Book Review

Answering Queries Using Views
Foto Afrati and Rada Chirkova
Synthesis Lectures on Data Management
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This book with nine chapters address the Queries used in database systems with good explanation and tools. The opening chapter on Queries and Views provide an overview and structure of queries. The 'views' is explained very lucidly and its connation in the functionality is also shown. Querying with views is well illustrated with cases.

The containment tests for conjunctive queries forms the part of the second chapter where the authors query containment treat with comprehensive approach. It is followed by various exercises. In the next chapter the authors have treated the query containment and query equivalence to find rewriting of queries.

The chapter on Maximally Contained Rewritings composed of a discussion on MS algorithm and Miniconstruction Description. The MCD properties and structure are well contained in the extended discussions. Exercises relating to the queries and views are finally provided.

The chapter on Answering Queries in Presence of Dependencies discussed the query containment issues and equivalent and maximally contained rewritings for the cases. The discussion on equivalent rewriting is the unique character of this chapter. The sixth chapter is on Answering Queries in Data Exchange. The feature of the chapter is the provision of several theorems and exercises. The next chapter treats the Answering queries with views provide the types of queries and answering.

The eighth chapter of the Bibliographical note deals and specifies the sources used in this book. This feature is unique as normally other books do not provide such notes. The last chapter is the conclusion which is brief followed by extensive bibliography.

Many chapters provide preliminaries which enable the reader to understand the concepts contained in. We do hope that this volume introduces good overview of queries in database systems and enables the good understanding.

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Book Review

Sensor Analysis for the Internet of Things

Michael Stanley
Jongmin Lee

Synthesis Lectures on Algorithms and Software in Engineering

Morgan & Claypool Publishers
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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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