

1.	Record Nr.	UNISA990000367380203316
	Autore	LUCKY, R.W.
	Titolo	Principles of Data Communication / R.W. Lucky, J. Salz and E.J. Wedlon Jr.
	Pubbl/distr/stampa	New York : Mc Graw Hill, 1968
	Descrizione fisica	VIII, 433p. : ill. ; 23 cm
	Altri autori (Persone)	SALZ, J. WELDON, E.J. Jr.
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	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
2.	Record Nr.	UNINA9911020365003321
	Titolo	Classification, parameter estimation, and state estimation : an engineering approach using MATLAB / F. van der Heijden ... [et al.]
	Pubbl/distr/stampa	Chichester, West Sussex, Eng. ; ; Hoboken, NJ, : Wiley, c2004
	ISBN	9786610268955 9781280268953 1280268956 9780470090152 0470090154 9781601194961 160119496X 9780470090145 0470090146
	Edizione	[1st edition]
	Descrizione fisica	1 online resource (441 p.)
	Altri autori (Persone)	HeijdenFerdinand van der
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Formato	Materiale a stampa
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Classification, Parameter Estimation and State Estimation; Contents; Preface; Foreword; 1 Introduction; 1.1 The scope of the book; 1.1.1 Classification; 1.1.2 Parameter estimation; 1.1.3 State estimation; 1.1.4 Relations between the subjects; 1.2 Engineering; 1.3 The organization of the book; 1.4 References; 2 Detection and Classification; 2.1 Bayesian classification; 2.1.1 Uniform cost function and minimum error rate; 2.1.2 Normal distributed measurements; linear and quadratic classifiers; 2.2 Rejection; 2.2.1 Minimum error rate classification with reject option 2.3 Detection: the two-class case2.4 Selected bibliography; 2.5 Exercises; 3 Parameter Estimation; 3.1 Bayesian estimation; 3.1.1 MMSE estimation; 3.1.2 MAP estimation; 3.1.3 The Gaussian case with linear sensors; 3.1.4 Maximum likelihood estimation; 3.1.5 Unbiased linear MMSE estimation; 3.2 Performance of estimators; 3.2.1 Bias and covariance; 3.2.2 The error covariance of the unbiased linear MMSE estimator; 3.3 Data fitting; 3.3.1 Least squares fitting; 3.3.2 Fitting using a robust error norm; 3.3.3 Regression; 3.4 Overview of the family of estimators; 3.5 Selected bibliography 3.6 Exercises4 State Estimation; 4.1 A general framework for online estimation; 4.1.1 Models; 4.1.2 Optimal online estimation; 4.2 Continuous state variables; 4.2.1 Optimal online estimation in linear-Gaussian systems; 4.2.2 Suboptimal solutions for nonlinear systems; 4.2.3 Other filters for nonlinear systems; 4.3 Discrete state variables; 4.3.1 Hidden Markov models; 4.3.2 Online state estimation; 4.3.3 Offline state estimation; 4.4 Mixed states and the particle filter; 4.4.1 Importance sampling; 4.4.2 Resampling by selection; 4.4.3 The condensation algorithm; 4.5 Selected bibliography 4.6 Exercises5 Supervised Learning; 5.1 Training sets; 5.2 Parametric learning; 5.2.1 Gaussian distribution, mean unknown; 5.2.2 Gaussian distribution, covariance matrix unknown; 5.2.3 Gaussian distribution, mean and covariance matrix both unknown; 5.2.4 Estimation of the prior probabilities; 5.2.5 Binary measurements; 5.3 Nonparametric learning; 5.3.1 Parzen estimation and histogramming; 5.3.2 Nearest neighbour classification; 5.3.3 Linear discriminant functions; 5.3.4 The support vector classifier; 5.3.5 The feed-forward neural network; 5.4 Empirical evaluation; 5.5 References 5.6 Exercises6 Feature Extraction and Selection; 6.1 Criteria for selection and extraction; 6.1.1 Inter/intra class distance; 6.1.2 Chernoff-Bhattacharyya distance; 6.1.3 Other criteria; 6.2 Feature selection; 6.2.1 Branch-and-bound; 6.2.2 Suboptimal search; 6.2.3 Implementation issues; 6.3 Linear feature extraction; 6.3.1 Feature extraction based on the Bhattacharyya distance with Gaussian distributions; 6.3.2 Feature extraction based on inter/intra class distance; 6.4 References; 6.5 Exercises; 7 Unsupervised Learning; 7.1 Feature reduction; 7.1.1 Principal component analysis 7.1.2 Multi-dimensional scaling
Sommario/riassunto	Classification, Parameter Estimation and State Estimation is a practical guide for data analysts and designers of measurement systems and postgraduates students that are interested in advanced measurement systems using MATLAB. 'Prtools' is a powerful MATLAB toolbox for pattern recognition and is written and owned by one of the co-authors,

B. Duin of the Delft University of Technology. After an introductory chapter, the book provides the theoretical construction for classification, estimation and state estimation. The book also deals with the skills required to bring the theoretical co
