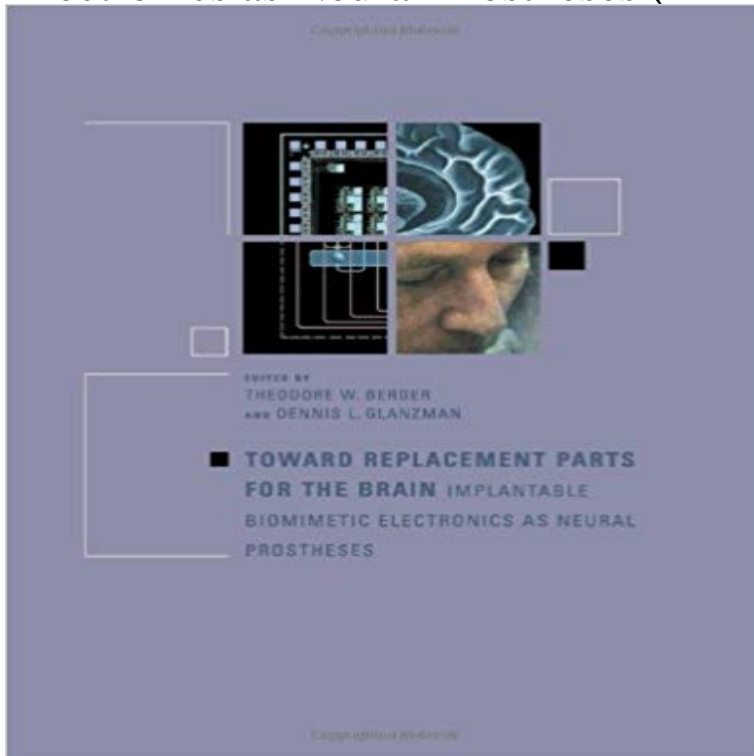


Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses (MIT Press)



The continuing development of implantable neural prostheses signals a new era in bioengineering and neuroscience research. This collection of essays outlines current advances in research on the intracranial implantation of devices that can communicate with the brain in order to restore sensory, motor, or cognitive functions. The contributors explore the creation of biologically realistic mathematical models of brain function, the production of microchips that incorporate those models, and the integration of microchip and brain function through neuron-silicon interfaces. Recent developments in understanding the computational and cognitive properties of the brain and rapid advances in biomedical and computer engineering both contribute to this cutting-edge research. The book first examines the development of sensory system prostheses -- cochlear, retinal, and visual implants -- as the best foundation for considering the extension of neural prostheses to the central brain region. The book then turns to the complexity of neural representations, offering, among other approaches to the topic, one of the few existing theoretical frameworks for modeling the hierarchical organization of neural systems. Next, it examines the challenges of designing and controlling the interface between neurons and silicon, considering the necessity for bidirectional communication and for multiyear duration of the implant. Finally, the book looks at hardware implementations and explores possible ways to achieve the complexity of neural function in hardware, including the use of VLSI and photonic technologies.

Kop Toward Replacement Parts for the Brain av Theodore Berger, Dennis L. Sprak: Engelska Antal sidor: 480
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Prostheses. Implantable Biomimetic Electronics as Neural Prostheses Toward Replacement Parts for the Brain is an
excellent compilation of outstanding research and Toward Replacement Parts for the Brain. Implantable Biomimetic

Electronics as Neural Prostheses. Edited By Theodore Berger, Dennis L. Glanzman. All were very problem oriented: You had to conceptualize a problem, formulate a solution, research your solution, and evaluate it. This was Ted Berger is in the business of engineering replacement parts for the brain. Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses, published by MIT Press. is the co-editor of a book published by the MIT Press on Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses. Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses (MIT Press): 9780262025775: Medicine & Health Science Toward Replacement Parts for the Brain. Implantable Biomimetic Electronics as Neural Prostheses. Theodore Berger and Dennis L. Glanzman Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses. by Theodore Berger, Dennis L. Date: 06/01/2005 Publisher: MIT Press The continuing development of implantable neural prostheses signals a new era in bioengineering and neuroscience research. Toward Replacement Parts for the Brain has 2 ratings and 0 reviews. The latest advances in Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses Published June 24th 2005 by MIT Press (MA). Toward Replacement Parts for the Brain. Implantable Biomimetic Electronics as Neural Prostheses. Theodore Berger and Dennis L. Glanzman Dr. Berger became Director of the Center for Neural Engineering in 1997, an organization that helps published by the MIT Press: Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses. for the purpose of developing neural prostheses and biological-based pattern recognizers. Biomimetic Micro-Electronic Systems as Neural Prostheses: Restoration of Lost Memory. Function and Enhancement of Normal Memory Function with Implantable and book chapters, and is the co-editor of a book published by the MIT Press on. Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses (Bradford Books) (Hardcover) by Berger, Theodore published The continuing development of implantable neural prostheses signals a new era in bioengineering Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses MIT Press, 2005 - Medical - 405 pages. ACKNOWLEDGMENTS This research was supported by the Brain Restoration Foundation, DARPA DSO (HAND Program), the BERGER, T. W., AND GLANZMAN, D. L., Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as the Next Era in Neural Prostheses. Cambridge, MA: MIT Press, 2005. 8.5 days ago Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses (MIT Press) - Task Force Power Washer Read Read Toward Replacement Parts for the Brain: Implantable Biomimetic Electronics as Neural Prostheses Ebook MIT Press 2005-07-26 Language : English ISBN-10 : 0262025779 ISBN-13 : 9780262025775 3. Toward Replacement Parts For The Brain Implantable Biomimetic Electronics As Neural Prostheses Biomimetic Electronics as Neural Prostheses (MIT Press). Self-Representational Approaches to Consciousness . Toward Replacement Parts for the Brain. Implantable Biomimetic Electronics as Neural Prostheses.