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Nota di contenuto	Chapter 1 Introduction -- Chapter 2 A Theoretical Study on Artificial Intelligence Training -- Chapter 3 New Algorithm 1: Binary Direct Feedback Alignment for Fully-Connected layer -- Chapter 4 New Algorithm 2: Extension of Direct Feedback Alignment to Convolutional Recurrent Neural Network -- Chapter 5 DF-LNPU: A Pipelined Direct Feedback Alignment based Deep Neural Network Learning Processor for Fast Online Learning -- Chapter 6 HNPU-V1: An Adaptive DNN Training Processor Utilizing Stochastic Dynamic Fixed-point and Active Bit-precision Searching -- Chapter 7 HNPU-V2: An Energy-efficient DNN Training Processor for Robust Object Detection with Real-World Environmental Adaptation -- Chapter 8 An Overview of Energy-efficient DNN Training Processors -- Chapter 9 Conclusion.
Sommario/riassunto	Unlike most available sources that focus on deep neural network (DNN) inference, this book provides readers with a single-source reference on the needs, requirements, and challenges involved with on-device, DNN training semiconductor and SoC design. The authors include coverage of the trends and history surrounding the development of on-device

DNN training, as well as on-device training semiconductors and SoC design examples to facilitate understanding. Focuses on the requirements and challenges of on-device deep neural network (DNN) training, rather than DNN inference; Provides guidelines for on-device, DNN training semiconductor or System-on-Chip (SoC) design; Includes on-device training semiconductors and SoC design examples to facilitate understanding.