Internet Of Things

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Abstract

The course provides an overview of the four main components of IoT systems: sensors, communication technologies, management platforms, and data processing and storage platforms for sensor data. In the first part, the course covers the characteristics of the hardware components of sensor nodes (microcontrollers/microprocessors, memory, sensors, and communication devices). It then delves into communication technologies used in IoT systems, distinguishing between short-range solutions (ZigBee, 6LoWPAN) and long-range solutions (LoRaWAN, NB-IoT). Finally, the course focuses on application-level protocols for IoT systems (COAP, MQTT) and the analysis of IoT management platforms. The course includes hands-on development activities and is delivered through flipped classroom and/or blended learning formats.

Contents

CHAPTER 1

Introduction