1.	Record Nr.	UNINA9910788289203321
	Titolo	Computational network theory : theoretical foundations and applications / / Edited by Matthias Dehmer, Frank Emmert-Streib, and Stefan Pickl
	Pubbl/distr/stampa	Weinheim, Germany : , : Wiley-VCH Verlag GmbH & Co. KGaA, , 2015 ©2015
	ISBN	3-527-69154-5 3-527-69151-0
	Descrizione fisica	1 online resource (281 p.)
	Collana	Quantitative and network biology ; ; Volume 5
	Disciplina	006.3
	Soggetti	Electronic commerce Computational intelligence
	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 at the end of each chapters and index.
	Nota di contenuto	Cover; Title Page; Copyright; Dedication; Contents; Color Plates; Preface; List of Contributors; Chapter 1 Model Selection for Neural Network Models: A Statistical Perspective; 1.1 Introduction; 1.2 Feedforward Neural Network Models; 1.3 Model Selection; 1.3.1 Feature Selection by Relevance Measures; 1.3.2 Some Numerical Examples; 1.3.3 Application to Real Data; 1.4 The Selection of the Hidden Layer Size; 1.4.1 A Reality Check Approach; 1.4.2 Numerical Examples by Using the Reality Check; 1.4.3 Testing Superior Predictive Ability for Neural Network Modeling 1.4.4 Some Numerical Results Using Test of Superior Predictive Ability1. 4.5 An Application to Real Data; 1.5 Concluding Remarks; References; Chapter 2 Measuring Structural Correlations in Graphs; 2.1 Introduction; 2.1.1 Solutions for Measuring Structural Correlations; 2.2 Related Work; 2.3 Self Structural Correlation; 2.3.1 Problem Formulation; 2.3.2 The Measure; 2.3.2.1 Random Walk and Hitting Time; 2.3.2.2 Decayed Hitting Time; 2.3.3 Computing Decayed Hitting Time; 2.3.3.1 Iterative Approximation; 2.3.3.2 A Sampling Algorithm for h(vi,B); 2.3.3.3 Complexity; 2.3.4 Assessing SSC 2.3.4.1 Estimating (Vq)2.3.4.2 Estimating the Significance of (Vq);

Sommario/riassunto	This comprehensive introduction to computational network theory as a branch of network theory builds on the understanding that such networks are a tool to derive or verify hypotheses by applying computational techniques to large scale network data.The highly experienced team of editors and high-profile authors from around the world present and explain a number of methods that are representative of computational network theory, derived from graph theory, as well as computational and statistical techniques. With its coherent structure and homogenous style, this reference is equally suitable for