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Nota di contenuto	Contents; Preface; Acknowledgments; Introduction; 1.1 Overview of the Remaining Chapters; 1.2 Summary of Key Concepts and Ideas; 1.3 Symbols and Notation; 1 System Analysis; 1.1 Uncertainty; 1.2 The Art of Modelling: Linkage; 1.3 Dynamic Systems; 1.4 Example: Coupled Tanks Model; 2 Uncertainty Techniques; 2.1 The Least-Squares Criterion; 2.1.1 Example: Regression Line; 2.1.2 Example: Fourier Series; 2.2 Maximum Likelihood Estimation; 2.2.1 Example: ML-Estimates; 2.2.2 The EM Algorithm; 2.3 Stochastic Processes; 2.3.1 Example: Kalman-Bucy Filtering; 3 Learning from Data: System Identification 3.1 The Probabilistic Perspective3.2 Kernel Density Estimation; 3.3

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Although data engineering is a multi-disciplinary field with applications in control, decision theory, and the emerging hot area of bioinformatics, there are no books on the market that make the subject accessible to non-experts. This book fills the gap in the field, offering a clear, user-friendly introduction to the main theoretical and practical tools for analyzing complex systems. An ftp site features the corresponding MATLAB and Mathematical tools and simulations. Market: Researchers in data management, electrical engineering, computer science, and life sciences.