

Foreword

With the increasing demand for connectivity of everything, the Internet of Things (IoT) has now become a key technology that spans multiple technology domains from data sensing to networking to data analytics. We are now becoming accustomed to our daily activities either at homes or offices being interconnected via smart devices to the outside world. In this book, the integration of core building blocks of IoT such as sensing, processing, communication and networking is covered in a simple approach with real-world applications. This book is a good reference source for beginners to understand how the traditional network-centric domain emerges as a device-centric domain in IoT platform. It covers basic IoT building models with emerging applications and services, supplemented with advanced concepts such as fog computing and cooperative IoT network. Nicely blending technology with business to give a practical and entrepreneur sense of the IoT paradigm, this book also covers emerging trends and research challenges in distributed and autonomous IoT functionalities. Readers will understand the practical challenges of integrations, deployment and security and learn some basic design principles in IoT. This book is a good reference resource for graduate students, researchers and industry practitioners working in the IoT field.

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Arguably, the first Internet of Things (IoT) application debuted on the 22nd of November 1993 when a camera at the University of Cambridge was aimed at a coffee pot to provide several computer science researchers, located on a different floor, some indication of when the coffee would be “on”. We have come a long way—often in fits and starts. Today, the various technical communities have agreed on protocols, algorithms and techniques that have been translated into standards that do not simply allow the Internet to exist but provide impetus for new applications involving more and more “things” to take advantage of its ubiquitous nature. Dr. Hussain’s work provides an important introduction to the key components of what IoT is today with insight into what it may become in a promising future.

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Internet of Things

Building Blocks and Business Models

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