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	Autore	Sher Gene I
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	ISBN	1-283-84888-0
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	Edizione	[1st ed. 2013.]
	Descrizione fisica	1 online resource (835 p.)
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		Software Engineering/Programming and Operating Systems
		Artificial Intelligence
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	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Introduction: Applications & Motivations -- Introduction to Neural Networks -- Introduction to Evolutionary Computation -- Introduction to Neuroevolutionary Methods -- The Unintentional Neural Network Programming Language -- Developing a Feed Forward Neural Network -- Adding the "Stochastic Hill-Climber" Learning Algorithm -- Developing a Simple Neuroevolutionary Platform -- Testing the Neuroevolutionary System -- DXNN: A Case Study -- Decoupling & Modularizing Our Neuroevolutionary Platform -- Keeping Track of Important Population and Evolutionary Stats -- The Benchmarker -- Creating the Two Slightly More Complex Benchmarks -- Neural Plasticity -- Substrate Encoding -- Substrate Plasticity -- Artificial Life -- Evolving Currency Trading Agents -- Conclusion.
	Sommario/riassunto	Handbook of Neuroevolution Through Erlang presents both the theory behind, and the methodology of, developing a neuroevolutionary-based computational intelligence system using Erlang. With a foreword written by Joe Armstrong, this handbook offers an extensive tutorial

for creating a state of the art Topology and Weight Evolving Artificial Neural Network (TWEANN) platform. In a step-by-step format, the reader is guided from a single simulated neuron to a complete system. By following these steps, the reader will be able to use novel technology to build a TWEANN system, which can be applied to Artificial Life simulation, and Forex trading. Because of Erlang's architecture, it perfectly matches that of evolutionary and neurocomptational systems. As a programming language, it is a concurrent, message passing paradigm which allows the developers to make full use of the multi-core & multi-cpu systems. Handbook of Neuroevolution Through Erlang explains how to leverage Erlang's features in the field of machine learning, and the system's real world applications, ranging from algorithmic financial trading to artificial life and robotics.