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| Disciplina | 629.8/3 |
| Soggetti | Computer science Computer simulation Artificial intelligence Computers, Special purpose Computer science—Mathematics Mathematical statistics Dynamical systems Theory of Computation Computer Modelling Artificial Intelligence Special Purpose and Application-Based Systems Probability and Statistics in Computer Science Dynamical Systems |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
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| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Switching and Control -- From Feedback Control to Complexity Management: A Personal Perspective -- Convex Cones, Lyapunov Functions, and the Stability of Switched Linear Systems -- Survey of Explicit Approaches to Constrained Optimal Control -- Gaussian Processes -- Analysis of Some Methods for Reduced Rank Gaussian Process Regression -- Filtered Gaussian Processes for Learning with Large Data-Sets -- Self-tuning Control of Non-linear Systems Using |

Gaussian Process Prior Models -- Gaussian Processes: Prediction at a Noisy Input and Application to Iterative Multiple-Step Ahead Forecasting of Time-Series -- Nonlinear Predictive Control with a Gaussian Process Model -- Applications of Switching & Learning -- Control of Yaw Rate and Sideslip in 4-Wheel Steering Cars with Actuator Constraints -- A Second-Order Cone Bounding Algorithm for Robust Minimum Variance Beamforming -- Joint Optimization of Wireless Communication and Networked Control Systems -- Reconciliation of Inconsistencies in the Theory of Linear Systems -- An Introduction to Nonparametric Hierarchical Bayesian Modelling with a Focus on Multi-agent Learning -- Simultaneous Localization and Surveying with Multiple Agents -- Hex: Dynamics and Probabilistic Text Entry.

Sommario/riassunto

A central theme in the study of dynamic systems is the modelling and control of uncertain systems. While 'uncertainty' has long been a strong motivating factor behind many techniques developed in the modelling, control, statistics and mathematics communities, the past decade, in particular, has witnessed remarkable progress in this area with the emergence of a number of powerful new methods for both modelling and controlling uncertain dynamic systems. The specific objective of this book is to describe and review some of these exciting new approaches within a single volume. Our approach was to invite some of the leading researchers in this area to contribute to this book by submitting both tutorial papers on their specific area of research, and to submit more focussed research papers to document some of the latest results in the area. We feel that collecting some of the main results together in this manner is particularly important as many of the important ideas that emerged in the past decade were derived in a variety of academic disciplines. By providing both tutorial and research papers we hope to be able to provide the interested reader with sufficient background to appreciate some of the main concepts from a variety of related, but nevertheless distinct fields, and to provide a flavor of how these results are currently being used to cope with 'uncertainty.' It is our sincere hope that the availability of these results within a single volume will lead to further cross-fertilization of ideas and act as a spark for further research in this important area of applied mathematics.
