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Autore	Boland Mary Regina
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Nota di contenuto	Chapter 1–Introduction -- Chapter 2-Genetics Analysis for Health Analytics -- Chapter 3-Determining Phenotypic Traits from Single Nucleotide Polymorphism (SNP) Data -- Chapter 4-Clinical Genetic Databases: ClinVar, ACMG Clinical Practice Guidelines -- Chapter 5-Inferring Disease Risk from Genetics -- Chapter 6-Challenges in Health Analytics Due to Lack of Diversity in Genetic Research: Implications and Issues with Published Knowledge -- Chapter 7-Clinical Data and Health Data Types -- Chapter 8-Clinical Datasets: Open Access Electronic Health Records Datasets -- Chapter 9-Association Mining with Clinical Data: Phenotype-Wide Association Studies (PheWAS) -- Chapter 10-

Organizing a Clinical Study Across Multiple Clinical Systems: Common Data Models -- Chapter 11-Environmental Health Data Types for Health Analytics -- Chapter 12-Geospatial Analysis Using Environmental Health Data -- Chapter 13-Social Determinants of Health Data for Health Analytics -- Chapter 14-Geospatial Analysis Using Social Determinants of Health, Clinical Data and Spatial Regression Methods -- Chapter 15–Ethics.

Sommario/riassunto

This textbook teaches health analytics using examples from the statistical programming language R. It utilizes real-world examples with publicly available datasets from healthcare and direct-to-consumer genetics to provide learners with real-world examples and enable them to get their hands on actual data. This textbook is designed to accompany either a senior-level undergraduate course or a Masters level graduate course on health analytics. The reader will advance from no prior knowledge of R to being well versed in applications within R that apply to data science and health analytics. “I have never seen a book like this and think it will make an important contribution to the field. I really like that it covers environmental, social, and geospatial data. I also really like the coverage of ethics. These aspects of health analytics are often overlooked or deemphasized. I will definitely buy copies for my team.” - Jason Moore, Cedars-Sinai Medical Center “Overall, I have a highly positive impression of the book. It is VERY comprehensive. It covers very extensive data types. I do not recall other books with the same level of comprehensiveness.” - Shuangge Ma, Yale University “The book is comprehensive in both aspects of genetics, and health analytics. It covers any type of information a healthcare data scientist should be familiar with, whether they are novice or experienced. I found any chapter that I looked into comprehensive, but also not too detailed (although in general this book is more than 600 pages of comprehensive and detailed relevant information).” - Robert Moskovtich, Ben-Gurion University of the Negev.