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	Nota di contenuto	Cellular Automata: A Discrete View of the World; CONTENTS; Preface; 1 Preliminaries; 1.1 Self-Replicating Machines; 1.2 Grand Turing Machines; 1.3 Register Machines; 1.4 Logic Gates; 1.5 Dimension; 1.5.1 Kolmogorov Dimension; 1.6 Information and Entropy; 1.7 Randomness; 2 Dynamical Systems; 3 One-Dimensional Cellular Automata; 3.1 The Cellular Automaton; 3.2 Transition Functions; 3.3 Totalistic Rules; 3.4 Boundary Conditions; 3.5 Some Elementary Cellular Automata; 3.6 Additivity; 3.7 Reversibility; 3.8 Classification of Cellular Automata; 3.8.1 Langton's Parameter; 3.9 Universal Computation 3.10 Density Problem3.11 Synchronization; 4 Two-Dimensional Automata; 4.1 The Game of Life; 4.1.1 Lifeforms; 4.1.2 Invariant Forms; 4.1.3 Oscillators; 4.1.4 Gliders; 4.1.5 Methuselah Configurations; 4.1.6 Garden of Eden; 4.1.7 Universal Computation in Life; 4.2 Other Automata; 4.2.1 Partitioning Cellular Automata; 4.3 Replication; 4.4 Asynchronous Updating; 5 Applications; 5.1 Excitable Media; 5.1.1 Neural Activity; 5.1.2 Cyclic Space; 5.1.3 The Hodgepodge Machine; 5.2 Schelling Segregation Model; 5.3 Prisoner's Dilemma; 5.4 Biological Models and Artificial Life; 5.4.1 Genetic Algorithms

Sommario/riassunto	An accessible and multidisciplinaryintroduction to cellular automata As the applicability of cellular automata broadens and technology advances, there is a need for a concise, yet thorough, resource that lays the foundation of key cellularautomata rules and applications. In recent years, Stephen Wolfram's A New Kind of Science has brought the modeling power that lies in cellular automata to the attentionof the scientific world, and now, Cellular Automata: A Discrete View of the World presents all the depth, analysis, and applicability of the classic Wolfram text in a straightforward, introdu