1. Record Nr. UNINA9910409667103321

Autore	Lin Zhouchen
Titolo	Accelerated optimization for machine learning : first-order algorithms / / Zhouchen Lin, Huan Li, Cong Fang
Pubbl/distr/stampa	Singapore : , : Springer, , [2020] ©2020
ISBN	981-15-2910-8 9789811529108
Descrizione fisica	1 online resource (286 pages)
Disciplina	006.31
Soggetti	Machine learning - Mathematics Mathematical optimization Computer science - Mathematics Machine Learning Optimization Math Applications in Computer Science Computational Mathematics and Numerical Analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Accelerated Algorithms for Unconstrained Convex Optimization -- Chapter 3. Accelerated Algorithms for Constrained Convex Optimization -- Chapter 4. Accelerated Algorithms for Nonconvex Optimization -- Chapter 5. Accelerated Stochastic Algorithms -- Chapter 6. Accelerated Paralleling Algorithms -- Chapter 7. Conclusions.
Sommario/riassunto	This book on optimization includes forewords by Michael I. Jordan, Zongben Xu and Zhi-Quan Luo. Machine learning relies heavily on optimization to solve problems with its learning models, and first-order optimization algorithms are the mainstream approaches. The acceleration of first-order optimization algorithms is crucial for the efficiency of machine learning. Written by leading experts in the field, this book provides a comprehensive introduction to, and state-of-the-art review of accelerated first-order optimization algorithms for

machine learning. It discusses a variety of methods, including deterministic and stochastic algorithms, where the algorithms can be synchronous or asynchronous, for unconstrained and constrained problems, which can be convex or non-convex. Offering a rich blend of ideas, theories and proofs, the book is up-to-date and self-contained. It is an excellent reference resource for users who are seeking faster optimization algorithms, as well as for graduate students and researchers wanting to grasp the frontiers of optimization in machine learning in a short time.