

SPRING 2007

即時控制系統設計 Design of Real-Time Control Systems

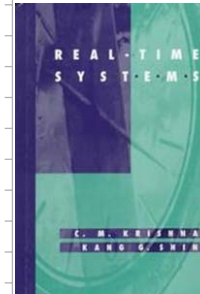
Lecture 01 Introduction Books

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Real-Time Systems

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NTUEE-RTCS1-Intro-2

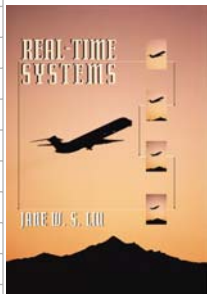
- Real-Time Systems, 1997
 - Krishna and Shin, McGraw-Hill
1. Introduction
 2. Characterizing Real-Time Systems and Tasks
 3. Task Assignment and Scheduling
 4. Programming Languages and Tools
 5. Real-Time Databases
 6. Real-Time Communication
 7. Fault-Tolerance Techniques
 8. Reliability Evaluation Techniques
 9. Clock Synchronization



Real-Time Systems

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- Real-Time Systems, 2000
 - Jane W. S. Liu, Prentice Hall
1. Typical Real-Time Applications.
 2. Hard Versus Soft Real-Time Systems.
 3. A Reference Model of Real-Time Systems.
 4. Commonly Used Approaches to Hard Real-Time Scheduling.
 5. Clock-Driven Scheduling.
 6. Priority-Driven Scheduling of Periodic Tasks.
 7. Scheduling Aperiodic and Sporadic Jobs in Priority-Driven Systems.
 8. Resources and Resource Access Control.
 9. Multiprocessor Scheduling and Resource Access Control.
 10. Scheduling Flexible Computations and Tasks with Temporal Distance Constraints.
 11. Real-Time Communications.
 12. Operating Systems.



Real-Time Computer Control: An Introduction

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- Real-Time Computer Control: An Introduction, 2nd, 1994
 - S. Bennett, Prentice Hall
1. Introduction to Real-time Systems
 2. Concepts of Computer Control
 3. Computer Hardware Requirements for Real-time Applications
 4. DDC Algorithms and Their Implementation
 5. Languages for Real-time Applications
 6. Operating Systems
 7. Design of Real-time Systems - General Introduction
 8. Real-time System Development Methodologies - 1
 9. Real-time System Development Methodologies - 2
 10. Design Analysis
 11. Dependability, Fault Detection and Fault Tolerance



- Digital Control Using Digital Signal Processing, 1998
- Nekoogar & Moriarty, Prentice Hall

1. Introduction to Digital Control Using digital signal processing
2. Mathematical models of discrete systems
3. Analysis of discrete systems
4. Design of digital control systems
5. DSPs in control systems
6. Modern design techniques and their applications
 - A. The MATRIX[subscript x] and MATLAB Design and Analysis Software
 - B. dSPACE
 - C. C Tables of Transforms
 - D. D Partial-Fraction Expansion Method
 - E. Matrix Analysis
 - F. Motion Controller Boards
 - G. Sample DSP Programs
 - H. Computer Architecture

