Book Review

Sensor Analysis for the Internet of Things

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Synthesis Lectures on Algorithms and Software in Engineering

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Since the evolution of Word Wide Web, the most striking growth and significant issue is the Internet of Things. In this book on '**Sensor Analysis for the Internet of Things',** the authors came out with sensor applications in the Internet of Things. In the first chapter on Introduction, they outline the various sensor applications in automobiles, industry, healthcare and personal devices. The scope of this book is spelled out by the authors as it helps in the sensor related technical issues, and sensor generated data. Though brief, en elegant introduction about sensors is outlined in the first chapter.

The next chapter on Sensors focussed a comprehensive view of sensors, their types and applications. The accelerometer and magnetometer are treated in detail with a discussion on the placement of them while designing. This is beneficial for the beginners as well as designers. The sensor fusion refers to the combination of data from different sensors so that meaningful inferences can be derived. The sensor fusion applications are followed by a detailed description of sensor module configurations. During this discussion, the authors have provided a focus on axis measurement which naturally involves the explanation of geometry and orientation representations, that is required for solving the inertial sensor fusion problems. The third chapter on Sensor Fusion also describes the mathematical models involved to represent the orientation of sensory bodies.

The fourth chapter on Machine Learning for sensor data discuss the machine learning applications for IoT. IoT applications run on sensor data and this chapter explains how sensor data using the machine learning applications can develop IoT. Typically the description of this unit includes the types of machine learning techniques and the workflow, feature extraction, dimension reduction and unsupervised learning and also support vector machines. The last discussion in this chapter is on deep learning, an extension of the machine learning.

The fifth chapter is on the IoT sensor applications, the core unit of this book that includes various architectures and flow of applications in different sectors such as the automotive industry, healthcare, Unmanned aerial vehicles, smart cities and so on. The last section is the concluding part with a brief summary wherein the whole work is condensed. The book contains a useful bibliography at the end.

The use and nature of sensor requirements for IoT is well structured in the book. I strongly suggest the reading of the whole book to gain domain knowledge.

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