1.	Record Nr.	UNISA996485662403316
	Titolo	High-Dimensional Optimization and Probability [[electronic resource]] : With a View Towards Data Science / / edited by Ashkan Nikeghbali, Panos M. Pardalos, Andrei M. Raigorodskii, Michael Th. Rassias
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
	ISBN	3-031-00832-4
	Edizione	[1st ed. 2022.]
	Descrizione fisica	1 online resource (417 pages)
	Collana	Springer Optimization and Its Applications, , 1931-6836 ; ; 191
	Disciplina	519.3
	Soggetti	Mathematical optimization Probabilities Business information services Mathematics Optimization Applied Probability IT in Business Applications of Mathematics Optimització matemàtica Probabilitats Llibres electrònics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di contenuto	Projection of a point onto a convex set via Charged Balls Method (E. Abbasov) -- Towards optimal sampling for learning sparse approximations in high dimensions (Adcock) -- Recent Theoretical Advances in Non-Convex Optimization (Gasnikov) -- Higher Order Embeddings for the Composition of the Harmonic Projection and Homotopy Operators (Ding) -- Codifferentials and Quasidifferentials of the Expectation of Nonsmooth Random Integrands and Two-Stage Stochastic Programming (M.V. Dolgopolik) -- On the Expected Extinction Time for the Adjoint Circuit Chains associated with a Random Walk with Jumps in Random Environments (Ganatsiou) -- A statistical learning theory approach for the analysis of the trade-off

between sample size and precision in truncated ordinary least squares (Raciti) -- Recent theoretical advances in decentralized distributed convex optimization (Gasnikov) -- On training set selection in spatial deep learning (M.T. Hendrix) -- Surrogate-Based Reduced Dimension Global Optimization in Process Systems Engineering (Xiang Li) -- A viscosity iterative method with alternated inertial terms for solving the split feasibility problem (Rassias) -- Efficient Location-Based Tracking for IoT Devices Using Compressive Sensing and Machine Learning Techniques (Aboushelbaya) -- Nonsmooth Mathematical Programs with Vanishing Constraints in Banach Spaces (Singh).

| Sommario/riassunto | This volume presents extensive research devoted to a broad spectrum of mathematics with emphasis on interdisciplinary aspects of Optimization and Probability. Chapters also emphasize applications to Data Science, a timely field with a high impact in our modern society. The discussion presents modern, state-of-the-art, research results and advances in areas including non-convex optimization, decentralized distributed convex optimization, topics on surrogate-based reduced dimension global optimization in process systems engineering, the projection of a point onto a convex set, optimal sampling for learning sparse approximations in high dimensions, the split feasibility problem, higher order embeddings, codifferentials and quasidifferentials of the expectation of nonsmooth random integrands, adjoint circuit chains associated with a random walk, analysis of the trade-off between sample size and precision in truncated ordinary least squares, spatial deep learning, efficient location-based tracking for IoT devices using compressive sensing and machine learning techniques, and nonsmooth mathematical programs with vanishing constraints in Banach spaces. The book is a valuable source for graduate students as well as researchers working on Optimization, Probability and their various interconnections with a variety of other areas. Chapter 12 is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com. |