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Nota di contenuto	Cover; Title Page; Copyright; Contents; List of Figures; List of Tables; Preface; Acknowledgments; Chapter 1 Survey; 1.1 Introduction of Kernel Analysis; 1.2 Kernel Offline Learning; 1.2.1 Choose the Appropriate Kernels; 1.2.2 Adopt KA into the Traditionally Developed Machine Learning Techniques; 1.2.3 Structured Database with Kernel; 1.3 Distributed Database with Kernel; 1.3.1 Multiple Database Representation; 1.3.2 Kernel Selections Among Heterogeneous Multiple Databases; 1.3.3 Multiple Database Representation KA Applications to Distributed Databases; 1.4 Kernel Online Learning 1.4.1 Kernel-Based Online Learning Algorithms1.4.2 Adopt ""Online"" KA Framework into the Traditionally Developed Machine Learning Techniques; 1.4.3 Relationship Between Online Learning and Prediction Techniques; 1.5 Prediction with Kernels; 1.5.1 Linear Prediction; 1.5.2 Kalman Filter; 1.5.3 Finite-State Model; 1.5.4 Autoregressive Moving Average Model; 1.5.5 Comparison of Four Models; 1.6 Future Direction and Conclusion; References; Chapter 2 Offline Kernel Analysis; 2.1 Introduction; 2.2 Kernel Feature Analysis; 2.2.1 Kernel Basics; 2.2.2 Kernel Principal Component Analysis (KPCA) 2.2.3 Accelerated Kernel Feature Analysis (AKFA)2.2.4 Comparison of the Relevant Kernel Methods; 2.3 Principal Composite Kernel Feature Analysis (PC-KFA); 2.3.1 Kernel Selections; 2.3.2 Kernel Combinatory

Optimization; 2.4 Experimental Analysis; 2.4.1 Cancer Image Datasets; 2.4.2 Kernel Selection; 2.4.3 Kernel Combination and Reconstruction; 2.4.4 Kernel Combination and Classification; 2.4.5 Comparisons of Other Composite Kernel Learning Studies; 2.4.6 Computation Time; 2.5 Conclusion; References; Chapter 3 Group Kernel Feature Analysis; 3.1 Introduction
3.2 Kernel Principal Component Analysis (KPCA) 3.3 Kernel Feature Analysis (KFA) for Distributed Databases; 3.3.1 Extract Data-Dependent Kernels Using KFA; 3.3.2 Decomposition of Database Through Data Association via Recursively Updating Kernel Matrices; 3.4 Group Kernel Feature Analysis (GKFA); 3.4.1 Composite Kernel: Kernel Combinatory Optimization; 3.4.2 Multiple Databases Using Composite Kernel; 3.5 Experimental Results; 3.5.1 Cancer Databases; 3.5.2 Optimal Selection of Data-Dependent Kernels; 3.5.3 Kernel Combinatory Optimization; 3.5.4 Composite Kernel for Multiple Databases
3.5.5 K-NN Classification Evaluation with ROC 3.5.6 Comparison of Results with Other Studies on Colonography; 3.5.7 Computational Speed and Scalability Evaluation of GKFA; 3.6 Conclusions; References; Chapter 4 Online Kernel Analysis; 4.1 Introduction; 4.2 Kernel Basics: A Brief Review; 4.2.1 Kernel Principal Component Analysis; 4.2.2 Kernel Selection; 4.3 Kernel Adaptation Analysis of PC-KFA; 4.4 Heterogeneous vs. Homogeneous Data for Online PC-KFA; 4.4.1 Updating the Gram Matrix of the Online Data; 4.4.2 Composite Kernel for Online Data
4.5 Long-Term Sequential Trajectories with Self-Monitoring

Sommario/riassunto

"This book covers kernel analysis topics ranging from the fundamental theory of kernel functions to its applications"--
