

1. Record Nr.	UNINA9910260625403321
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Titolo	Machine learning : the new AI / / EthemAlpaydin
Pubbl/distr/stampa	Cambridge, Massachusetts : , : The MIT Press, , [2016] [Piscataway, New Jersey] : , : IEEE Xplore, , [2016]
ISBN	0-262-33760-6
Descrizione fisica	1 online resource (225 pages) : illustrations
Collana	The mit press essential knowledge series MIT Press essential knowledge series
Disciplina	006.31
Soggetti	Machine learning Artificial intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Why we are interested in machine learning -- Machine learning, statistics and data analytics -- Pattern recognition -- Neural networks and deep learning -- Learning clusters and recommendations -- Learning to take actions -- Where do we go from here?
Sommario/riassunto	Today, machine learning underlies a range of applications we use every day, from product recommendations to voice recognition -- as well as some we don't yet use everyday, including driverless cars. It is the basis of the new approach in computing where we do not write programs but collect data; the idea is to learn the algorithms for the tasks automatically from data. As computing devices grow more ubiquitous, a larger part of our lives and work is recorded digitally, and as "Big Data" has gotten bigger, the theory of machine learning -- the foundation of efforts to process that data into knowledge -- has also advanced. In this book, machine learning expert Ethem Alpaydin offers a concise overview of the subject for the general reader, describing its evolution, explaining important learning algorithms, and presenting example applications. Alpaydin offers an account of how digital technology advanced from number-crunching mainframes to mobile devices, putting today's machine learning boom in context. He describes the basics of machine learning and some applications; the use of machine learning algorithms for pattern recognition; artificial

neural networks inspired by the human brain; algorithms that learn associations between instances, with such applications as customer segmentation and learning recommendations; and reinforcement learning, when an autonomous agent learns act so as to maximize reward and minimize penalty. Alpaydin then considers some future directions for machine learning and the new field of "data science," and discusses the ethical and legal implications for data privacy and security.
