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Altri autori (Persone)	ChatterjeeAmitava NobahariHadi SiarryPatrick
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chap. 1: Nonconvex Optimization via Joint Norm Relaxed SQP and Filled Function Method with Application to Minimax Two-Channel Linear Phase FIR QMF Bank Design -- Chap. 2: Robust Reduced-Rank Adaptive LCMV Beamforming Algorithms Based on Joint Iterative Optimization of Parameters -- Chap. 3: Designing OFDM Radar Waveform for Target Detection Using Multiobjective Optimization -- Chap. 4: Multiobject Tracking using Particle Swarm Optimization on Target Interactions -- Chap. 5: A Comparative Study of Modified BBO Variants and Other Metaheuristics for Optimal Power Allocation in Wireless Sensor Networks -- Chap. 6: Joint Optimization of Detection and Tracking in Adaptive Radar Systems -- Chap. 7: Iterative Design of FIR Filters -- Chap. 8: A Metaheuristic Approach to Two-Dimensional Recursive Digital Filter Design -- Chap. 9: A Survey of Kurtosis Optimization Schemes for MISO Source Separation and Equalization -- Chap. 10: Swarm Intelligence Techniques Applied to Nonlinear Systems State Estimation -- Chap. 11: Heuristic Optimal Design of Multiplierless Digital Filter -- Chap. 12: Hybrid Correlation-Neural Network Synergy for Gait Signal Classification -- Chap. 13: Image Denoising Using Wavelets: Application in Medical Imaging -- Chap. 14: Signal Separation with A Priori Knowledge Using Sparse Representation -- Chap. 15: Definition of a Discrete Color Monogenic Wavelet Transform

-- Chap. 16: On Image Matching and Feature Tracking for Embedded Systems: State of the Art.

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Sommario/riassunto

There have been significant developments in the design and application of algorithms for both one-dimensional signal processing and multidimensional signal processing, namely image and video processing, with the recent focus changing from a step-by-step procedure of designing the algorithm first and following up with in-depth analysis and performance improvement to instead applying heuristic-based methods to solve signal-processing problems. In this book the contributing authors demonstrate both general-purpose algorithms and those aimed at solving specialized application problems, with a special emphasis on heuristic iterative optimization methods employing modern evolutionary and swarm intelligence based techniques. The applications considered are in domains such as communications engineering, estimation and tracking, digital filter design, wireless sensor networks, bioelectric signal classification, image denoising, and image feature tracking. The book presents interesting, state-of-the-art methodologies for solving real-world problems and it is a suitable reference for researchers and engineers in the areas of heuristics and signal processing.

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