

# The Internet of Things: Smart Spaces and Next-Generation Networks and Systems



Internet of Things, Smart Spaces, and Next Generation Networks and Systems: 20th International Conference, NEW2AN 2024, and 13th Conference, ruSMART 2024, ... Notes in Computer Science Book 12525) by Jason P Doherty

★★★★★ 5 out of 5

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The Internet of Things (IoT) is a network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these objects to collect and exchange data. The IoT is often seen as a key technology for the next generation of the Internet, and it has the potential to revolutionize many industries, including manufacturing, transportation, healthcare, and energy.

## Smart Spaces

Smart spaces are physical spaces that are equipped with IoT devices and sensors. These devices and sensors can collect data about the space, such as temperature, humidity, and occupancy. This data can then be used to improve the space's efficiency, comfort, and safety.

For example, a smart office building could use IoT devices to track employee movement and adjust the temperature and lighting accordingly. This could help to reduce energy consumption and improve employee productivity.

## **Next-Generation Networks**

Next-generation networks (NGNs) are high-speed networks that are designed to support the demands of the IoT. NGNs are characterized by their low latency, high bandwidth, and reliability.

NGNs are essential for the IoT because they can provide the necessary connectivity for IoT devices to communicate with each other and with the cloud. NGNs can also support the development of new IoT applications and services.

## **Edge Computing**

Edge computing is a distributed computing paradigm that brings computation and data storage resources closer to the devices that need them. This can reduce latency and improve performance for IoT applications.

Edge computing is particularly well-suited for IoT applications because it can support devices that are located in remote areas or that have limited connectivity. For example, edge computing can be used to support IoT devices that are deployed in industrial settings or in smart cities.

## **Cloud Computing**

Cloud computing is a model for delivering computing resources over the Internet. Cloud computing can provide IoT devices with access to a variety

of resources, including storage, processing, and analytics.

Cloud computing is particularly well-suited for IoT applications because it can provide scalability and flexibility. Cloud computing can also support the development of new IoT applications and services.

## Artificial Intelligence and Machine Learning

Artificial intelligence (AI) and machine learning (ML) are technologies that can be used to analyze data and make predictions. AI and ML can be used to improve the efficiency, comfort, and safety of smart spaces.

For example, AI and ML can be used to predict the energy consumption of a smart building or to identify potential safety hazards. AI and ML can also be used to develop new IoT applications and services.

The IoT has the potential to revolutionize many industries and improve our lives in many ways. Smart spaces, next-generation networks, edge computing, cloud computing, and AI/ML are all key technologies for the IoT. By leveraging these technologies, we can create a more connected, efficient, and safer world.



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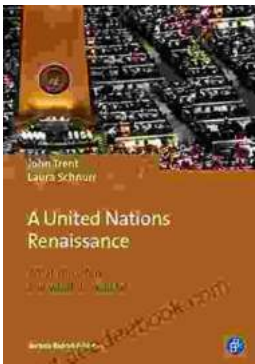
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