one of the most prominent technological inventions of the 21st century. Due to the versatility of IoT devices, there are numerous real-world applications of the IoT in various domains such as smart home, smart city, health care, agriculture, industry, and transportation. The IoT has emerged as a paradigm-shifting technology that is influencing various industries. Many companies, governments, and civic bodies are shifting to IoT applications to improve their works and to become more efficient. The world is

slowly transforming toward a "smart world" with smart devices. As a consequence, it shows many new opportunities coming up in the near "smart" future for IoT professionals. Therefore, there is a need to keep track of advancements related to IoT applications and further investigate several research challenges related to the applicability of IoT in different domains to make it more adaptable for practical and industrial use. With this goal, this book provides the most recent and prominent applications of IoT in different domains as well as issues and challenges in developing IoT applications for various new domains.

Advances in Data Science and Information Engineering McGraw Hill Professional

Develop a variety of projects and connect them to microcontrollers and web servers using the lightweight messaging protocol MQTT Key FeaturesLeverage the power of MQTT to build a pet food dispenser, e-ink to-do list, and a productivity cubeLearn about technologies like laser cutting, 3D printing, and PCB production for building robust prototypesExplore practical uses cases to gain an in-depth understanding of MQTTBook Description MQ Telemetry Transport (MQTT) is a lightweight messaging protocol for smart devices that can be used to build exciting, highly scalable Internet of Things (IoT) projects. This book will get you started with a quick introduction

to the concepts of IoT and MQTT and explain how the latter can help you build your own internet-connected prototypes. As you advance, you'll gain insights into how microcontrollers communicate, and you'll get to grips with the different messaging protocols and techniques involved. Once you are well-versed with the essential concepts, you'll be able to put what you've learned into practice by building three projects from scratch, including an automatic pet food dispenser and a smart e-ink to-do display. You'll also discover how to present your own prototypes professionally. In addition to this, you'll learn how to use technologies from third-party web service providers, along with other rapid prototyping technologies, such as laser cutting, 3D printing, and PCB production. By the end of this book, you'll have gained hands-on experience in using MQTT to build your own IoT prototypes. What you will learnExplore MQTT programming with ArduinoDiscover how to make your prototypes talk to each otherSend MQTT messages from your smartphone to your prototypesDiscover how you can make websites interact with your prototypesLearn about MQTT servers, libraries, and appsExplore tools such as laser cutting and 3D printing in order to build robust prototype casesWho this book is for If you are an IoT developer or enthusiast who wants to start building IoT prototypes

using MQTT, this book is for you. Basic knowledge of programming with Arduino will be useful.

Internet of Things with Raspberry Pi 3 PE Press

"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.

Make: Volume 87 Packt Publishing Ltd

Learn best practices for building bots by focusing on the technological implementation and UX in this practical book. You will cover key topics such as setting up a development environment for creating chatbots for multiple channels (Facebook Messenger, Skype, and KiK); building a chatbot (design to implementation); integrating to IFTT (If This Then That) and IoT (Internet of Things); carrying out analytics and metrics for chatbots; and most importantly monetizing models and business sense for chatbots. Build Better Chatbots is easy to follow with code snippets provided in the book and complete code open sourced and available to download. With Facebook opening up its Messenger platform for developers, followed by Microsoft opening up Skype for development, a new channel has emerged for brands to acquire, engage, and service customers on chat with chatbots. What You Will Learn Work with the bot development life cycle Master bot UX design Integrate into the bot ecosystem Maximize the business and monetization potential for bots Who This Book Is For Developers, programmers, and hobbyists who have basic

programming knowledge. The book can be used by existing chatbot developers to gain a better understanding of analytics and the business side of bots.

Smart Cities—Opportunities and Challenges Springer Nature

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. *Embedded Machine Learning for Cyber-Physical, IoT, and Edge Computing* Springer 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.

Learning Progressive Web Apps BPB Publications

Interest in big data has swelled within the scholarly community as has increased attention to the internet of things (IoT). Algorithms are constructed in order to parse and analyze all this data to facilitate the exchange of information. However, big data has suffered from problems in connectivity, scalability, and privacy since its birth. The application of deep learning algorithms has helped process those challenges and remains a major issue in today's digital world. Advanced Deep Learning Applications in Big Data Analytics is a pivotal reference source that aims to develop new architecture and applications of deep learning algorithms in big data and the IoT. Highlighting a wide range of topics such as artificial intelligence, cloud computing, and neural networks, this book is ideally designed for engineers, data analysts, data scientists, IT

specialists, programmers, marketers, entrepreneurs, researchers, academicians, and students.
Node.js for Embedded Systems 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.