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Soggetti	Artificial intelligence Computers Computer communication systems Mathematical logic Biomathematics Artificial Intelligence Computation by Abstract Devices Computer Communication Networks Mathematical Logic and Formal Languages Mathematical Logic and Foundations Mathematical and Computational Biology
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Nota di contenuto	The limits of mathematics course outline and software -- Historical background of Gödel's theorem -- A formal scheme for avoiding undecidable problems. Applications to chaotic behavior characterization and parallel computation -- Cellular neural networks — A tutorial on programmable nonlinear dynamics in space -- Neural coding: A theoretical vista of mechanisms, techniques, and applications -- Hebbian unlearning -- Mapping discounted and undiscounted Markov Decision Problems onto Hopfield neural networks -- “Blob” analysis of biomedical image sequences: A model-based and an inductive approach -- Simplicity criteria for dynamical systems -- Analysis of dynamical systems using predicate transformers: Attraction

and composition.

Sommario/riassunto

This volume constitutes the documentation of the advanced course on Analysis of Dynamical and Cognitive Systems, held during the Summer University of Southern Stockholm in Stockholm, Sweden in August 1993. The volume contains eight carefully revised full versions of the invited three-to-four hour presentations as well as two abstracts. As a consequence of the interdisciplinary topic, several aspects of dynamical and cognitive systems are addressed: there are three papers on computability and undecidability, five tutorials on diverse aspects of universal cellular neural networks, and two presentations on dynamical systems and complexity.
