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Sommario/riassunto	This book provides an essential introduction to modeling the nervous system at various levels. Readers will learn about the intricate mechanisms of neural activity, receptive fields, neural networks, and information coding. The chapters cover topics such as membrane

potentials, the Hodgkin-Huxley theory, receptive fields and their specificity for important stimulus dimensions, Fourier analysis for neuroscientists, pattern recognition and self-organization in neural networks, and the structure of neural representations. The second edition includes revised text and figures for improved readability and completeness. Key points are highlighted throughout to help readers keep track of central ideas. Researchers in the field of neuroscience with backgrounds in biology, psychology, or medicine will find this book particularly beneficial. It is also an invaluable reference for all neuroscientists who use computational methods in their daily work. Whether you are a theoretical scientist approaching the field or an experienced practitioner seeking to deepen your understanding, "Computational Neuroscience - An Essential Guide to Membrane Potentials, Receptive Fields, and Neural Networks" offers a comprehensive guide to mastering the fundamentals of this dynamic discipline. .