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Titolo	Mathematical Optimization for Machine Learning : Proceedings of the MATH+ Thematic Einstein Semester 2023 / / ed. by Martin Weiser, Aswin Kannan, Sebastian Pokutta, Kartikey Sharma, Daniel Walter, Andrea Walther, Konstantin Fackeldey
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Nota di contenuto	Frontmatter -- Preface -- Acknowledgment -- Contents -- A framework to solve inverse problems for parametric PDEs using adaptive finite elements and neural networks -- Generation of value function data for bilevel optimal control and application to hybrid electric vehicle -- Graph neural networks to predict strokes from blood flow simulations -- Capturing the macroscopic behavior of molecular dynamics with membership functions -- Adaptive gradient-enhanced Gaussian process surrogates for inverse problems -- Multifidelity domain decomposition-based physics-informed neural networks and operators for time-dependent problems -- Constrained piecewise linear optimization by an active signature method -- Parallel trust-region approaches in neural network training -- Trustworthy optimization learning: a brief overview -- Compression-aware training of neural networks using Frank–Wolfe -- Approximation of generalized frequency response functions via vector fitting -- On the nonsmooth regularity condition LIKQ for different abs-normal representations -- Divergence of the ADAM algorithm with fixed-stepsize: a (very) simple example -- Index
Sommario/riassunto	Mathematical optimization and machine learning are closely related.

This proceedings volume of the Thematic Einstein Semester 2023 of the Berlin Mathematics Research Center MATH+ collects recent progress on their interplay in topics such as discrete optimization, nonlinear programming, optimal control, first-order methods, multilevel optimization, machine learning in optimization, physics-informed learning, and fairness in machine learning.