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	Autore	Dayal Vikram
	Titolo	Quantitative Economics with R : A Data Science Approach / / by Vikram Dayal
	Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2020
	ISBN	981-15-2035-6
	Edizione	[1st ed. 2020.]
	Descrizione fisica	1 online resource (XV, 326 p. 300 illus., 89 illus. in color.)
	Disciplina	330.028563
	Soggetti	Game theory
		Economics
		Statistics
		Computer simulation
		Sociology—Research
		R (Computer program language)
		Game Theory, Economics, Social and Behav. Sciences
		Economic Theory/Quantitative Economics/Mathematical Methods
		Statistics for Business, Management, Economics, Finance, Insurance
		Simulation and Modeling
		Research Methodology
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di contenuto	Ch 1 Introduction -- Ch 2 R and RStudio -- Ch 3 Getting data into R -- Ch 4 Wrangling and graphing data -- Ch 5 Functions -- Ch 6 Matrices -- Ch 7 Probability and statistical inference -- Ch 8 Causal inference -- Ch 9 Solow model and basic facts of growth -- Ch 10 Causal inference for growth -- Ch 11 Graphing and simulating basic time series -- Ch 12 Simple examples: forecasting and causal inference -- Ch 13 Generalized additive models -- Ch 14 Tree models.
	Sommario/riassunto	This book provides a contemporary treatment of quantitative economics, with a focus on data science. The book introduces the reader to R and RStudio, and uses expert Hadley Wickham's tidyverse package for different parts of the data analysis workflow. After a gentle introduction to R code, the reader's R skills are gradually honed, with

the help of "your turn" exercises. At the heart of data science is data, and the book equips the reader to import and wrangle data, (including network data). Very early on, the reader will begin using the popular ggplot2 package for visualizing data, even making basic maps. The use of R in understanding functions, simulating difference equations, and carrying out matrix operations is also covered. The book uses Monte Carlo simulation to understand probability and statistical inference, and the bootstrapis introduced. Causal inference is illuminated using simulation, data graphs, and R code for applications with real economic examples, covering experiments, matching, regression discontinuity, difference-in-difference, and instrumental variables. The interplay of growth related data and models is presented, before the book introduces the reader to time series data analysis with graphs, simulation, and examples. Lastly, two computationally intensive methods—generalized additive models and random forests (an important and versatile machine learning method)—are introduced intuitively with applications. The book will be of great interest to economists—students, teachers, and researchers alike—who want to learn R. It will help economics students gain an intuitive appreciation of appliedeconomics and enjoy engaging with the material actively, while also equipping them with key data science skills.