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Autore Fresco Nir

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Context of Cognitive Science.

Sommario/riassunto This book presents a study of digital computation in contemporary

cognitive science. Digital computation is a highly ambiguous concept, as there is no common core definition for it in cognitive science. Since this concept plays a central role in cognitive theory, an adequate cognitive explanation requires an explicit account of digital computation. More specifically, it requires an account of how digital computation is implemented in physical systems. The main challenge is to deliver an account encompassing the multiple types of existing models of computation without ending up in pancomputationalism, that is, the view that every physical system is a digital computing system. This book shows that only two accounts, among the ones examined by the author, are adequate for explaining physical computation. One of them is the instructional information processing

account, which is developed here for the first time. "This book provides a thorough and timely analysis of differing accounts of

computation while advancing the important role that information plays

in understanding computation. Fresco's two-pronged approach will appeal to philosophically inclined computer scientists who want to better understand common theoretical claims in cognitive science." Marty J. Wolf, Professor of Computer Science, Bemidji State University "An original and admirably clear discussion of central issues in the foundations of contemporary cognitive science." Frances Egan, Professor of Philosophy, Rutgers, The State University of New Jersey .