1.	Record Nr.	UNINA9910485048103321
	Titolo	Probabilistic Inductive Logic Programming / / edited by Luc De Raedt, Paolo Frasconi, Kristian Kersting, Stephen H. Muggleton
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2008
	ISBN	3-540-78652-X
	Edizione	[1st ed. 2008.]
	Descrizione fisica	1 online resource (VIII, 341 p.)
	Collana	Lecture Notes in Artificial Intelligence ; ; 4911
	Disciplina	005.1
	Soggetti	Artificial intelligence
		Computer programming
		Mathematical logic
		Algorithms
		Data mining
		Bioinformatics
		Artificial Intelligence
		Programming Techniques
		Mathematical Logic and Formal Languages
		Algorithm Analysis and Problem Complexity
		Data Mining and Knowledge Discovery
		Computational Biology/Bioinformatics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Research report.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Probabilistic Inductive Logic Programming -- Formalisms and Systems -- Relational Sequence Learning -- Learning with Kernels and Logical Representations -- Markov Logic -- New Advances in Logic-Based Probabilistic Modeling by PRISM -- CLP( ): Constraint Logic Programming for Probabilistic Knowledge -- Basic Principles of Learning Bayesian Logic Programs -- The Independent Choice Logic and Beyond -- Applications -- Protein Fold Discovery Using Stochastic Logic Programs -- Probabilistic Logic Learning from Haplotype Data -- Model Revision from Temporal Logic Properties in Computational Systems Biology -- Theory -- A Behavioral Comparison of Some

Probabilistic Logic Models -- Model-Theoretic Expressivity Analysis.

Sommario/riassunto	The question, how to combine probability and logic with learning, is getting an increased attention in several disciplines such as knowledge representation, reasoning about uncertainty, data mining, and machine learning simulateously. This results in the newly emerging subfield known under the names of statistical relational learning and probabilistic inductive logic programming. This book provides an introduction to the field with an emphasis on the methods based on logic programming principles. It is concerned with formalisms and systems, implementations and applications, as well as with the theory of probabilistic inductive logic programming. The 13 chapters of this state-of-the-art survey start with an introduction to probabilistic inductive logic programming; moreover the book presents a detailed overview of the most important probabilistic logic learning formalisms and systems such as relational sequence learning techniques, using kernels with logical representations, Markov logic, the PRISM system, CLP(BN), Bayesian logic programs, and the independent choice logic. The third part provides a detailed account of some show-case applications of probabilistic inductive logic programming. The final part touches upon some theoretical investigations and includes chapters on behavioural comparison of probabilistic logic programming representations and a model-theoretic expressivity analysis.