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	Soggetti	Mathematical optimization
		Data structures (Computer science)
		System theory
		Dynamics
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		Algorithms
		Computer science—Mathematics
		Computer mathematics
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	Nota di bibliografia	Includes bibliographical references at the end of each chapters.
	Nota di contenuto	Introduction: Big, Small, and Optimal Steps of Boris Polyak (Boris Goldengorin) -- A Convex Optimization Approach to Modeling of Stationary Periodic Time Series (Anders Lindquist and Giorgio Picci) -- New two-phase proximal method of solving the solving the problem of equilibrium programming (Sergey I. Lyashko and Vladimir V. Semenov) -- Minimax Control of Positive Switching Systems with Markovian Jumps (Patrizio Colaneri, José Geromel, Paolo Bolzern, Grace Deaecto) -- A modified Polak-Ribière-Polyak conjugate gradient algorithm with sufficient descent and conjugacy properties for unconstrained

optimization (Neculai Andrei) -- Subgradient method with the transformation of space and Polyak's step (Petro Stetsyuk) -- Invariance Conditions for Nonlinear Dynamical Systems (Y. Song, and T. Terlaky) -- Nonparametric ellipsoidal approximation of compact sets of random points (S. I., Lyashko, V.V. Semenov D.A. Klyushin, M.V. Prysyazhna, M. P. Shlykov) -- Algorithmic Principle of the Least Excessive Revenue for finding market equilibria (Yurii Nesterov, Vladimir Shikhman) -- Matrix-Free Convex Optimization Modeling (Stephen Boyd and Steven Diamond) -- Stochastic Optimization and Statistical Learning in Reproducing Kernel Hilbert Spaces the Stochastic Quasi-Gradient Methods (Vladimir I. Norkin). .

| Sommario/riassunto | This book focuses on recent research in modern optimization and its implications in control and data analysis. This book is a collection of papers from the conference "Optimization and Its Applications in Control and Data Science" dedicated to Professor Boris T. Polyak, which was held in Moscow, Russia on May 13-15, 2015. This book reflects developments in theory and applications rooted by Professor Polyak's fundamental contributions to constrained and unconstrained optimization, differentiable and nonsmooth functions, control theory and approximation. Each paper focuses on techniques for solving complex optimization problems in different application areas and recent developments in optimization theory and methods. Open problems in optimization, game theory and control theory are included in this collection which will interest engineers and researchers working with efficient algorithms and software for solving optimization problems in market and data analysis. Theoreticians in operations research, applied mathematics, algorithm design, artificial intelligence, machine learning, and software engineering will find this book useful and graduate students will find the state-of-the-art research valuable. |