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Altri autori (Persone)	KumarSachin (Computer scientist)
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Sommario/riassunto	This book goes deeply into the world of algorithms and computational theory and its astounding influence on numerous engineering areas. The book's carefully chosen content highlights the most recent studies, approaches, and real-world applications that are revolutionising engineering. The book is structured into distinct sections, each of which examines an important topic in computational theory and algorithms. The authors propose cutting-edge optimisation methods

that revolutionise the way engineers approach engineering problems by allowing them to solve complicated issues quickly and effectively. The book illustrates the techniques and equipment used in the fields of data science and big data analytics to glean insightful information from enormous databases. Data visualisation, predictive modelling, clustering, and anomaly detection are a few examples of how algorithms are used to find patterns and trends that help engineers make well-informed decisions. Before being physically implemented, complex systems are built, tested, and optimised in the virtual environment thanks to computational modelling and simulation. The book examines numerical techniques, finite element analysis, computational fluid dynamics, and other simulation techniques to highlight how algorithms are changing engineering system design and performance optimisation. The book also delves into the intriguing field of robotics and control systems. The book's readers will learn about the algorithms that advance sensor fusion, intelligent control, path planning, and real-time systems, paving the way for innovations in autonomous driving, industrial automation, and smart cities. Readers will learn more about how algorithms and computational theory are modifying engineering environments, opening up new opportunities, and changing industries by examining the book's chapters. This book is a must-have for anyone looking to keep on top of the intersection of algorithms, computational theory, and engineering applications because of its concentration on practical applications and theoretical breakthroughs.