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Nota di contenuto	Chapter 1. Introduction and Overview to This Book -- Chapter 2. Overview Fundamentals of Control Systems -- Chapter 3. Introduction to Tiva C MCU LaunchPad™ – TM4C123G -- Chapter 4. Systems Mathematical Models and Models Identifications -- Chapter 5. Classical Linear Control Systems - PID Control Systems -- Chapter 6. Practical Nonlinear Control Systems -- Chapter 7. Fuzzy Logic Control Systems -- Chapter 8. Fuzzy Logic Controller Design in TM4C123G MCU System -- Chapter 9. Interval Type-2 Fuzzy Logic Controllers.
Sommario/riassunto	This book focuses on the design, implementation and applications of embedded systems and advanced industrial controls with microcontrollers. It combines classical and modern control theories as well as practical control programming codes to help readers learn control techniques easily and effectively. The book covers both linear and nonlinear control techniques to help readers understand modern control strategies. The author provides a detailed description of the practical considerations and applications in linear and nonlinear control

systems. They concentrate on the ARM® Cortex®-M4 MCU system built by Texas Instruments™ called TM4C123GXL, in which two ARM® Cortex®-M4 MCUs, TM4C123GH6PM, are utilized. In order to help the reader develop and build application control software for a specified microcontroller unit. Readers can quickly develop and build their applications by using sample project codes provided in the book to access specified peripherals. The book enables readers to transfer from one interfacing protocol to another, even if they only have basic and fundamental understanding and basic knowledge of one interfacing function. Classical and Modern Controls with Microcontrollers is a powerful source of information for control and systems engineers looking to expand their programming knowledge of C, and of applications of embedded systems with microcontrollers. The book is a textbook for college students majored in CE, EE and ISE to learn and study classical and modern control technologies. The book can also be adopted as a reference book for professional programmers working in modern control fields or related to intelligent controls and embedded computing and applications. Advances in Industrial Control reports and encourages the transfer of technology in control engineering. The rapid development of control technology has an impact on all areas of the control discipline. The series offers an opportunity for researchers to present an extended exposition of new work in all aspects of industrial control.