1. Record Nr. UNINA9910300108303321

Autore	Dunn Peter K
Titolo	Generalized Linear Models With Examples in R / / by Peter K. Dunn, Gordon K. Smyth
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2018
ISBN	1-4419-0118-3
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XX, 562 p. 115 illus.)
Collana	Springer Texts in Statistics, , 2197-4136
Disciplina	519.5
Soggetti	Statistics Mathematical statistics - Data processing Statistical Theory and Methods Statistics and Computing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Statistical models -- Linear regression models -- Linear regression models: diagnostics and model-building -- Beyond linear regression: the method of maximum likelihood -- Generalized linear models: structure -- Generalized linear models: estimation -- Generalized linear models: inference -- Generalized linear models: diagnostics -- Models for proportions: binomial GLMs -- Models for counts: Poisson and negative binomial GLMs -- Positive continuous data: gamma and inverse Gaussian GLMs -- Tweedie GLMs -- Extra problems -- Appendix A: Using R for data analysis -- Appendix B: The GLMsData package -- Index: Data sets -- Index: R commands -- Index: General Topics. .
Sommario/riassunto	This textbook presents an introduction to multiple linear regression, providing real-world data sets and practice problems. A practical working knowledge of applied statistical practice is developed through the use of these data sets and numerous case studies. The authors include a set of practice problems both at the end of each chapter and at the end of the book. Each example in the text is cross-referenced with the relevant data set, so that readers can load the data and follow the analysis in their own R sessions. The balance between theory and practice is evident in the list of problems, which vary in difficulty and

		purpose. This book is designed with teaching and learning in mind, featuring chapter introductions and summaries, exercises, short answers, and simple, clear examples. Focusing on the connections between generalized linear models (GLMs) and linear regression, the book also references advanced topics and tools that have not typically been included in introductions to GLMs to date, such as Tweedie family distributions with power variance functions, saddlepoint approximations, likelihood score tests, modified profile likelihood, and randomized quantile residuals. In addition, the authors introduce the new R code package, GLMsData, created specifically for this book. Generalized Linear Models with Examples in R balances theory with practice, making it ideal for both introductory and graduate-level students who have a basic knowledge of matrix algebra, calculus, and statistics. .

2.	Record Nr.	UNINA9910483610703321
	Autore	Bielecki Andrzej
	Titolo	Models of Neurons and Perceptrons: Selected Problems and Challenges / / by Andrzej Bielecki
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
	ISBN	3-319-90140-0
	Edizione	[1st ed. 2019.]
	Descrizione fisica	1 online resource (VI, 156 p. 30 illus.)
	Collana	Studies in Computational Intelligence, , 1860-949X ; ; 770
	Disciplina	591.188
	Soggetti	Computational intelligence Artificial intelligence Neural networks (Computer science) Computational complexity Neurobiology Computational Intelligence Artificial Intelligence Mathematical Models of Cognitive Processes and Neural Networks Complexity
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia

Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Part I: Preliminaries -- Foundations of articial neural networks -- Part II: Mathematical foundations -- General foundations -- Foundations of dynamical systems theory -- Part III: Mathematical models of the neuron -- Models of the whole neuron -- Models of parts of the neuron -- Part IV: Mathematical models of the perceptron -- General model of the perceptron -- Linear perceptrons -- Weakly nonlinear perceptrons -- Nonlinear perceptrons -- Concluding remarks and comments. .
Sommario/riassunto	This book describes models of the neuron and multilayer neural structures, with a particular focus on mathematical models. It also discusses electronic circuits used as models of the neuron and the synapse, and analyses the relations between the circuits and mathematical models in detail. The first part describes the biological foundations and provides a comprehensive overview of the artificial neural networks. The second part then presents mathematical foundations, reviewing elementary topics, as well as lesser-known problems such as topological conjugacy of dynamical systems and the shadowing property. The final two parts describe the models of the neuron, and the mathematical analysis of the properties of artificial multilayer neural networks. Combining biological, mathematical and electronic approaches, this multidisciplinary book it useful for the mathematicians interested in artificial neural networks and models of the neuron, for computer scientists interested in formal foundations of artificial neural networks, and for the biologists interested in mathematical and electronic models of neural structures and processes.