

Books in Brief

Reinforcement Learning: An Introduction—Richard S. Sutton and Andrew G. Barto. (Cambridge, MA: MIT Press, 1998, 340 pp., hard cover, \$40.00. ISBN 0-262-19398-1.)

This is one of the first books in the new adaptive computation and machine learning series. The goal of this book is to provide a simple account of the key ideas of reinforcement learning: a learning system that adapts its behavior in order to maximize a special signal from its environment. The treatment of the subject takes the point of view of artificial intelligence and engineering but without the rigorous formal mathematical treatment which can distract from the simplicity of the underlying ideas. The book may be used as supplemental reading for an introductory course in artificial neural networks.

The material in this book is presented in 11 chapters that are grouped in three parts. Part I is introductory. Part II treats the three most important elementary solution methods: dynamic programming, Monte Carlo methods, and temporal-difference methods. Part III is concerned with generalizing these methods and blending them. The book contains a Bibliography, Summary of Notation, and an Index.

The contents are as follows: Introduction; Evaluative Feedback; The Reinforcement Learning Problem; Dynamic Programming;

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Monte Carlo Methods; Temporal-Difference Learning; Eligibility Traces; Generalization and Function Approximation; Planning and Learning; Dimensions of Reinforcement Learning; and Case Studies.

Talking Nets: An Oral History of Neural Networks—James A. Anderson and Edward Rosenfeld, Eds. (Cambridge, MA: MIT Press, 1998, 433 pp., soft cover, \$39.95. ISBN 0-262-01167-0.)

This book puts together a series of interviews of some well-known researchers in the area of neural networks. In this collection of interviews, those who helped to shape the field of neural nets share their childhood memories, their influences, how they became interested in the field, and what they see as its future. Together, the interviewees tell the story of how science is actually done, including the false starts and the struggle for jobs, resources, and reputation.

The book consists of an introduction, 17 interviews, a Glossary, and an Index. The interviewees are Jerome Y. Lettvin, Walter J. Freeman, Bernard Widrow, Leon N. Cooper, Jack D. Cowan, Carver Mead, Teuvo Kohonen, Stephen Grossberg, Gail Carpenter, Michael A. Arbib, James A. Anderson, David E. Rumelhart, Robert Hecht-Nielsen, Terrence J. Sejnowsky, Paul J. Werbos, Geoffrey E. Hinton, and Bart Kosko.