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Nota di contenuto	1. Big data and Machine Learning Techniques Meet Health Sciences -- 2. Major challenges and limitations of Big data analytics -- 3. A Clinical Perspective on Big Data in Mental Health -- 4. Big Data Guided Interventions: Predicting Treatment Response -- 5. The role of big data analytics in predicting suicide -- 6. Emerging Shifts in Neuroimaging Data Analysis in the Era of "Big Data" -- 7. Phenomapping: methods and measures for deconstructing diagnosis in psychiatry -- 8. How to integrate data from multiple biological layers in mental health? -- 9. Ethics in the Era of Big Data.
Sommario/riassunto	This book integrates the concepts of big data analytics into mental health practice and research. Mental disorders represent a public health challenge of staggering proportions. According to the most recent Global Burden of Disease study, psychiatric disorders constitute the leading cause of years lost to disability. The high morbidity and mortality related to these conditions are proportional to the potential for overall health gains if mental disorders can be more effectively diagnosed and treated. In order to fill these gaps, analysis in science, industry, and government seeks to use big data for a variety of

problems, including clinical outcomes and diagnosis in psychiatry. Multiple mental healthcare providers and research laboratories are increasingly using large data sets to fulfill their mission. Briefly, big data is characterized by high volume, high velocity, variety and veracity of information, and to be useful it must be analyzed, interpreted, and acted upon. As such, focus has to shift to new analytical tools from the field of machine learning that will be critical for anyone practicing medicine, psychiatry and behavioral sciences in the 21st century. Big data analytics is gaining traction in psychiatric research, being used to provide predictive models for both clinical practice and public health systems. As compared with traditional statistical methods that provide primarily average group-level results, big data analytics allows predictions and stratification of clinical outcomes at an individual subject level. Personalized Psychiatry – Big Data Analytics in Mental Health provides a unique opportunity to showcase innovative solutions tackling complex problems in mental health using big data and machine learning. It represents an interesting platform to work with key opinion leaders to document current achievements, introduce new concepts as well as project the future role of big data and machine learning in mental health. .
