

1. Record Nr.	UNINA9910829880703321
Titolo	Neuromorphic devices for brain-inspired computing : artificial intelligence, perception and robotics // edited by Qing Wan, Yi Shi
Pubbl/distr/stampa	Weinheim, Germany : , : Wiley-VCH GmbH, , [2022] ©2022
ISBN	3-527-83529-6 3-527-83531-8 3-527-83530-X
Descrizione fisica	1 online resource (259 pages)
Disciplina	006.382
Soggetti	Neuromorphics Artificial intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Two-Terminal Neuromorphic Memristors / Hui-Kai He, He-Ming Huang, Rui Yang -- Spintronic Neuromorphic Devices / Deming Zhang, Sai Li, Xinran Wang, Ao Du, Wang Kang, Lang Zeng, Weisheng Zhao -- Multiterminal Neuromorphic Devices with Cognitive Behaviors / Li Qiang Zhu, Jia Cheng Cai, Zheng Yu Ren, Wen Xiong, Qing Wan -- Neuromorphic Devices Based on Chalcogenide Materials / Jia Chen, Yifan Lu, Zhe Yang, Yi Li, Xiangshui Miao -- Neuromorphic Devices Based on Organic Materials / Junyao Zhang, Jia Huang -- Neuromorphic Computing Systems with Emerging Devices / Qiumeng Wei, Jianshi Tang, Bin Gao, Xinyi Li, He Qian, Huaqiang Wu -- Neuromorphic Perceptual Systems with Emerging Devices / Ying Zhu, Changjin Wan, Qing Wan.
Sommario/riassunto	Explore the cutting-edge of neuromorphic technologies with applications in Artificial Intelligence In Neuromorphic Devices for Brain-Inspired Computing: Artificial Intelligence, Perception, and Robotics, a team of expert engineers delivers a comprehensive discussion of all aspects of neuromorphic electronics designed to assist researchers and professionals to understand and apply all manner of brain-inspired computing and perception technologies. The book covers both

memristic and neuromorphic devices, including spintronic, multi-terminal, and neuromorphic perceptual applications. Summarizing recent progress made in five distinct configurations of brain-inspired computing, the authors explore this promising technology's potential applications in two specific areas: neuromorphic computing systems and neuromorphic perceptual systems. The book also includes: A thorough introduction to two-terminal neuromorphic memristors, including memristive devices and resistive switching mechanisms Comprehensive explorations of spintronic neuromorphic devices and multi-terminal neuromorphic devices with cognitive behaviors Practical discussions of neuromorphic devices based on chalcogenide and organic materials In-depth examinations of neuromorphic computing and perceptual systems with emerging devices Perfect for materials scientists, biochemists, and electronics engineers, *Neuromorphic Devices for Brain-Inspired Computing: Artificial Intelligence, Perception, and Robotics* will also earn a place in the libraries of neurochemists, neurobiologists, and neurophysiologists.
