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Titolo	Digital signal processing with kernel methods // by Dr. Jose Luis Rojo-Alvarez, Dr. Manel Martinez-Ramon, Dr. Jordi Munoz-Mari, Dr. Gustau Camps-Valls
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Descrizione fisica	1 online resource (668 pages) : illustrations
Disciplina	621.38220285
Soggetti	Signal processing - Digital techniques
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	From signal processing to machine learning -- Introduction to digital signal processing -- Signal processing models -- Kernel functions and reproducing kernel hilbert spaces -- A SVM signal estimation framework -- Reproducing kernel hilbert space models for signal processing -- Dual signal models for signal processing -- Advances in kernel regression and function approximation -- Adaptive kernel learning for signal processing -- SVM and kernel classification algorithms -- Clustering and anomaly detection with kernels -- Kernel feature extraction in signal processing.
Sommario/riassunto	A realistic and comprehensive review of joint approaches to machine learning and signal processing algorithms, with application to communications, multimedia, and biomedical engineering systems Digital Signal Processing with Kernel Methods reviews the milestones in the mixing of classical digital signal processing models and advanced kernel machines statistical learning tools. It explains the fundamental concepts from both fields of machine learning and signal processing so that readers can quickly get up to speed in order to begin developing the concepts and application software in their own research. Digital Signal Processing with Kernel Methods provides a comprehensive

overview of kernel methods in signal processing, without restriction to any application field. It also offers example applications and detailed benchmarking experiments with real and synthetic datasets throughout. Readers can find further worked examples with Matlab source code on a website developed by the authors. . Presents the necessary basic ideas from both digital signal processing and machine learning concepts. Reviews the state-of-the-art in SVM algorithms for classification and detection problems in the context of signal processing. Surveys advances in kernel signal processing beyond SVM algorithms to present other highly relevant kernel methods for digital signal processing An excellent book for signal processing researchers and practitioners, Digital Signal Processing with Kernel Methods will also appeal to those involved in machine learning and pattern recognition.
