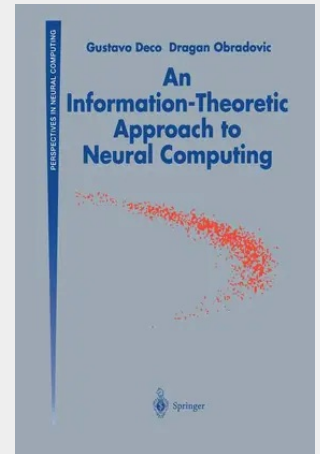


An Information-Theoretic Approach to Neural Computing

Neural networks provide a powerful new technology to model and control nonlinear and complex systems. In this book, the authors present a detailed formulation of neural networks from the information-theoretic viewpoint. They show how this perspective provides new insights into the design theory of neural networks. In particular they show how these methods may be applied to the topics of supervised and unsupervised learning including feature extraction, linear and non-linear independent component analysis, and Boltzmann machines. Readers are assumed to have a basic understanding of neural networks, but all the relevant concepts from information theory are carefully introduced and explained. Consequently, readers from several different scientific disciplines, notably cognitive scientists, engineers, physicists, statisticians, and computer scientists, will find this to be a very valuable introduction to this topic.

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